

**Remedial Investigation/
Feasibility Study Report**

Former Aladdin Plating Site
1657 Center Street
Tacoma, Washington

for
Washington State Department of Ecology

December 9, 2014



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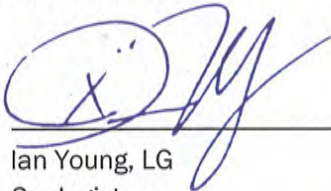
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1.0 INTRODUCTION

This report describes the results of the remedial investigation and feasibility study (RI/FS) completed for the Aladdin Plating Site (Site) originating from the property at 1657 Center Street in Tacoma, Washington (Figure 1). The Site is a corner parcel measuring approximately 100 feet long and 30 feet wide, with no building structures currently standing on the parcel (Figure 2).

The Site was used historically for commercial electroplating between 1958 and 1994. Chemicals used at the Site have included chromium, nickel, lead, caustic soda, sulfuric acid, and alkaline cleaners. The Site is currently owned by Pierce County and is managed by the Washington State Department of Ecology (Ecology) as an orphan site. Several investigations have previously been performed at the Site between 2005 and 2007 by Ecology and Landau Associates to characterize Site soil and groundwater. Current Site contaminants of concern have been identified by Ecology as total chromium, hexavalent chromium, lead, and nickel in on-property soil, and total chromium, hexavalent chromium, and nickel in the shallow groundwater aquifer. Several rounds of groundwater monitoring were conducted at the Site from 2006 to 2007, including both on-property and off-property wells. The extent of Site contaminants was not defined within the context of those investigations and monitoring events.

1.1. Purpose

The purpose of an RI/FS is to collect the data necessary to characterize the nature and extent of Site contamination and to identify and evaluate cleanup action alternatives for the Site in compliance with the Washington Model Toxics Control Act ([MTCA] Chapter 173-340 Washington Administrative Code [WAC]). This RI/FS has been prepared by combining data collected by Ecology, Landau Associates, and GeoEngineers, Inc. (GeoEngineers) listed in Section 7.0.

The investigation activities performed at the Site and presented in this RI have included sampling and analysis to characterize the nature and extent of metals contamination in soil and groundwater. The FS includes identification and evaluation of cleanup alternatives, and presents a preferred cleanup alternative for the contamination present at the Site.

1.2. Report Organization

This RI report is divided into 7 sections that include the following:

- Section 1.0 – Introduction.
- Section 2.0 – Site Background – presents a summary of the Site history, environmental setting, current and planned future land uses, and previous environmental investigations.
- Section 3.0 – Remedial Investigation– presents a description of the RI field program, a summary of the RI analytical results, including a comparison of the data to the RI screening levels.
- Section 4.0 – Conceptual Site Model – presents the conceptual Site contaminant transport and exposure models.
- Section 5.0 – Development of Cleanup Standards – describes the development of cleanup standards used to assess risks posed by Site contaminants of potential concern (COPCs).
- Section 6.0 – Feasibility Study.
- Section 7.0 – References.

2.0 SITE BACKGROUND

2.1. Location

The Site is located at 1657 Center Street in Tacoma, Washington (Figure 1), a corner parcel located at the northeast corner of the intersection of Center Street and South Alaska Street (Figure 2). The Site is situated within the southwest quarter of Section 8, Township 20N, Range 3E, and at latitude 47°14'02.80", longitude -122°27'27.74".

The immediate area surrounding the Site is primarily industrial with some residential housing, bordered to the north and east by the Bill's Towing & Garage automotive storage yard, to the west across South Alaska Street by B&D International Moving and Storage, and to the south across Center Street by Electric Construction Company. Each of the properties directly adjacent to the Site are zoned either light or heavy industrial by the City of Tacoma.

2.2. Site History

The Site was used historically for commercial electroplating between 1958 and 1994. Chemicals present at the Site have included chromium, nickel, lead, caustic soda, sulfuric acid, and alkaline cleaners. Approximate locations of historical Site features are shown in Figure 3. The Site is currently owned by Pierce County and is managed by Ecology as an orphan site.

2.3. Site Description

The Site is centered on a corner parcel measuring approximately 100 feet long and 30 feet wide, with no building structures currently standing on the Site property. The Site property is currently unpaved and surrounded by temporary construction fencing. The Site is located on the southwestern corner of Pierce County parcel 2855000010.

2.4. Geologic Setting

The geology in the vicinity of the Site is described in the Geologic map of the south half of the Tacoma Quadrangle, Pierce County, Washington (Walsh, 1987). Soils at the site are mapped as Vashon glacial drift overlying Vashon till. North of the Site soils are identified as Vashon till.

2.5. Climate

The Tacoma area has a maritime climate with a mean annual precipitation of about 39 inches. Rainfall is highest during October through March (3 to 7 inches per month) and lowest during the summer months (less than one inch in July and August). The average yearly temperature is 53 degrees Fahrenheit, with temperatures ranging between a monthly average low in January of 37 degrees to a July/August monthly average high of 77 degrees Fahrenheit. Temperatures below freezing, while rare, occur occasionally, typically during December and January.

2.6. Current and Future Land Use

The Site is zoned by the City of Tacoma as M1-Light Industrial. This zoning allows for mixed-use, including the following: commercial businesses, parks, daycare centers, warehouses, vehicle service, and wholesale in addition to other permitted site uses (Title 13-Land Use Regulatory Code).

2.7. Previous Environmental Investigations

This section identifies and summarizes the scope of previous environmental assessments and investigations that were completed at the Site. Three investigations were performed at the Site from 2005 to 2007 by Ecology and Landau Associates to characterize Site soil and groundwater. Groundwater monitoring wells have been installed both on-property and off-property, including wells screened in the shallow aquifer from approximately 30 to 55 feet below ground surface (bgs) to assess impacts to the local shallow aquifer, and one well to a depth of approximately 80 feet bgs to characterize deeper groundwater conditions. Site contaminants of concern have been identified by Ecology as total chromium, hexavalent chromium, lead, and nickel in on-property soil, and total chromium, hexavalent chromium, and nickel in the shallow groundwater aquifer. Four rounds of groundwater monitoring with chemical analysis and groundwater level measurements, and an additional nine rounds of groundwater level measurements, were conducted at the Site from 2005 to 2007 from both on-property and off-property wells. The extent of Site contaminants was not defined within the context of those investigations and monitoring events.

In April 2007, Landau Associates proposed additional remedial investigation services to define the extent of on-property and off-property impacts at the Site to assess and select effective remediation strategies to achieve Site cleanup (Landau Associates, 2007a). Landau Associates' proposed remedial investigation and feasibility study (RI/FS) would support a Cleanup Action Plan (CAP) addressing Site soil and groundwater contamination. Landau Associates' proposal was not implemented. No further investigations or cleanup actions occurred at the Site between 2007 and this RI.

The findings of the previous environmental evaluations are summarized here; these investigations were reviewed to identify data gaps to be addressed as part of the RI. Unless otherwise indicated in the Sections below, the data collected as part of the previous environmental investigations have been used to characterize the nature and extent of contamination and are presented in Section 2.8.

2.7.1. Summer 2005 Department of Ecology Demolition and Sampling

Following designation of the Site as an orphan site, Ecology oversaw demolition of the former electroplating building and conducted an initial soil and groundwater investigation in July 2005. Prior to demolition, Site groundwater was characterized in June 2005 by chemical analysis of samples collected from six direct push probes (ALDW1 to ALDW6) completed at approximately 38 to 40 feet bgs (Figure 3). Groundwater samples ALDW1 through ALDW5 contained concentrations of nickel and/or chromium greater than their respective MTCA A or B cleanup levels.

Following demolition, nine test pits (ALD1 to ALD9) were completed in July 2005 to depths ranging from 15 to 17 feet bgs. Soil samples were obtained from each test pit for chemical analysis. Samples ALD6 (0.0-2.5) and ALD2 (5-7) contained metals at concentrations greater than their respective MTCA Method A or B cleanup levels, including cadmium, total chromium, copper, lead, and nickel. Following demolition and test pit sample analysis, 40 tons of contaminated soil and 47 tons of contaminated concrete were excavated under Ecology oversight and removed for off-site disposal. Ecology conducted post-excavation confirmation soil sampling at depths ranging from 2 to 2.5 feet bgs. No documentation of the lateral or vertical extent of the excavation was available. Confirmation soil samples were analyzed for cadmium, total chromium, hexavalent chromium, copper, lead, and nickel, which displayed concentrations below their respective MTCA soil cleanup levels for these analytes.

Table 1 presents a summary of soil analytical results, and Table 2 a summary of groundwater analytical results.

2.7.2. November 2005 Landau Associates Phase I Soil and Groundwater Investigation

In November 2005, Landau Associates (Landau Associates, 2006) installed five on-property groundwater monitoring wells at the Site (MW-1s through MW-4s, and MW-4d; Figure 4) as part of their Phase I soil and groundwater investigation. Wells screened in the shallow aquifer are denoted with the letter “s”; the well screened in the deeper aquifer is denoted by the letter “d.” Shallow soil was sampled from each boring at the time of well installation, and groundwater was sampled for chemical analysis in November 2005. Boring logs are presented in Appendix A. Additional groundwater level measurements were collected in January 2006.

Soil contamination (chromium, lead, and nickel) appeared to occur primarily on the west-central side of the property (near MW-2s) and on the east-northeast side of the property (in the vicinity of MW-4s/4d). Metals concentrations in groundwater, with the exception of nickel, were reported below MTCA cleanup levels; the concentration of nickel in groundwater exceeded the MTCA cleanup level of 320 µg/L. Groundwater flow direction could not be determined due to an essentially flat gradient across the small area of the property. Landau Associates recommended additional groundwater sampling to verify contaminant concentrations in groundwater and the installation of additional off-property monitoring wells to better evaluate groundwater flow direction. Groundwater analytical results are presented in Table 2.

2.7.3. June-July 2006 Landau Associates Phase II Groundwater Investigation

In June 2006, Landau Associates (Landau Associates, 2007b) installed three additional off-property groundwater monitoring wells (MW-5s, MW-6s, and MW7s) in the City of Tacoma right-of-way (Figure 4). Boring logs are presented in Appendix A. In July 2006, Landau Associates conducted one round of groundwater monitoring at all eight (both on-property and newly-installed off-property) Site wells, collecting groundwater level measurements and sampling for chemical analysis.

Groundwater monitoring results indicated an east-southeast groundwater flow direction; analytical results showed concentrations of nickel in groundwater from MW-3s and total chromium, hexavalent chromium, and nickel in groundwater from MW-4s above their respective MTCA cleanup levels. Total chromium, trivalent chromium, nickel, and arsenic were detected in groundwater from MW-6s at concentrations above their respective cleanup levels, but were later attributed to elevated turbidity at this location. Landau Associates recommended additional groundwater monitoring, including a comparison between total and dissolved metals in groundwater, and monthly gauging of groundwater levels from all Site wells. Results of groundwater analytical results are presented in Table 2.

2.7.4. 2006-2007 Groundwater Monitoring

Landau Associates (Landau Associates, 2007) conducted two groundwater sampling events for chemical analysis in October 2006 and March 2007, combined with nine groundwater level monitoring events performed roughly monthly between September 2006 and May 2007. The purpose of this study was to evaluate temporal variation in contaminant concentrations and groundwater flow direction in all Site wells.

Groundwater gauging results confirmed an east-southeast groundwater flow direction. Laboratory analytical results showed that concentrations of hexavalent chromium and nickel in groundwater in well MW-3s, and chromium, hexavalent chromium, and nickel in well MW-4s, exceeded their respective MTCA cleanup levels. Comparison of total metals concentrations in groundwater with dissolved concentrations showed significant differences in samples collected from some wells (e.g., MW-6s) with reduced concentrations in filtered samples, suggesting the presence and influence of soil particles in the sample resulted in elevated metals concentrations. Concentrations of detected metals in groundwater were also found to be higher in the March 2007 sampling event (coinciding with higher groundwater elevation) than during the October 2006 sampling event (coinciding with lower groundwater elevation). Landau Associates concluded that, based on the sampling locations, the downgradient limits of hexavalent chromium and nickel in groundwater remained unknown. They further concluded that concentrations of metals in groundwater increased seasonally with higher groundwater elevations. Results of groundwater analytical results are presented in Tables 2 and 3 (total metals and dissolved metals, respectively, in groundwater).

2.8. Previous Environmental Investigation Results and Data Gaps

The results from the previous environmental assessments and investigations were reviewed as part of this RI to identify data gaps for areas of potential environmental concern and in the characterization of the nature and extent of contamination at the Site. The analytical results from the previous investigations were compared to screening levels that include current MTCA Method A and/or B cleanup levels for soil and groundwater to identify contaminants of potential concern (COPCs) for the Site. The review of the results of previous environmental assessments and investigations and the comparison of the analytical results for soil and groundwater to the screening levels is presented below. The following data gaps were identified.

2.8.1. Soil

The data gaps identified for soil at the Site included the following:

- Presence of chromium, lead, and nickel in Site soil was not delineated vertically in either depth or concentration.

2.8.2. Groundwater

The data gaps identified for groundwater included the following:

- The downgradient limits and concentrations of hexavalent chromium and nickel in groundwater were not delineated.

3.0 REMEDIAL INVESTIGATION

3.1. General

Remedial investigation activities were performed in 2014 by GeoEngineers for Ecology to address data gaps identified from previous investigations. The objective for the RI was to collect sufficient data to assess the current vertical extent of contamination in Site soil and horizontal downgradient extent of contamination in groundwater. The results of the investigation activities were presented in a report

prepared by GeoEngineers in June 2014 (GeoEngineers, 2014). Figures 5 and 7 show the locations where samples were collected as part of the investigations. Boring logs from the investigation are presented in Appendix A. The laboratory analytical reports from the investigation are provided in Appendix B. Data collected for the investigations are used in conjunction with the data from previous environmental investigations to characterize the nature and extent of contamination at the Site.

3.2. 2014 Remedial Investigation

GeoEngineers' 2014 investigation activities included the following tasks:

- Soil exploration at 14 on-property locations and collection and analysis of soil samples;
- Collection of groundwater elevation data from Site wells;
- Collection and analysis of groundwater samples from the 8 on-property and off-property Site monitoring wells, and:
- Collection and analysis of groundwater samples from 10 off-property direct push borings completed downgradient.

Field activities were performed between January and March, 2014. The investigation activities are described further in the following sections.

3.2.1. Soil Investigation

The soil investigation consisted of advancing soil borings at 14 locations on the former Aladdin Plating property (SB-1 through SB-14; Figure 5) using a direct push drill rig to address data gaps identified in the RI/FS Work Plan and further define the nature and extent of soil contamination at the property. Borings were advanced to depths of approximately 15 to 16 feet bgs. Boring locations were chosen to both represent a distribution of the area of the property formerly occupied by the plating facility, and to sample soils in the vicinity of known historical plating processes. Discrete soil samples were collected for field screening for evidence of contamination at intervals of approximately 2.5 feet and for evaluating geologic conditions. Boring logs are included in Appendix A; field procedures are presented in Appendix B.

Soil samples were submitted for chemical analyses including: total chromium, hexavalent chromium, total lead, and total nickel. The uppermost four soil samples from each boring were submitted for initial chemical testing. Upon review of the initial analytical results, additional selected soil samples from borings where a given analyte concentration exceeded its respective MTCA Method A or B cleanup values were submitted for chemical testing. Laboratory analytical results for on-property soils are presented in Table 1; concentrations of analytes are shown on Figure 5. Laboratory analytical data reports are presented in Appendix C.

Soil across the property was generally characterized as brown silty sand to sand with silt, with varying gravel content. No definitive geologic contact was identified delineating fill material from native soils. Perched groundwater was noted in some boring cores at depths ranging from approximately 6.5 to 8 feet bgs.

Chemical analytical results showed the following:

- Total chromium was detected at all boring locations in shallow soil (0.5 to 7.5 feet bgs), but did not exceed the MTCA Method A cleanup level of 2,000 mg/kg (milligrams per kilogram). Hexavalent chromium was detected in shallow soil in all boring locations except SB-1. Concentrations of hexavalent chromium exceeded the MTCA Method A cleanup level of 19 mg/kg in borings SB-3, SB-4, SB-6, and SB-7. Analysis of deeper soil in these borings (9.0 to 15.0 feet bgs) showed detectable concentrations of hexavalent chromium at all locations, but none exceeding the Method A cleanup level.
- Total lead was detected in shallow soil in all boring locations. Concentrations of total lead exceeded the MTCA Method A cleanup level of 250 mg/kg in borings SB-3, SB-4, SB-6, SB-7, SB-8, SB-9, and SB-10. Analysis of deeper soil in these borings (9.0 to 15.0 feet bgs) showed detectable concentrations of total lead at all of the above locations, but none exceeding the Method A cleanup level.
- Total nickel was detected in shallow soil in all boring locations. Concentrations of total nickel exceeded the MTCA Method B cleanup level for direct contact of 1,600 mg/kg in borings SB-4, SB-6, SB-7, SB-8, SB-9, SB-10, and SB-14. Analysis of deeper soil in these borings (9.0 to 15.0 feet bgs) showed detectable concentrations of total nickel at all of the above locations. Only at SB-4 did deeper soil exceed the Method B cleanup level, at a depth of 11 to 11.5 feet bgs with a concentration of 2,410 mg/kg; underlying soil samples (at depths of 13-13.5 feet and 14.5-15 feet bgs) did not exceed the Method B cleanup level.

A geologic cross section of soil types with analytical results is presented in Figure 6.

3.2.2. Groundwater Investigation of Site Monitoring Wells

The groundwater investigation of Site monitoring wells consisted of gauging depth-to-water measurements in January and March 2014 and collecting groundwater samples from wells MW-1s through MW-7s and MW-4d (Figure 4) in March 2014. Water level measurements are provided in Table 6. Groundwater elevation, flow direction, and gradients are discussed in Sections 3.3.2 and 5.3.2.

Groundwater samples collected in March 2014 were submitted for chemical analyses including: total and dissolved nickel, chromium, and hexavalent chromium. Field procedures and groundwater sampling methods are described in Appendix B.

Analytical results for groundwater samples are presented in Tables 2 and 3 and shown in Figure 8. Laboratory analytical data reports are presented in Appendix C. Chemical analytical results showed the following:

- Total chromium was detected in groundwater samples from wells MW-4s and MW-6s, exceeding the MTCA Method A cleanup level of 50 µg/L (micrograms per liter) in MW-4s (98 µg/L).
- Hexavalent chromium was detected only in on-property well MW-4s at 44 µg/L, below the MTCA Method B cleanup level of 48 µg/L.
- Total nickel was detected in groundwater samples from wells MW-3s, MW-4s, MW-4d, and MW-6s, and exceeded the MTCA Method B cleanup level of 320 µg/L in MW-4s (7,770 µg/L). Dissolved nickel was detected in wells MW-3s, MW-4s, and MW-4d, exceeding the MTCA Method B cleanup level in MW-4s (7,690 µg/L).

3.2.3. Downgradient Groundwater Investigation

Downgradient groundwater was investigated through the completion of 10 direct push borings (SB-15 through SB-24). Each boring was completed to a depth of approximately 30 to 40 feet bgs to characterize the shallow groundwater table downgradient of the Site. The approximate locations of the borings are shown on Figure 7. A GeoEngineers field engineer obtained soil samples from the borings, logged the soil types encountered, and field screened samples using visual, water sheen, and headspace vapor screening methods. Exploration logs are presented in Appendix A; field procedures are presented in Appendix B.

Soil types encountered in the exploration borings generally consisted of brown silty sand to sand with silt with varying gravel content, and occasional poorly graded gravel layers up to 2 feet in thickness to depths of approximately 13 to 20 feet bgs. At depths from approximately 15 feet bgs to the explored depth of 35 to 40 feet bgs, soil was generally characterized as brown to grey, fine to medium sand with occasional gravel and silt content, and occasional poorly graded gravel layers. The shallow groundwater aquifer was encountered at depths ranging from 21.5 to 27 feet bgs.

At the completed depth of each boring (35 to 40 feet bgs), a temporary well screen and riser was inserted into the boring to allow collection of a one-time, discrete water sample using low-flow sampling methods. The groundwater samples were submitted for chemical analyses including: total and dissolved nickel, total chromium, and hexavalent chromium. Chemical analytical data reports are included in Appendix C. Field procedures for groundwater sampling methods are described in Appendix B.

Chemical analytical results showed the following:

- Total chromium was detected in groundwater samples from borings SB-15, SB-16, SB-17, SB-18, SB-19, and SB-20, and exceeded the MTCA Method A cleanup level of 50 µg/L in SB-16 (62 µg/L) and SB-19 (86 µg/L).
- Hexavalent chromium was detected only in boring SB-15 at 12 µg/L, below the MTCA Method A cleanup level. The absence of concentrations of hexavalent chromium in borings SB-16 and SB-19 suggest that detected concentrations of total chromium in these two samples represent trivalent chromium.
- Total nickel also was detected in groundwater samples from borings SB-15, SB-16, SB-17, SB-18, SB-19, and SB-20. Concentrations exceeded the MTCA Method B cleanup level of 320 µg/L in SB-15 (1,390 µg/L) and SB-16 (3,670 µg/L). Dissolved nickel was detected in borings SB-15, SB-16, SB-17, and SB-20, exceeding the MTCA Method B cleanup level in SB-15 (1,290 µg/L) and SB-16 (3,210 µg/L).

Analytical results for groundwater are shown relative to sampling locations on Figure 8.

3.3. Remedial Investigation Results

The results of the remedial investigation indicate the following:

3.3.1. Soil

Hexavalent chromium, lead, and nickel were detected in soil above respective MTCA cleanup levels generally in shallow soil (0.5 to 3.5 feet bgs) and one deeper sample (7.0-7.5 feet bgs) in the central

portion of the Site property in the vicinity of MW-4s and MW-2s, where historic chrome and nickel plating operations occurred. Total chromium was detected in all soil borings, but did not exceed the MTCA cleanup level. Exceedances of the MTCA Method B cleanup level for direct contact for nickel were detected in deeper soil at boring locations SB-4 (2,410 mg/kg at a depth interval of 11.0 to 11.5 feet bgs) and at SB-14 (3,010 mg/kg at a depth interval of 7.0 to 7.5 feet bgs), in the vicinity of MW-3s.

Contaminant source concentrations in soil of chromium, lead, and nickel are generally limited at the Site property to shallow depths, with exceptions at boring locations SB-4 and SB-14 where nickel contamination was identified at greater depths, and location SB-8 where hexavalent chromium exceedance was identified at 7.0 to 7.5 feet bgs.

3.3.2. Groundwater

The groundwater flow direction at the Site is to the east-southeast, consistent with groundwater flow noted in previous studies from 2006 and 2007. Groundwater elevation contours based on March 2014 measurements are shown on Figure 10.

Contaminants of concern were detected above MTCA cleanup levels in groundwater in on-property monitoring well MW-4s (98 µg/L total chromium, 7,770 µg/L total nickel, and 7,690 µg/L dissolved nickel). These same contaminants of concern exceeded cleanup levels in groundwater only in soil borings immediately downgradient of well MW-4s (in order of distance from MW-4s):

- SB-16: 62 µg/L total chromium, 3,670 µg/L total nickel, and 3,210 µg/L dissolved nickel;
- SB-15: 1,390 µg/L total nickel, and 1,290 µg/L dissolved nickel; and
- SB-19: 86 µg/L total chromium.

At groundwater sample locations where total chromium exceeded the MTCA Method A cleanup level of 50 µg/L (MW-4s, SB-16, and SB-19), results of speciated analysis for hexavalent chromium were either below the MTCA Method B cleanup level of 48 µg/L (44 µg/L at MW-4s) or below laboratory detection limits (<10 µg/L at SB-16 and SB-19).

The data indicate that impacts to the shallow groundwater aquifer exceeding cleanup levels are limited to a contaminant source near MW-4s and downgradient locations within 200 feet of the property for total chromium and nickel. The absence of detectable concentrations of hexavalent chromium in groundwater from borings SB-16 and SB-19 indicate that total chromium detected in groundwater at these locations represents trivalent chromium. Therefore, it is appropriate to apply the MTCA Method B cleanup level for trivalent chromium of 24,000 µg/L at borings SB-16 and SB-19, and not the cleanup level for total chromium. The speciated trivalent chromium concentrations in groundwater in SB-16 and SB-19 are below this Method B cleanup level, which limits the extent of exceedances of chromium in Site groundwater to the source property with no off-property impacts.

3.4. Deviations from Work Plan and Additional Data Gaps

Deviations from the Work Plan occurred and data gaps in the characterization of the nature and extent of contamination remained upon completion of the investigation performed in 2014. Deviations from the Work Plan for the Aladdin Plating Site included the following:

- The downgradient extent of nickel in groundwater has not been delineated at the Site.

4.0 CONCEPTUAL SITE MODELS

Conceptual site models were developed to evaluate contaminant transport and exposure pathways. A conceptual site contaminant transport model was developed to describe historical releases of hazardous substances at the Site and the subsequent potential migration of those hazardous substances in environmental media. The conceptual site contaminant transport model is presented in Section 4.1. Separate conceptual site exposure models were developed to describe potential exposure pathways for human and ecological receptors. The conceptual site exposure models are presented in Section 4.2.

4.1. Conceptual Site Contaminant Transport Model

The potential contaminant sources and transport mechanisms identified for the Site are the following:

- Previous Site operations included commercial electroplating between 1958 and 1994. Chemicals used at the Site have included chromium, lead, nickel, caustic soda, sulfuric acid, and alkaline cleaners, which may have spilled to Site soil at the Aladdin Plating property. Past releases represent potential sources of contamination to soil and groundwater.
- Contaminants in soil leach to the groundwater through dissolution into groundwater or dissolution into infiltrating/percolating stormwater and subsequent downward migration to groundwater. Site groundwater flows generally east-southeast.

4.2. Conceptual Site Exposure Models

The conceptual site exposure models were developed to identify exposure pathways and potential human and ecological receptors for contaminants detected in environmental media at the Site. The conceptual site exposure models were developed based on physical features, historical activities, and field observations at the Site, and are depicted graphically in Figure 9 (human receptors).

4.2.1. Potentially Complete Exposure Pathways – Human Receptors

Potential future use of the Site is for light industrial and commercial purposes, including limited residential purposes such as day care centers. Human receptors that could potentially be exposed to contaminants at the Site include site workers, residents, and visitors. Because residential exposures and associated risks are typically greater than exposures/risks to site workers and visitors, a hypothetical residential scenario (i.e., unrestricted land use) was assumed for the purpose of assessing potential human health risks in this RI. The following sections present the potentially complete exposure pathways for human receptors.

4.2.1.1. Soil

Potentially complete soil-based exposure pathways exist for humans in the upland area of the Site via incidental soil ingestion, dermal contact with soil, and inhalation of particulates. In accordance with WAC 173-340-740, human health exposure to on-Site soil is evaluated based on the direct contact with soil exposure pathway (i.e., incidental soil ingestion; unrestricted land use). Proposed soil cleanup levels applicable to this exposure pathway are discussed in Section 5.1.1.

4.2.1.2. Groundwater

Exposure of human receptors to contaminants in groundwater via direct contact is not a potential exposure pathway. Groundwater at the Site is protected under the South Tacoma Groundwater Protection District. The nearest potable well is approximately 1 mile to the southwest of the Site

(Figure 1). While not used for potable (i.e. drinking) water, groundwater at the Site has been affected by Site contaminants in soil, and could potentially affect local drinking water supply. In accordance with WAC 173-340-720, human health exposure to Site groundwater is evaluated based on the ingestion pathway (i.e., protection of groundwater as drinking water). Proposed soil cleanup levels applicable to this exposure pathway are discussed in Section 5.2.1.

4.2.1.3. Stormwater

Stormwater falling on the Site infiltrates in unpaved areas. No stormwater collection and conveyance features are present at the Site. Remediation of the Site soils will be required prior to future Site use. Remedial actions for Site soil will include removal of contaminated soil. Therefore, a complete exposure pathway for human receptors to stormwater runoff contaminated by Site media does not exist. As a result, exposure of human receptors to stormwater runoff contaminated by Site media is not considered further in the RI.

During the construction and remediation phase of this project, best management practices (BMPs) will be implemented to control runoff during excavation and to secure and protect soil stockpiles from the elements. These BMPs will be developed fully in the remedial action design report to follow this RI/FS and CAP.

4.2.2. Potentially Complete Exposure Pathways – Ecological Receptors

The following sections present the potentially complete exposure pathways for ecological receptors.

4.2.2.1. Soil

The Site is currently covered with compact sand and gravel and generally does not provide suitable habitat for ecological receptors. Remediation of soil will be required prior to future Site use. Remedial actions for Site soil will include removal of contaminated soil. The property and areas within 500 feet of the property constitute less than 1.5 acres of undeveloped land, qualifying for an exclusion from terrestrial ecological evaluation under MTCA 173-340-7491(1). As a result, exposure of ecological receptors to contaminated soil is not considered further in the RI.

4.2.2.2. Groundwater

Potentially complete exposure pathways exist for exposure of terrestrial ecological receptors to contaminants in groundwater via direct contact. However, because of the depth to groundwater at the Site (generally 30 to 40 feet bgs), these exposure pathways are considered insignificant and will not be considered further in the RI.

4.2.2.3. Stormwater

A complete potential pathway does not exist for benthic invertebrate and fish exposure to contaminants in stormwater runoff because no stormwater leaves the Site. As stated in Section 4.2.1.3, BMPs to control runoff during excavation and to secure and protect soil stockpiles will be developed fully in the remedial action design report to follow this RI/FS and CAP.

5.0 DEVELOPMENT OF CLEANUP STANDARDS

Cleanup standards consist of: 1) cleanup levels that are protective of human health and the environment, and 2) the point of compliance at which the cleanup levels must be met. Typically, proposed cleanup

standards are developed during the RI phase of a cleanup project, whereas proposed final cleanup standards are developed during the FS and are used in the development and evaluation of cleanup action alternatives. The final cleanup standards are typically established by Ecology in the Cleanup Action Plan (CAP).

The proposed cleanup levels presented in this RI/FS report are based on the proposed cleanup levels developed in the RI/FS Work Plan and incorporate updates to regulatory criteria (i.e., based on updates to Ecology's Cleanup Levels and Risk Calculations [CLARC] database). Consistent with the MTCA Cleanup Regulation (Chapter 173-340 WAC; Ecology, 2007a), proposed cleanup levels were developed based on identified potential exposure pathways for human health and ecological receptors consistent with the current and future land use of the Site. Potential exposure pathways are discussed in Section 4.2.

Since this report presents the RI and FS results in a single document, and since the RI description of the nature and extent of contamination is most meaningful when discussed in the context of proposed cleanup levels and points of compliance for the Site, the proposed cleanup standards are presented in this section rather than in the FS (Section 6.0 of this report). The FS uses these cleanup standards for developing and evaluating cleanup action alternatives.

The specific regulatory criteria utilized in developing proposed cleanup levels for soil and groundwater are presented in the Sections 5.1.1 and 5.1.2. The proposed points of compliance are described in Section 5.2.

5.1. Proposed Cleanup Levels

5.1.1. Soil

The proposed soil cleanup levels are presented in Table 4. Based on current zoning and anticipated future use, proposed cleanup levels for Site soil were developed for unrestricted land use and were based on following regulatory criteria:

- MTCA Method A Soil Cleanup Levels. MTCA Method A values for unrestricted land uses are published in MTCA Table 740-1 (Chapter 173-340-900 WAC).
- MTCA Method B Soil Cleanup Levels. MTCA Method B carcinogen and non-carcinogen values for human health protection (incidental soil ingestion), and for protection of groundwater as drinking water, were obtained from Ecology's CLARC database.

In addition to the regulatory criteria listed above, Washington State soil background concentrations for metals (Ecology, 1994) are considered in accordance with WAC 173-340-709 and WAC 173-340-705(6).

In general, the lowest of the regulatory criteria listed above were identified as the proposed soil cleanup levels with the following exception.

- If the lowest regulatory criterion was less than the background concentration, the proposed soil cleanup level was set at the background concentration.

The proposed soil cleanup levels presented in Table 4 are:

- Total chromium 2,000 mg/kg
- Hexavalent chromium 18.4 mg/kg

- Lead 250 mg/kg
- Nickel 417 mg/kg

5.1.2. Groundwater

The proposed groundwater cleanup levels are presented in Table 5. While not used for drinking water, groundwater at the Site has been affected by Site contaminants in soil, and can potentially affect local drinking water supply. Therefore, proposed cleanup levels for groundwater are developed for protection of drinking water and are selected from available state and federal criteria listed below:

- Safe Drinking Water Act
- MTCA Method B Formula Values. MTCA Method B groundwater carcinogen and non-carcinogen standard formula values for human health protection were obtained from Ecology's CLARC database.

In general, the lowest of the regulatory criterion listed above are identified as the proposed groundwater cleanup level.

The proposed groundwater cleanup levels presented in Table 5 are:

- Total chromium 50 µg/L
- Trivalent Chromium 24,000 µg/L
- Hexavalent chromium 48 µg/L
- Lead 15 µg/L
- Nickel 320 µg/L.

5.2. Proposed Points of Compliance

Under MTCA, the point of compliance is the point or location on a site where the cleanup levels must be attained. The points of compliance for affected media will be approved by Ecology and presented in the CAP. However, it is necessary to identify proposed points of compliance in order to develop and evaluate cleanup action alternatives in the FS. This section describes the proposed points of compliance for soil and groundwater.

5.2.1. Soil

The standard point of compliance for the soil cleanup levels shown in Table 4 will be throughout the soil column at the property from the ground surface to 15 feet bgs, in accordance with WAC 173-340-740(6)(d) and WAC 173-340-740(4)(b).

5.2.2. Groundwater

The standard point of compliance for the groundwater cleanup levels shown in Table 5 is throughout the Site. The proposed point of compliance for groundwater will be at monitoring wells MW-4s and an additional well installed off-property, approximately 100 to 150 feet downgradient, to delineate contaminant concentrations on the Aladdin Plating property and off-property in the downgradient direction.

5.3. Physical Characteristics of Site

The physical characteristics of the Site described in this section are based on available documents such as geologic maps, Site surveys, etc., as well as field observations of soil and groundwater conditions documented during the Site investigations discussed in Sections 2.7 and 3.0. The investigation logs for borings advanced at the Site are provided in Appendix A. Data for depth to groundwater and groundwater elevations are provided in Table 6.

5.3.1. Soil

Thirteen test pits were completed to depths ranging from 2.5 to 17 feet bgs as part of Ecology's initial soil characterization in 2005. Landau Associates collected soil samples from the installation of five on-property monitoring wells in 2005, and three off-property wells in 2006. In 2014, 14 soil borings were advanced to depths of up to approximately 20 feet bgs as part of Site investigations of the subject property. Sampling locations for soil at the Site are shown on Figures 3 and 5. A cross section of on-property soil developed from the information provided from Site investigations is presented in Figure 6.

As discussed in Section 3.2.1, soil at the Site property was characterized as brown silty sand to sand with silt and varying gravel content, with no definitive contact delineating fill material from native soil. In general, soil observed in borings advanced off-property exhibited similar characteristics to depths of approximately 13 to 20 feet bgs, underlain by a brown to grey, fine to medium sand to explored depths of 35 to 40 feet bgs. The following describes soil encountered beneath the Site in general order from the ground surface to greater depths:

- Sandy fill: Brown fill material ranging in composition from silty sand to sand with gravel was encountered from the surface in the majority of on-property borings to the explored depth (15 feet bgs). Pockets of silt, gravel, or cobbles appear intermittently throughout across the property, generally under 1 foot in thickness.
- Gravelly fill: Gravelly fill with sand was encountered in the majority of the on-property explorations to depths of about 10 feet bgs. The thickness of the gravelly fill ranged from 0.5 to 5 feet. Grain size ranges from fine to coarse gravel with fine to coarse sand. In borings SB-2 and SB-5, this fill was observed to contain six inches of brick debris at approximately 12 feet bgs. This fill material seen in SB-1 also contained brick debris in fine to coarse sand from about 13 to 15 feet bgs. The three borings containing brick material are located near the northern extent of the property.
- Sand: Brown or grey, fine to medium sand was observed in off-property borings from depths of approximately 15 to 16 feet bgs to the explored depths of 35 to 40 feet bgs. Fine to medium gravel was encountered again in borings SB-18, SB-19, and SB-20 beginning at 37 feet until the explored depths of the borings. The sediment is brown, fine to medium gravel, with fine to coarse sand and traces of silt.

5.3.2. Hydrogeology

5.3.2.1. Groundwater Occurrence

Static groundwater measurements were obtained from MW-1s through MW-7s and MW-4d on 15 separate occasions between 2005 and 2014. The water level measurement data collected in 2014 are provided in Table 6. Figure 10 presents the groundwater elevations and inferred groundwater flow direction based on March 2014 water level measurements.

In March 2014, groundwater was present in borings at the Site at depths ranging from 21.5 to 27 feet bgs, and measured in Site monitoring wells at elevations approximately 218.5 to 221.5 feet Above Mean Sea Level. The inferred groundwater flow direction was to the east-southeast during the groundwater measurement events. The groundwater gradient during the 2014 measurement events was approximately 0.003 ft/ft.

5.3.2.2. Groundwater Use

There are no groundwater supply wells located at or in the vicinity of the Site, and Site groundwater is not a current source of drinking water. Based on a review of the Washington State Well Log Viewer (Ecology, 2014), the nearest water supply well is located about 1 mile southwest of the Site (Figure 1). The groundwater supply well is located a sufficient distance from the Site to not be pertinent to the investigation.

5.4. Nature and Extent of Contamination

Chemical analytical results for soil and groundwater samples collected from the Site were evaluated in comparison to the proposed cleanup levels (Section 5.1) to identify the nature and extent of contamination at the Site. The following sections present the results for each media at the Site. The results of chemical analyses performed on Site samples compared to the proposed cleanup levels are presented in Tables 7 and 8, and Figures 11 through 14 identify the extent of contamination at concentrations greater than the proposed cleanup levels.

5.5. Soil

For the RI, soil samples collected from the Site were analyzed for the following analytes:

- Chromium
- Hexavalent chromium
- Nickel
- Lead

Sections 5.5.1 present the results for each of the analyte groups in comparison to the proposed soil cleanup levels and identify the extent of contamination in Site soil. Analytes detected at concentrations greater than the proposed cleanup levels in Site soil include chromium (total and hexavalent), lead, and nickel.

5.5.1. Metals

Samples were collected from soil borings at 14 on-property locations in March 2014 by GeoEngineers to investigate the nature and extent of metals contamination in Site soil. Total metal analyses were performed on a total of 88 soil samples, of which the analytical results exceeded the proposed soil cleanup levels for one or more metals at 13 of the 14 locations.

The analytical results for metals in soil for GeoEngineers' investigation are summarized and compared against proposed cleanup levels in Table 7. The sampling locations and estimated extent of metals at concentrations greater than the proposed cleanup levels in soil sampled during the GeoEngineers 2014

investigation are shown on Figures 11 through 14. The majority of the property contained soils with concentrations greater than the proposed cleanup levels of one or more metals.

- The central portion of the property, including the areas surrounding the historical nickel rinse, nickel strike, chrome rinse, sulfuric residue, and caustic sludge Site features, was identified to have soil with metals concentrations greater than the proposed cleanup levels.
- Seven soil samples collected from the surface to approximately 1 foot bgs at sampling locations SB-3, SB-4, SB-6, SB-7, SB-8, SB-9, and SB-10 contained hexavalent chromium and/or lead at concentrations greater than the proposed cleanup levels (Figures 12 and 13); nickel was present in surface soils (0.5 to 1 foot bgs) at concentrations exceeding the proposed cleanup level in all borings except SB-1 (Figure 14).
- Soil with concentrations of nickel greater than the proposed cleanup levels was also discovered at greater depths in samples collected from SB-3, SB-4, SB-5, SB-6, SB-7, SB-8, SB-10, SB-11, SB-12, SB-13, and SB-14. Soil sampled at SB-4 contained nickel at concentrations greater than the proposed cleanup level to the explored depth of 15.0 feet bgs.
- Lead was detected at concentrations greater than the proposed cleanup levels from 3 to 3.5 feet bgs in a soil sample at SB-7.
- From 7 to 7.5 feet bgs at sampling location SB-14, nickel was detected at concentrations greater than the proposed cleanup levels.

5.6. Groundwater

As described in Section 3.2.2, groundwater monitoring activities were completed in 2014 to characterize the nature and extent of metals contamination in groundwater. During the investigation activities, groundwater samples were collected from monitoring wells MW-1s through MW-7s, and off-property soil borings SB-15 through SB-24. Groundwater samples obtained from the Site were analyzed for the following analytes:

- Dissolved and total metals including chromium, hexavalent chromium, and total and dissolved nickel.

Section 5.6.1 presents the results for each of the analytes in comparison to the proposed groundwater cleanup levels and identifies the extent of contamination in Site groundwater. Analytes detected at concentrations greater than the proposed cleanup levels in Site groundwater include total chromium and nickel.

5.6.1. Metals

Groundwater samples were collected from monitoring wells MW-1s through MW-7s, and off-property soil borings SB-15 through SB-24 to characterize the nature and extent of metals contamination in Site groundwater. The analytical results for metals in groundwater are summarized and compared against proposed cleanup levels in Table 8. The monitoring well locations and locations where metals contamination in groundwater is greater than the proposed groundwater cleanup levels are shown on Figures 11 and 14.

The analytical results for groundwater samples collected in March 2014 indicate that nickel and chromium concentrations are greater than the proposed cleanup levels in monitoring wells MW-3s and

MW-4s and in groundwater from off-property soil borings SB-15, SB-16, SB-17, and SB-19. Metals concentrations were either not detected or were detected at concentrations less than the proposed groundwater cleanup levels in monitoring wells MW-1s, MW-2s, MW-4d, MW-5s, MW-7s, SB-18, SB-20, SB-21, SB-22, SB-23, and SB-24.

As noted in Section 3.2.2, the absence of detectable concentrations of hexavalent chromium in groundwater from borings SB-16 and SB-19 indicates that total chromium detected in groundwater at these locations represents trivalent chromium. Trivalent chromium has a MTCA Method B cleanup level of 24,000 µg/L, suggesting that exceedances of chromium in Site groundwater are limited to the source property with no off-property impacts.

Monitoring well MW-6s is located upgradient (Figure 4), approximately 450 feet from the Site. Due to its relative location, it is likely that there is another source of the metals concentrations at this location. Monitoring wells MW-3s and MW-4s are located on the eastern edge of the Site, downgradient of historical chrome and nickel rinse Site features (Figures 3 and 5). Soil samples taken from on-property soil borings SB-3, SB-4, SB-6 and SB-7 near those historical Site features contained concentrations of hexavalent chromium and nickel greater than the proposed cleanup levels. Spills/releases from those historical Site features are the likely source of chromium and nickel in groundwater at concentrations greater than the proposed groundwater cleanup levels in this vicinity.

6.0 FEASIBILITY STUDY

This section presents the feasibility study (FS) prepared for the Site. The FS was completed to develop and evaluate remedial action alternatives for addressing contamination identified at the Site and to select a preferred remedial alternative. The FS utilizes information about the history and environmental conditions gathered during Site investigations. The results of these investigations and history of the Site are summarized in Sections 1 through 5 of the RI. This FS was completed in accordance with the requirements of the MTCA Cleanup Regulation, Chapter 173-340 WAC.

6.1. Cleanup Standards

Cleanup standards consist of cleanup levels that are protective of human health and the environment and the points of compliance at which the cleanup levels must be met. Proposed Site-specific cleanup standards were developed in the RI (Section 5.0). The proposed cleanup standards are adopted in this FS for the purpose of developing remedial action objectives (RAOs) for the Site. The RAOs are presented in Section 6.3. The proposed media-specific cleanup levels along with the points of compliance are summarized below.

6.1.1. Cleanup Levels

6.1.1.1. Soil

Cleanup levels for soil that are protective of human health were developed in accordance with MTCA requirements. Based on current zoning and anticipated future use, cleanup levels for Site soil are for unrestricted land use and are based on MTCA Method A and Method B soil cleanup levels, and are protective of groundwater as drinking water. In general the most conservative criteria (i.e., lowest of MTCA Method A and Method B) were identified as the cleanup level unless background concentrations for soil were greater than the cleanup level.

6.1.1.2. Groundwater

The highest beneficial use of groundwater at the Site is based on the protection of groundwater as drinking water. In general, the most conservative (i.e., lowest) published numerical values selected from available state and federal criteria were selected as the cleanup level for groundwater.

6.1.2. Points of Compliance

Under MTCA, the point of compliance is the point or location on a site where the cleanup levels must be attained. The points of compliance for affected media will be approved by Ecology and presented in the Site-specific CAP. However, it is necessary to identify proposed points of compliance in order to develop and evaluate cleanup action alternatives in the FS. This section describes the proposed points of compliance for soil and groundwater.

6.1.2.1. Soil

The standard point of compliance (upper 15 feet) is considered applicable to prevent human exposure by direct contact to Site soil, as defined in WAC 173-340-740(6)(d).

6.1.2.2. Groundwater

The standard point of compliance (the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site) is considered applicable for the protection of groundwater as drinking water, as defined in WAC 173-340-720(8)(b).

6.2. Locations and Media Requiring Cleanup Action Evaluation

This section identifies the locations and environmental media (soil and groundwater) at the Site that require cleanup action evaluation. These areas are shown on Figures 11 through 14 and are summarized in Section 5.0 of the RI.

6.2.1. Soil

Based on the information evaluated in the RI, soil in the following areas contains contaminant concentrations greater than the proposed soil cleanup levels:

- Hexavalent chromium is present in the northern half of the Site property in the uppermost foot of the soil column, and in the vicinity of direct push boring SB-8 at a depth of 7.5 feet bgs, with concentrations greater than the proposed cleanup level.
- Lead is present at concentrations greater than the proposed cleanup level in shallow soil (0 to 3.5 feet bgs) in the central portion of the property.
- Throughout the Site property, nickel is present at concentrations greater than the proposed cleanup level in soil ranging from the surface to the explored depth of 15.0 feet bgs, with the deeper exceedances occurring at the east and central portions of the property.

Cleanup action alternatives for soil will be protective of human health and groundwater.

6.2.2. Groundwater

Based on information evaluated in the RI, groundwater at the property and downgradient of the property contains the following metals at concentrations greater than the proposed groundwater cleanup levels:

- Total chromium
- Nickel

Groundwater in monitoring well MW-4s contains total chromium along with total and dissolved nickel at concentrations greater than the proposed cleanup levels. This monitoring well is located in the northeast corner of the subject property where nickel plating operations were conducted. Total and dissolved nickel was detected in groundwater from downgradient soil borings SB-15, SB-16, SB-17, and SB-19. Total chromium detections in groundwater from SB-16 and SB-19 was determined through speciation to represent trivalent chromium (Sections 3.2.2 and 5.6.1).

Groundwater in this area will require evaluation of cleanup action alternatives to protect human receptors. Cleanup action alternatives for groundwater will be coordinated with soil cleanup actions as contaminated soil is the source of contamination in groundwater.

6.3. Remedial Action Objectives

This section presents RAOs that are applicable to the Site. RAOs consist of chemical- and medium-specific goals for protecting human health and the environment. The RAOs specify the media and contaminants of interest, potential exposure routes and receptors, and proposed cleanup goals. The RAOs for the Site are summarized in the following sections.

6.3.1. Soil and Groundwater

The objective of the proposed remedial action is to eliminate, reduce, or otherwise control to the extent feasible and practicable, unacceptable risks to human health and the environment posed by hazardous substances in soil and groundwater in accordance with the MTCA Cleanup Regulation (WAC 173-340) and other applicable regulatory requirements. Specifically, the objective of the cleanup is to mitigate risks associated with the following potential exposure routes and receptors:

- Contact (dermal, incidental ingestion, or inhalation) by residents, visitors, workers (including excavation workers) and other Site users with hazardous substances in soil;
- Ingestion of Site contaminants in groundwater as drinking water.

The cleanup goal is to mitigate these risks by meeting the soil and groundwater cleanup levels that are identified in Section 5.1.

6.4. Applicable Regulatory Requirements

In addition to the cleanup standards developed through the MTCA process and presented in Section 5.1, other regulatory requirements must be considered in the selection and implementation of the cleanup action. MTCA requires the cleanup standards to be “at least as stringent as all applicable state and federal laws” [WAC 173-340-700(6)(a)]. Besides establishing minimum requirements for cleanup standards, applicable state and federal laws may also impose certain technical and procedural requirements for performing cleanup actions. These requirements are described in WAC 173-340-710. Table 9 presents the ARARs identified as being applicable at this Site.

6.5. Screening of General Response Actions and Remediation Technologies

This section presents the results of a screening evaluation of potentially applicable general response actions and associated remediation technologies for the remedial actions to be performed at the Site. The screening evaluation is carried out for each of the environmental media (soil and groundwater) requiring remedial action. Based on the screening evaluation, selected response actions and

technologies are carried forward for use in the development of remedial action alternatives for the Site. The screening process determines the most appropriate technologies and process options that warrant use for development into remedial alternatives for further evaluation.

Some response actions and technologies were screened out from further evaluation due to low effectiveness or implementability. The “no-action” alternative was not evaluated in this feasibility study. The use of a no action alternative for addressing contaminants present at the Site would not achieve the RAOs or meet the minimum requirements of a remedial alternative under the MTCA guidance. Therefore, the no action option was screened out from further consideration during the remedial technology screening process. Potentially effective and implementable response actions and remediation technologies are evaluated further below.

6.5.1. Soil Remediation Technologies

Multiple general response actions and remediation technologies for soil were screened to identify general response actions and remedial technologies to further evaluate for the remedial actions to be performed at the Site. A summary of the screening evaluation is presented in Table 10. Further discussion of specific, potentially applicable general response actions and remedial technologies for soil remedial actions including institutional controls, soil containment, soil removal/disposal, soil removal with ex-situ treatment and in-situ treatment is presented in the following sections.

6.5.1.1. Institutional Controls

Institutional controls provide a notice to property owners or Site users that contaminants remain in soil above cleanup levels and are established to control human activities to limit exposure and ensure the effectiveness of the remedial action over time. A restrictive covenant (e.g., deed restrictions, posted notification of Site conditions) would not be an acceptable remedial action alternative on its own because it would not achieve the RAOs for the site. However, restrictive covenants can in certain instances be effective and implementable in combination with engineered and other institutional controls where the covenant requires maintenance of the protective barriers that keep humans and ecological receptors from contacting contaminated soil (i.e., access controls such as fencing and notification methods such as signage). If contaminated soil is to be left in place at a depth less than 15 feet bgs, then a restrictive covenant would be employed to require special procedures for future subgrade work (e.g., worker protection and soil management plans).

The intent of this cleanup action is to remediate all contaminated Site soils to the proposed cleanup values presented in Section 5.1.1. Therefore, the implementation of institutional controls was not retained for further evaluation of soil remedial alternatives.

6.5.1.2. Soil Containment

Soil containment includes engineered capping that could be employed to maintain a barrier between contaminated soil and potential human and ecological receptors. Soil containment is considered to be an effective technology to reduce exposure of human and ecological receptors to contaminants that are left on site. Asphalt and/or concrete slabs and foundations of future infrastructure would provide an effective barrier that would prevent human or ecological exposure and also limit erosion of contaminated soil. Capping with soil or other aggregate material (such as gravel) can also be used to provide a barrier to human and ecological receptors and to limit erosion of contaminated soil.

Capping would require long-term monitoring to identify any areas where the capping material may be damaged and need maintenance or repair. Monitoring would consist of periodically inspecting the caps for areas of damaged or broken pavement or soil erosion and exposed underlying contaminated soil. Use of containment would not result in a permanent reduction in contaminant mass, mobility, or toxicity. Therefore, surface capping was not retained for further evaluation in remedial alternatives.

6.5.1.3. Soil Removal and Disposal

Soil removal by excavation is considered to be an effective technology to permanently eliminate the risk of exposure to the metal contaminants at the Site.

It is anticipated that the majority of soil excavated to remediate the Site could be disposed of at a permitted solid waste landfill (for example, a Resource Conservation and Recovery Act [RCRA] Subtitle D facility) rather than requiring disposal at a hazardous/dangerous waste disposal facility (such as a RCRA Subtitle C facility). Due to the presence of elevated metals concentrations in some soil, it will be necessary to perform Dangerous Waste characterization (TCLP testing) on soil that is excavated for off-site disposal. Excavation and disposal of metals-contaminated soil is retained for further evaluation and discussed below.

6.5.1.4. Soil Removal with Ex-Situ Soil Treatment

There are a variety of ex-situ soil treatment technologies that are used to treat soil. The technology screening for this Site identified stabilization as the only ex-situ soil treatment technology to be retained for additional evaluation.

Stabilization of contaminated soil typically involves chemically binding and immobilizing the contaminants on a molecular level. Treatment of soil by stabilization is most commonly employed by mixing contaminated soil with Portland cement or another pozzolanic material. A pozzolanic material exhibits cementitious properties when combined with calcium hydroxide. With contaminants such as metals, stabilization has been reliably demonstrated. However, treatment using stabilization requires adequate characterization to develop a treatment plan, pilot testing to evaluate the effectiveness of the plan prior to implementation, additional testing during implementation to verify the treatment is effective during performance of the remedial action, a significant area to stage, mix, and manage excavated soil, and long-term monitoring to confirm the effectiveness of the treatment approach.

Although metals have been detected at concentrations greater than Site cleanup levels in several locations at the Site, the volume of metals-contaminated soil is relatively low. Because of the low volume of metals-contaminated soil, it would be more cost effective to remove and dispose of soil at a permitted solid waste landfill. Therefore, soil removal with ex-situ treatment was not retained for further evaluation in this FS.

6.5.1.5. In-Situ Soil Treatment

In-situ soil treatment includes technologies such as biological treatment, phytoremediation, and physical/chemical treatment applied to soil left-in-place. These remedial technologies will not be effective in treating metals-contaminated soils that are found at the Site. These technologies were not retained for further evaluation in this FS because effectiveness is low for the contaminants present in soil at concentrations greater than cleanup levels.

6.5.2. Groundwater Remediation Technologies

As described in the RI, metals (i.e., chromium and nickel) have been detected in groundwater at concentrations greater than the Site cleanup levels. Soil across the Aladdin property contains

metal concentrations greater than the soil cleanup levels. Because metals-contaminated soil is the source of contamination in groundwater, remediation of groundwater requires removal of the metals-contaminated soil.

Upon removal of the metals-contaminated soil, the metals concentrations in groundwater are anticipated to attenuate to concentrations less than cleanup levels. Therefore, monitored natural attenuation of metals concentrations in groundwater is the only remedial technology advanced for groundwater at the Site. Groundwater monitoring would be required after removal of metals-contaminated soil is completed to confirm natural attenuation of metals in groundwater is taking place and there is progress towards compliance with groundwater cleanup levels.

6.6. Development of Remedial Alternatives

This section presents the remedial action alternatives developed by combining technologies and process options retained through the screening evaluation presented in Section 6.5 to address the RAOs for the Site. Two alternatives have been developed and presented in Table 11. Each alternative addresses contaminated media with a combination of remedial technologies appropriate for the Site conditions. The two alternatives represent reasonable and potentially applicable cleanup actions to provide a further basis for evaluation. Section 6.8 provides a comparative analysis of the two remedial action alternatives.

The remedial action alternatives developed in this section are based on conceptual-level design for the implementation of the individual technologies described in Section 6.5. The design parameters used to develop the alternatives are based on engineering judgment and the current knowledge of Site conditions. The final design for the selected, preferred alternative may require additional characterization and analysis of Site media, and information on specific plans for future development of the Site to better define the remedial action and associated costs.

The two remedial action alternatives were developed to be consistent with future land use at the Site. Each of the alternatives is compatible with potential future use of the Site as a commercial or light industrial property.

6.6.1. Remedial Alternative 1 –Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Groundwater and Disposal

Remedial Alternative 1 includes the following specific remedial actions to be performed at the Site:

- Excavation and off-site, permitted disposal of approximately 400 cubic yards of metals-contaminated soil that is a source of metals contamination in groundwater. Soil with metals concentrations exceeding MTCA Method A and B cleanup levels protective of direct human contact and MTCA Method B cleanup levels for soil protective of groundwater as drinking water would be removed.
- Installation of monitoring wells to monitor the natural attenuation of groundwater.

The following sections provide further description of the components of Remedial Alternative 1.

6.6.1.1. Excavation and Off-site Disposal of Material Contributing to Groundwater Exceedances

As discussed in Section 5.0 of the RI, soil containing metals at concentrations greater than cleanup levels is present at the Site. Metals in groundwater adjacent to and downgradient of these areas exceed cleanup levels. As discussed in Section 6.5.2, remediation of groundwater (natural attenuation of metals

in groundwater) is not effective without removal of the source of the metals contamination. Therefore, for the remedial action to be protective of groundwater, the source of metals contamination to groundwater must be removed. Natural attenuation is anticipated to be an effective remedy for groundwater after source removal.

Remedial Alternative 1 would remove metals contaminated soil to comply with MTCA Method A and B cleanup levels protective of direct human contact and MTCA Method B cleanup levels protective of groundwater as drinking water. This would include nickel-contaminated soil that would be remediated to a concentration protective of the calculated Method B cleanup level for groundwater as drinking water (417 mg/kg). Figure 15 identifies proposed areas and depths of excavation to remove contaminated soil to achieve these cleanup levels.

The excavated soil would be characterized for disposal as required by MTCA, the Washington State Dangerous Waste Regulations and the disposal facility. The contaminated soil is anticipated to fall into two categories: non-dangerous waste suitable for disposal at a Subtitle D landfill (or similar facility approved by the local permitting agency and Ecology) or Dangerous Waste requiring disposal at a Subtitle C landfill.

For soil to be categorized as non-dangerous waste and suitable for disposal at a Subtitle D landfill (or similar facility approved by the local permitting agency and Ecology), it would be necessary to demonstrate that Site contaminants are not present at concentrations greater than 10 times the Universal Treatment Standards (UTS), as defined in 40 CFR 268.48 and/or the results of toxicity characteristic leaching procedure (TCLP) testing for metals that indicate that the excavated material does not designate as Dangerous Waste based on Toxicity Characteristic Criteria (WAC 173-303-100).

It is anticipated that some of the excavated soil will designate as Dangerous Waste and will therefore be precluded from disposal at a Subtitle D (or similar) landfill. For cost estimating purposes in the FS, it is assumed that 25 percent of the soil excavated from the Site will fail TCLP analyses and will need to be disposed at a Subtitle C landfill.

6.6.1.2. Groundwater Monitoring

The removal and off-site disposal of soil containing metals is anticipated to result in gradual reduction of metals concentrations in groundwater, thereby alleviating the need for active groundwater remediation. To verify that the removal of metals-contaminated soil is effective at reducing metals concentrations in groundwater and that natural attenuation of groundwater is occurring, new monitoring wells would be installed near the point of compliance following completion of the soil removal activities.

For cost estimating purposes, it is assumed that up to three of the five existing on-property monitoring wells (MW-3s, MW-4s, and MW-4d) would be decommissioned as part of remedial actions at the Site (MW-1s and MW-2s would be preserved). One new monitoring well would be installed on the property (in the approximate location of MW-4s/MW-4d) and one well would be installed 100 to 150 feet downgradient of the property to monitor natural attenuation of metals concentrations in groundwater. The Site monitoring wells would be sampled and analyzed for metals COCs and indicators of natural attenuation during at least four semi-annual monitoring events to demonstrate that impacts to groundwater have been addressed. Ecology would then review the groundwater data to determine if semi-annual monitoring should continue or if the frequency can be reduced (i.e., annual monitoring).

6.6.2. Remedial Alternative 2 – Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Direct Contact

Remedial Alternative 2 includes the following specific remedial actions to be performed at the Site:

- Excavation and off-site disposal of approximately 260 cubic yards of metals-contaminated soil contributing to contamination in groundwater in compliance with the MTCA Method A and B cleanup levels protective of direct human contact.
- Installation of monitoring wells to monitor the natural attenuation of groundwater.

The remedial actions to be performed for Remedial Alternative 2 are essentially the same as Remedial Alternative 1 (described in Section 6.6.1), but would remove metals-contaminated soil to comply with only MTCA Method A and B cleanup levels protective of direct human contact, and not MTCA Method B cleanup levels protective of groundwater as drinking water. Figure 16 identifies proposed areas and depths of excavation to remove contaminated soil to achieve these cleanup levels. These cleanup levels represent the proposed cleanup levels presented in Section 5.0, with the exception of nickel-contaminated soil that would be remediated to a concentration protective of the Method B cleanup level for direct contact (1,600 mg/kg).

6.7. Evaluation Criteria

This section presents a description of the threshold requirements for cleanup actions under MTCA and the additional criteria used in this FS to evaluate the cleanup action alternatives.

6.7.1. Threshold Requirements

Remedial actions performed under MTCA must comply with basic threshold requirements. Remedial action alternatives that do not comply with the threshold requirements are not considered suitable remedial actions under MTCA. As provided in WAC 173-340-360(2)(a), the four threshold requirements for remedial actions are that they must:

- Protect human health and the environment;
- Comply with cleanup standards;
- Comply with applicable state and federal laws; and
- Provide for compliance monitoring.

The following further describe the threshold requirements.

6.7.1.1. Protection of Human Health and the Environment

The results of remedial actions performed under MTCA must ensure that both human health and the environment are protected.

6.7.1.2. Compliance with Cleanup Standards

Compliance with cleanup standards requires that cleanup levels are met at the applicable points of compliance. If a remedial action does not comply with cleanup standards, the remedial action is an interim action, not a remedial action. Where a remedial action involves containment of soils with hazardous substance concentrations exceeding cleanup levels at the point of compliance, the remedial action may be determined to comply with cleanup standards, provided the requirements specified in WAC 173-340-740(6)(f) are met.

6.7.1.3. Compliance with Applicable State and Federal Laws

Remedial actions conducted under MTCA must comply with applicable state and federal laws. The term “applicable state and federal laws” includes legally applicable requirements and those requirements that Ecology determines to be relevant and appropriate as described in WAC 173-340-710.

6.7.1.4. Provision for Compliance Monitoring

The remedial action must allow for compliance monitoring in accordance with WAC 173-340-410. Compliance monitoring consists of protection monitoring, performance monitoring and confirmational monitoring. Protection monitoring is conducted to confirm that human health and the environment are adequately protected during construction and the operation and maintenance period of a cleanup action. Performance monitoring is conducted to confirm that the remedial action has attained cleanup standards and, if appropriate, remediation levels or other performance standards. Confirmational monitoring (soil, groundwater, and/or sediment) is conducted to confirm the long-term effectiveness of the remedial action once cleanup standards and, if appropriate, remediation levels or other performance standards have been attained.

6.7.2. Other MTCA Requirements

Under MTCA, when selecting from the alternatives that meet the minimum requirements, the alternatives shall be further evaluated against the following additional criteria:

- **Use permanent solutions to the maximum extent practicable [WAC 173-340-360(2)(b)(i)].** MTCA requires that when selecting from remedial action alternatives that fulfill the threshold requirements, the selected action shall use permanent solutions to the maximum extent practicable [WAC 173-340-360(2)(b)(i)]. The criteria for assessing the proposed alternatives are described in Section 6.7.2.1 below.
- **Provide a reasonable restoration time frame [WAC 173-340-360(2)(b)(ii)].** In accordance with WAC 173-340-360(2)(b)(ii), MTCA places a preference on those remedial action alternatives that, while equivalent in other respects, can be implemented in a shorter period of time. MTCA includes a summary of factors to be considered in evaluating whether a remedial action provides for a reasonable restoration time frame [WAC 173-340-360(4)(b)].
- **Consideration of Public Concerns [WAC 173-340-360(2)(b)(iii)].** Ecology will consider public comments submitted during the RI/FS process in making its preliminary selection of an appropriate remedial action alternative. This preliminary selection is subject to further public review and comment when the proposed remedy is published in the CAP.

6.7.2.1. Evaluation of MTCA Criteria

The MTCA criteria for evaluation of the proposed remedial alternatives include protectiveness, permanence, cost, long-term effectiveness, management of short-term risks, implementability and consideration of public concerns.

The comparison of benefits relative to costs may be quantitative, but will often be qualitative. When possible for this FS, quantitative factors such as mass of contaminant removed or percentage of area of impacts remaining were compared to costs for the alternatives evaluated, but many of the benefits associated with the criteria described below were necessarily evaluated qualitatively.

Each of the MTCA criteria is described below.

Protectiveness

The overall protectiveness of a cleanup action alternative is evaluated based on several factors. First, the extent to which human health and the environment are protected and the degree to which overall risk at a Site is reduced are considered. Both on-site and off-site reduction in risk resulting from implementing the alternative are considered.

Permanence

MTCA specifies that when selecting a cleanup action alternative, preference shall be given to actions that are “permanent solutions to the maximum extent practicable.” Evaluation criteria include the degree to which the alternative permanently reduces the toxicity, mobility or mass of hazardous substances, including the effectiveness of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment processes, and the characteristics and quantity of treatment residuals generated.

Cost

The analysis of remedial action alternative costs under MTCA includes all costs associated with implementing an alternative, including design, construction, long-term monitoring, and institutional controls. Costs are intended to be comparable among different alternatives to assist in the overall analysis of relative costs and benefits of the alternatives. The costs to implement an alternative include the cost of construction, the net present value of any long-term costs, and agency oversight costs. Long-term costs include operation and maintenance costs, monitoring costs, equipment replacement costs, and the cost of maintaining institutional controls. Unit costs used to develop overall remediation costs for this FS were derived using a combination of published engineering reference manuals (i.e., R.S. Means); construction cost estimates solicited from applicable vendors and contractors; review of actual costs incurred during similar, applicable projects; and professional judgment.

Long-Term Effectiveness

Long-term effectiveness is a parameter that expresses the degree of certainty that the alternative will be successful in maintaining compliance with cleanup standards over the long-term performance of the cleanup action. The MTCA regulations contain a specific preference ranking for different types of technologies that is to be considered as part of the comparative analysis. The ranking places the highest preference on technologies such as reuse/recycling, treatment, immobilization/solidification, and disposal in an engineered, lined, and monitored facility. Lower preference rankings are applied for technologies such as on-site isolation/containment with attendant engineered controls, and institutional controls and monitoring.

Management of Short-term Risks

Evaluation of this criterion considers the relative magnitude and complexity of actions required to maintain protection of human health and the environment during implementation of the cleanup action. Cleanup actions carry short-term risks, such as potential mobilization of contaminants during construction, or safety risks typical of large construction projects. In-water dredging activities carry a risk of temporary water quality degradation and potential sediment recontamination. Some short-term risks can be managed through the use of best practices during project design and construction, while other risks are inherent to project alternatives and can offset the long-term benefits of an alternative.

Implementability

Implementability is an overall metric expressing the relative difficulty and uncertainty of implementing the remedial action. Evaluation of implementability includes consideration of technical factors such as the availability of mature technologies and experienced contractors to accomplish the cleanup work. It also includes administrative factors associated with permitting and completing the cleanup.

Consideration of Public Concerns

The public involvement process under MTCA is used to identify potential public concerns regarding remedial action alternatives. The extent to which an alternative addresses those concerns is considered as part of the evaluation process. This includes concerns raised by individuals, community groups, local governments, tribes, federal and state agencies, and other organizations that may have an interest in or knowledge of the Site. In particular, the public concerns for this Site generally would be associated with environmental concerns and performance of the remedial action, which are addressed under other criteria such as protectiveness and permanence.

6.8. Evaluation and Comparison of Cleanup Alternatives

This section provides an evaluation and comparative analysis of the remedial action alternatives developed for the Site. The alternatives are evaluated with respect to the MTCA evaluation criteria described in Section 6.7, and then compared to each other relative to their expected performance under each criterion. The components of the two remedial alternatives are described above in Sections 6.6.1 and 6.6.2 and are summarized in Table 11. The detailed evaluation of the alternatives is presented in Table 12. Cost estimates for the remedial alternatives are presented in Tables 13 and 14. The results of the evaluation are summarized in Table 15.

6.8.1. Threshold Requirements

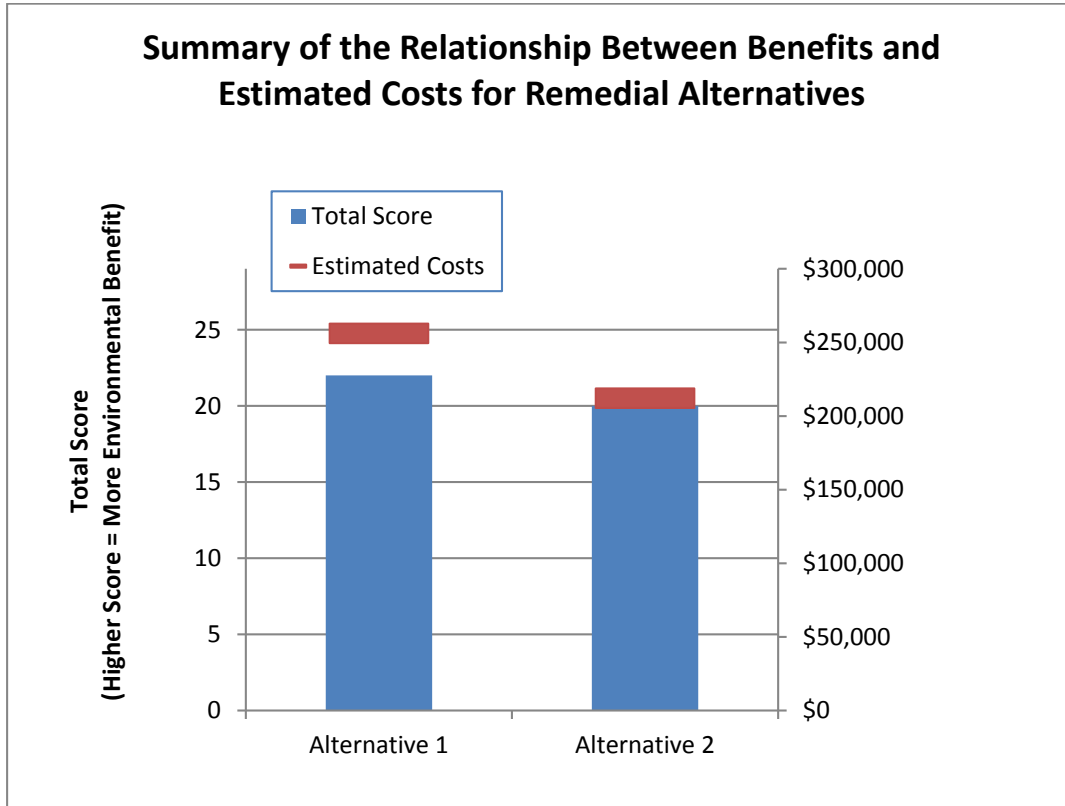
Both of the remedial alternatives developed in this FS meet each of the four MTCA threshold requirements described for cleanup actions: protection of human health and the environment, compliance with cleanup standards, compliance with applicable state and federal regulations, and provision for compliance monitoring.

The two alternatives differ in the manner in which the MTCA threshold requirements would be met. Alternative 1 utilizes soil removal to the greatest extent to remove soil exceeding the most conservative cleanup levels at the Site. Alternative 1 is thus the most practicable permanent solution and forms the baseline remedial action alternative [WAC 173-340-350(8)(c)(ii)(A) and 173-340-360(3)(e)(ii)(B)]. Alternative 2 would also remove metals-contaminated soil contributing to groundwater contamination, but would remediate one COC, nickel in soil, to a less conservative cleanup value that is protective of direct human contact, but not protective of groundwater as drinking water.

6.8.2. Evaluation of MTCA Criteria

As discussed in Section 6.7.2.1, the MTCA criteria were evaluated to determine which remedial alternative that otherwise meets threshold requirements is permanent to the maximum extent practicable through comparison of the costs and benefits of the alternatives. Remedial Alternatives 1 and 2 were evaluated based on the relative benefits of the other ranking factors. The level to which both cleanup alternatives complied with the individual ranking factors was scored using a numeric scale of 1 (lowest) to 5 (highest). The scores and associated rationale are presented in Table 12. Table 15 presents the

analysis of these results, including the summation of the resulting scores for each alternative. The conclusions of this evaluation are summarized in the following sections and the graph below.



Notes:

Vertical blue bars represent scoring for environmental benefit for each alternative.

The scale for scoring of environmental benefit is on the left axis.

Horizontal red line represents cost for each alternative.

The scale for the cost of the remedial actions is on the right axis.

6.8.2.1. Protectiveness

Alternatives 1 and 2 provide similar levels of protectiveness. Alternative 1 scored slightly higher because a larger quantity of contaminated soil would be removed, and all metals soil cleanup levels are protective of groundwater as drinking water.

6.8.2.2. Permanence

Remedial Alternatives 1 and 2 provide similar levels of permanence through removal of soil with contaminant concentrations that exceed cleanup levels. Alternative 2 is less permanent relative to Alternative 1 because it leaves a larger amount of contamination in place.

6.8.2.3. Long-Term Effectiveness

Both Alternatives 1 and 2 rely on using proven technologies to remove contaminant mass from the Site to the greatest extent practicable and, therefore, achieve similar levels of long-term effectiveness.

6.8.2.4. Management of Short-Term Risks

Remedial Alternatives 1 and 2 both involve soil removal. The relative difference between the short-term risks associated with the two remedial alternatives is low (smaller volume of soil removed in Alternative 2, but not significant relative to risk).

6.8.2.5. Technical and Administrative Implementability

Both of the Remedial Alternatives are generally technically implementable using commonly available methods.

6.8.3. Cost

The cost estimates for Remedial Alternatives 1 and 2 were developed as described in Section 6.7.2.1 and are presented in Tables 13 and 14.

- **Remedial Alternative 1** (Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Groundwater as Drinking Water) has an estimated cost of approximately \$256,000. This alternative includes the removal and disposal of approximately 400 cubic yards of contaminated soil.
- **Remedial Alternative 2** (Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Direct Contact) has an estimated cost of approximately \$212,000. This alternative includes the removal and disposal of approximately 260 cubic yards of contaminated soil.

6.8.4. Reasonable Restoration Time Frame

The time frame for design, permitting, contracting, and construction for both proposed remedial alternatives is expected to be on the order of one year. The time frame for natural recovery of contaminated groundwater depends on natural attenuation processes and could be up to 10 years. Long-term monitoring may be necessary to ensure natural attenuation of groundwater is occurring.

6.8.5. Considerations of Public Concerns

The remedial alternatives proposed for the Site are generally expected to be acceptable to the public. The alternatives that achieve the greatest level of protection and certainty rely on the greatest level of soil removal and result in the most intrusive Site activities. Remedial Alternatives 1 and 2 scored equally high for this criterion (low to moderate public concern).

6.9. Preferred Cleanup Alternative

Based on the comparative analysis presented in Section 6.8, the preferred remedial action alternative for the Site is Remedial Alternative 1. This alternative significantly reduces risk to potential human and ecological receptors through:

- Removal of metals-contaminated soil at the subject property that exceeds MTCA Method A and B cleanup levels protective of direct human contact and MTCA Method B cleanup levels for soil protective of groundwater as drinking water. This metals-contaminated soil is the source of metals-contaminated groundwater on, and downgradient of, the Site.
- Monitoring the natural attenuation of metals concentrations in groundwater after the contaminated soil is removed.

As summarized in Table 15, Alternative 1 ranks the higher of the two alternatives based on MTCA cleanup ranking criteria. The estimated costs associated with Alternative 1 (\$256,000) are approximately 21 percent greater than the cost of Alternative 2 (\$212,000), but achieve a greater environmental benefit by being protective of both direct contact and groundwater as drinking water. Consequently, Alternative 1 is the preferred alternative and provides the best balance of environmental benefit and cost.

7.0 REFERENCES

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Table 1
Summary of Soil Chemical Analytical Data (Metals)

Aladdin Plating RI/FS
Tacoma, Washington

Exploration Location	Sample ID	Depth (feet bgs)	Total Metals ¹ (mg/kg)					
			Chromium	Hexavalent Chromium	Lead	Nickel	Cadmium	Copper
Test Pits Completed by Ecology, July 2005								
ALD1	ALD1 (0.0-2.5)	0.0-2.5	44.7	--	--	449	<0.249	85
	ALD1 (5-7)	5.0-7.0	749	2.23	2.08	918	<0.263	--
	ALD1 (15-17)	15.0-17.0	21.5	0.294	--	--	--	--
ALD2	ALD2 (0.0-2.5)	0.0-2.5	18.2	--	1.39	--	<0.254	--
	ALD2 (5-7)	5.0-7.0	80.5	--	1.95	3,990	<0.246	--
	ALD2 (15-17)	15.0-17.0	10.5	0.121	--	--	--	--
ALD3	ALD3 (0.0-2.5)	0.0-2.5	26.4	--	1.44	160	<0.257	14.9
	ALD3 (5-7)	5.0-7.0	103	4.59	2.52	--	--	--
	ALD3 (15-17)	15.0-17.0	103	0.809	--	--	<0.222	--
ALD4	ALD4 (0.0-2.5)	0.0-2.5	24.3	--	10.1	120	<0.259	55.1
	ALD4 (5-7)	5.0-7.0	120	--	5.19	--	<0.244	--
	ALD4 (15-17)	15.0-17.0	25.5	0.658	1.63	--	--	--
ALD5	--	--	--	--	--	--	--	--
ALD6	ALD6 (0.0-2.5)	0.0-2.5	3,290	--	4,710	12,000	5.39	3,350
	ALD6 (5-7)	5.0-7.0	18.7	0.364	--	--	--	--
ALD7	ALD7(0.0-2.5)	0.0-2.5	45.4	--	3.11	--	<0.238	--
	ALD6 (5-7)	5.0-7.0	17.5	--	1.35	--	<0.253	--
ALD8	ALD8 (0.0-2.5)	0.0-2.5	121	--	--	--	<0.249	--
	ALD8 (5-7)	5.0-7.0	197	--	--	--	--	--
	ALD8 (15-17)	15.0-17.0	17.7	0.367	2.8	--	--	--
ALD9	ALD9 (0.0-2.5)	0.0-2.5	13.8	--	1.6	--	<0.249	--
	ALD9 (5-7)	5.0-7.0	13.6	<0.108	1.56	--	<0.237	--
ALDconf1	ALDconf1 (2-2.5)	2-2.5	184	0.458	9.8	701	<0.440	168
ALDconf2	ALDconf2 (2-2.5)	2-2.5	228	2.17	--	--	--	--
ALDconf3	ALDconf3 (2-2.5)	2-2.5	20.9	0.365	--	--	<0.467	--
ALDconf4	ALDconf4 (2-2.5)	2-2.5	--	3.98	--	464	--	--
Direct Push Borings Completed by GeoEngineers, March 24, 2014								
SB-1	GEI-SB1-0.5-1	0.5 to 1.0	57.8	< 0.404	33	223	--	--
	GEI-SB1-3-3.5	3.0 to 3.5	22.4	< 0.424	< 2	31	--	--
	GEI-SB1-5-5.5	5.0 to 5.5	27.7	< 0.409	< 2	34	--	--
	GEI-SB1-7-7.5	7.0 to 7.5	23.2	< 0.466	< 2	34	--	--
SB-2	GEI-SB2-0.5-1	0.5 to 1.0	123	1.92	61	1,050	--	--
	GEI-SB2-3-3.5	3.0 to 3.5	39.7	< 0.423	10	106	--	--
	GEI-SB2-5-5.5	5.0 to 5.5	32.5	< 0.418	2	51	--	--
	GEI-SB2-7-7.5	7.0 to 7.5	35.9	< 0.450	< 2	64	--	--
SB-3	GEI-SB3-0.5-1	0.5 to 1.0	460	22.1	734	1,480	--	--
	GEI-SB3-3-3.5	3.0 to 3.5	43.0	1.58	< 2	115	--	--
	GEI-SB3-5-5.5	5.0 to 5.5	221	13.6	< 2	119	--	--
	GEI-SB3-7-7.5	7.0 to 7.5	38.9	0.934	< 2	277	--	--
	GEI-SB3-9-9.5	9.0 to 9.5	--	< 0.480	3	--	--	--
	GEI-SB3-11-11.5	11.0 to 11.5	--	1.15	3	--	--	--
	GEI-SB3-13-13.5	13.0 to 13.5	--	< 0.413	< 2	--	--	--
GEI-SB3-14.5-15	14.5 to 15.0	--	< 0.414	< 2	--	--	--	

Exploration Location	Sample ID	Depth (feet bgs)	Total Metals ¹ (mg/kg)					
			Chromium	Hexavalent Chromium	Lead	Nickel	Cadmium	Copper
SB-4	GEI-SB4-0.5-1	0.5 to 1.0	487	96.2	532	4,250	--	--
	GEI-SB4-3-3.5	3.0 to 3.5	34.7	0.769	< 2	248	--	--
	GEI-SB4-5-5.5	5.0 to 5.5	40.0	0.772	< 2	255	--	--
	GEI-SB4-7-7.5	7.0 to 7.5	41.0	2.44	< 2	377	--	--
	GEI-SB4-9-9.5	9.0 to 9.5	--	1.31	5	61	--	--
	GEI-SB4-11-11.5	11.0 to 11.5	--	10.9	127	2,410	--	--
	GEI-SB4-13-13.5	13.0 to 13.5	--	0.425	< 2	84	--	--
	GEI-SB4-14.5-15	14.5 to 15.0	--	0.578	< 2	448	--	--
SB-5	GEI-SB5-0.5-1	0.5 to 1.0	51.3	< 0.406	6	626	--	--
	GEI-SB5-3-3.5	3.0 to 3.5	26.7	< 0.414	< 2	208	--	--
	GEI-SB5-5-5.5	5.0 to 5.5	28.4	< 0.417	< 2	279	--	--
	GEI-SB5-7-7.5	7.0 to 7.5	140	7.31	< 2	326	--	--
SB-6	GEI-SB6-0.5-1	0.5 to 1.0	1,130	934	3,120	2,690	--	--
	GEI-SB6-3-3.5	3.0 to 3.5	153	1.80	< 2	96	--	--
	GEI-SB6-5-5.5	5.0 to 5.5	679	15.5	2	125	--	--
	GEI-SB6-7-7.5	7.0 to 7.5	556	12.7	< 2	102	--	--
	GEI-SB6-9-9.5	9.0 to 9.5	--	4.28	< 7	607	--	--
	GEI-SB6-11-11.5	11.0 to 11.5	--	8.83	38	223	--	--
	GEI-SB6-13-13.5	13.0 to 13.5	--	0.919	< 2	276	--	--
	GEI-SB6-14.5-15	14.5 to 15.0	--	1.25	< 2	175	--	--
SB-7	GEI-SB7-0.5-1	0.5 to 1.0	334	23.6	239	2,180	--	--
	GEI-SB7-3-3.5	3.0 to 3.5	467	15.2	321	1,730	--	--
	GEI-SB7-5-5.5	5.0 to 5.5	543	16.3	5	159	--	--
	GEI-SB7-7-7.5	7.0 to 7.5	167	8.70	< 2	149	--	--
	GEI-SB7-9-9.5	9.0 to 9.5	--	1.17	4	146	--	--
	GEI-SB7-11-11.5	11.0 to 11.5	--	11.3	30	326	--	--
	GEI-SB7-13-13.5	13.0 to 13.5	--	0.877	< 2	122	--	--
	GEI-SB7-14.5-15	14.5 to 15.0	--	0.540	< 2	240	--	--
SB-8	GEI-SB8-0.5-1	0.5 to 1.0	482	7.02	292	2,060	--	--
	GEI-SB8-3-3.5	3.0 to 3.5	82.5	2.18	28	255	--	--
	GEI-SB8-5-5.5	5.0 to 5.5	80.1	0.439	4	163	--	--
	GEI-SB8-7-7.5	7.0 to 7.5	99.9	39.0	11	143	--	--
	GEI-SB8-9-9.5	9.0 to 9.5	--	--	14	167	--	--
	GEI-SB8-11-11.5	11.0 to 11.5	--	--	41	314	--	--
	GEI-SB8-13-13.5	13.0 to 13.5	--	--	39	359	--	--
	GEI-SB8-14.5-15	14.5 to 15.0	--	--	3	184	--	--
SB-9	GEI-SB9-0.5-1	0.5 to 1.0	955	15.0	357	1,780	--	--
	GEI-SB9-3-3.5	3.0 to 3.5	143	4.10	3	65	--	--
	GEI-SB9-5-5.5	5.0 to 5.5	257	11.0	5	66	--	--
	GEI-SB9-7-7.5	7.0 to 7.5	59.7	3.24	< 2	100	--	--
	GEI-SB9-9-9.5	9.0 to 9.5	--	--	3	104	--	--
	GEI-SB9-11-11.5	11.0 to 11.5	--	--	4	84	--	--
	GEI-SB9-13-13.5	13.0 to 13.5	--	--	2	74	--	--
	GEI-SB9-14.5-15	14.5 to 15.0	--	--	2	84	--	--

Exploration Location	Sample ID	Depth (feet bgs)	Total Metals ¹ (mg/kg)					
			Chromium	Hexavalent Chromium	Lead	Nickel	Cadmium	Copper
SB-10	GEI-SB10-0.5-1	0.5 to 1.0	428	15.4	275	2,190	--	--
	GEI-SB10-3-3.5	3.0 to 3.5	92.7	4.55	2	65	--	--
	GEI-SB10-5-5.5	5.0 to 5.5	107	5.19	3	62	--	--
	GEI-SB10-7-7.5	7.0 to 7.5	172	4.32	5	162	--	--
	GEI-SB10-9-9.5	9.0 to 9.5	--	--	5	105	--	--
	GEI-SB10-11-11.5	11.0 to 11.5	--	--	28	223	--	--
	GEI-SB10-13-13.5	13.0 to 13.5	--	--	2	91	--	--
GEI-SB10-14.5-15	14.5 to 15.0	--	--	2	69	--	--	
SB-11	GEI-SB11-0.5-1	0.5 to 1.0	51.5	< 0.424	37	970	--	--
	GEI-SB11-3-3.5	3.0 to 3.5	26.6	< 0.416	< 2	438	--	--
	GEI-SB11-5-5.5	5.0 to 5.5	26.7	< 0.422	< 2	306	--	--
	GEI-SB11-7-7.5	7.0 to 7.5	670	11.9	2	257	--	--
SB-12	GEI-SB12-0.5-1	0.5 to 1.0	63.2	< 0.414	16	499	--	--
	GEI-SB12-3-3.5	3.0 to 3.5	29.4	< 0.415	< 2	65	--	--
	GEI-SB12-5-5.5	5.0 to 5.5	34.8	< 0.410	2	93	--	--
	GEI-SB12-7-7.5	7.0 to 7.5	744	10.7	< 2	171	--	--
SB-13	GEI-SB13-0.5-1	0.5 to 1.0	148	< 0.421	40	834	--	--
	GEI-SB13-3-3.5	3.0 to 3.5	34.2	< 0.413	< 2	63	--	--
	GEI-SB13-5-5.5	5.0 to 5.5	30.3	< 0.419	< 2	135	--	--
	GEI-SB13-7-7.5	7.0 to 7.5	431	7.67	< 7	568	--	--
SB-14	GEI-SB14-0.5-1	0.5 to 1.0	343	< 0.431	70	904	--	--
	GEI-SB14-3-3.5	3.0 to 3.5	43.5	0.794	< 2	133	--	--
	GEI-SB14-5-5.5	5.0 to 5.5	102	3.00	10	145	--	--
	GEI-SB14-7-7.5	7.0 to 7.5	198	3.23	< 2	3,010	--	--
	GEI-SB14-9-9.5	9.0 to 9.5	--	--	--	138	--	--
	GEI-SB14-11-11.5	11.0 to 11.5	--	--	--	138	--	--
	GEI-SB14-13-13.5	13.0 to 13.5	--	--	--	110	--	--
GEI-SB14-14.5-15	14.5 to 15.0	--	--	--	127	--	--	
MTCA Method A or B Cleanup Level for Unrestricted Land Use			2,000 ²	19	250	1,600 ³	2	3,200 ⁴
Natural Background Soil Metals Concentrations in the Puget Sound⁵			48	--	24	48	1	36

Notes:

¹Total metals analyzed by U.S. Environmental Protection Agency (EPA) SW7196A.

²Cleanup level for Chromium III. No cleanup level has been established for total chromium.

³Method B Cleanup level for Soluble Nickel Salts. No cleanup level has been established for total nickel.

⁴Method B Cleanup level for copper.

⁵Natural Background Soil Metals Concentrations in Washington State, Ecology publication number 94-115, October 1994.

-- = not measured, not tested, or value not established

bgs = below ground surface

mg/kg = milligrams per kilogram

MTCA = Model Toxics Cleanup Act

NS = no sheen

ppm = parts per million

Bolding indicates analyte was detected. Yellow highlighting indicates exceedance of MTCA cleanup level for direct contact.

Table 2
Summary of Groundwater Chemical Analytical Data (Total Metals)
 Aladdin Plating RI/FS
 Tacoma, Washington

Exploration Location ¹	Proposed Groundwater Cleanup Levels ²	Direct Push Boring Grab Water Samples ⁵					MW-1s					MW-2s					
		ALDW1	ALDW2	ALDW3	ALDW4	ALDW5	Jun-05	Jul-06	Oct-06	Mar-07	Mar-14	Nov-05	Jul-06	Oct-06	Mar-17	Mar-14	
Date Sampled		Jun-05	Jun-05	Jun-05	Jun-05	Jun-05	Jun-05	Jul-06	Oct-06	Mar-07	Mar-14	Nov-05	Jul-06	Oct-06	Mar-17	Mar-14	
Sampling Performed by		Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	
Total Metals ³ (ug/L)	Beryllium	32.0 ⁴	--	--	--	--	--	<0.10	<0.10	<0.10	--	<0.1	0.15	<0.1	0.19	--	
	Chromium	50 ⁴	3,480	--	7,250	--	--	5.61	4.8	3.3	<5	29.3	25.4	9.8	62.8	<5	
	Nickel	320	--	918	--	--	--	6.59	6.34	3.91	<0.01	5.74	11.1	9.43	12.3	<0.01	
	Copper	320	--	--	--	--	--	1.74	1.17	1.34	--	0.32	3.23	2.44	5.54	--	
	Zinc	4,800	--	--	--	--	--	5.8	<5.0	6.1	--	<5.0	7.1	7.3	13	--	
	Arsenic	5 ⁴	--	--	--	--	--	0.67	0.36	0.44	--	0.26	1.01	0.69	1.58	--	
	Selenium	80	--	--	--	--	--	--	<0.5	<1	<0.5	--	<0.50	<0.5	<1.0	<0.5	--
	Silver	80	--	--	--	--	--	--	<0.10	<0.10	<0.10	--	<0.10	<0.10	<0.10	<0.10	--
	Antimony	6.4	--	--	--	--	--	--	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.2	<0.2	--
	Cadmium	5 ⁴	--	<7.0	--	--	--	--	<0.10	<0.14	<0.10	--	<0.10	<0.10	<0.1	<0.1	--
	Thallium	0.160 ⁴	--	--	--	--	--	--	<0.10	<0.10	<0.10	--	<0.10	<0.10	<0.1	<0.1	--
	Lead	15.0 ⁴	--	--	--	--	--	--	0.72	0.29	0.54	--	<0.10	1.02	0.66	2.68	--
	Mercury	2	--	--	--	--	--	--	<0.050	<0.050	<0.050	--	<0.050	<0.05	0.05	0.05	--
	Hexavalent Chromium	48 ⁴	470	843	1,280	207	632	2,580	<11	<11	<11	< 10	28	12	26	13	< 10

Exploration Location ¹	Proposed Groundwater Cleanup Levels ²	MW-3s					MW-4d					MW-4s					MW-5s				
		Date Sampled	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14	Jul-06	Oct-06	Mar-07	Mar-14
Sampling Performed by		Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	
Total Metals ³ (µg/L)	Beryllium	32.0 ⁴	<0.1	0.63	<0.10	0.61	-	<0.10	0.2	<0.10	<0.10	-	<0.10	3.41	0.69	4	-	0.13	<0.10	<0.10	-
	Chromium	50 ⁴	13.6	49.6	27.1	100	< 5	<0.50	49.1	18.4	4.9	< 5	4.5	286	174	920	98	9.27	11.4	6.27	<5
	Nickel	320	348	1,710	343	2,270	270	1.86	36.6	14.6	8.58	10	11	17,200	17,300	42,400	7,770	14.3	18.7	8.96	<10
	Copper	320	8.34	27.7	6.76	35.7	-	0.84	10.6	2.55	3.01	-	0.44	2.73	0.57	1.87	-	5.69	5.22	2.25	-
	Zinc	4,800	6.6	35	7.2	31	-	10	25	7.1	7.3	-	<5.0	7.3	<5.0	16	-	10	10	59.9	-
	Arsenic	5 ⁴	1.2	1.76	0.83	0.79	-	1.62	3.7	0.98	1.15	-	0.45	0.75	0.1	0.13	-	2	1.81	1.05	-
	Selenium	80	<0.50	<0.5	<1.0	<0.50	-	<0.50	0.64	<1.0	<0.50	-	<0.50	<0.5	<1.0	<0.50	<1	<0.5	<1.0	<0.50	-
	Silver	80	<0.10	<0.1	<0.10	<0.10	-	<0.10	<0.1	<0.10	<0.10	-	<0.10	<0.1	<0.10	<0.10	-	<0.1	<0.10	<0.10	-
	Antimony	6.4	0.33	0.36	0.23	<0.20	-	<0.20	<0.2	<0.20	<0.20	-	<0.20	<0.2	<0.20	<0.20	-	<0.2	<0.20	<0.20	-
	Cadmium	5 ⁴	<0.10	<0.1	<0.10	0.1	-	<0.10	<0.1	<0.10	<0.10	-	<0.10	<0.1	<0.10	<0.10	-	<0.1	<0.10	<0.10	-
	Thallium	0.160 ⁴	<0.10	<0.1	<0.10	<0.10	-	<0.10	<0.1	<0.10	<0.10	-	<0.10	0.1	<0.10	<0.10	-	<0.1	<0.10	<0.10	-
	Lead	15.0 ⁴	1.73	3.79	1.22	1.04	-	0.13	2.64	0.52	0.81	-	0.11	0.73	<0.10	0.61	-	1.46	1.22	0.93	-
	Mercury	2	<0.050	<0.05	<0.050	<0.050	-	<0.050	<0.05	<0.050	<0.050	-	<0.050	<0.05	<0.050	<0.050	-	<0.05	<0.050	<0.050	-
	Hexavalent Chromium	48 ⁴	<11	15	20	85	< 10	<11	15	<11	<11	< 10	<11	361	199	933	44	12	<11	<11	< 10

Exploration Location ¹	Proposed Groundwater Cleanup Levels ²	MW-6s				MW-7s				Direct Push Grab Water Samples ⁵									
		Jul-06	Oct-06	Mar-07	Mar-14	Jul-06	Oct-06	Mar-07	Mar-14	SB-15	SB-16	SB-17	SB-18	SB-19	SB-20	SB-21	SB-22	SB-23	SB-24
Date Sampled		Jul-06	Oct-06	Mar-07	Mar-14	Jul-06	Oct-06	Mar-07	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14
Sampling Performed by		Landau Associates	Landau Associates	GeoEngineers	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers
Total Metals (µg/L)	Beryllium	32.0 ⁴	0.34	6	0.52	--	0.33	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
	Chromium	50 ⁴	135	1,630	36	10	18.4	2.5	3.4	<5	49	62	17	19	86	42	<5	<5	<5
	Nickel	320	118	1,780	45.3	10	18.2	4.86	4.76	<10	1,390	3,670	260	20	100	70	<10	<10	<10
	Copper	320	31.1	642	30.9	--	10.7	1.46	1.65	--	--	--	--	--	--	--	--	--	--
	Zinc	4,800	86.5	2000	140	--	17	<5.0	8.7	--	--	--	--	--	--	--	--	--	--
	Arsenic	5 ⁴	10	159	5.8	--	3.12	0.69	0.77	--	--	--	--	--	--	--	--	--	--
	Selenium	80	1.7	<1.0	<5.0	--	0.5	<1.0	<0.50	--	--	--	--	--	--	--	--	--	--
	Silver	80	0.14	2.1	<0.10	--	0.1	<0.10	<0.1	--	--	--	--	--	--	--	--	--	--
	Antimony	6.4	1.2	<2.0	0.25	--	0.21	<0.20	<0.20	--	--	--	--	--	--	--	--	--	--
	Cadmium	5 ⁴	0.29	2.8	0.37	--	0.1	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
	Thallium	0.160 ⁴	0.11	2.6	<0.10	--	0.1	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
	Lead	15.0 ⁴	8.57	182	2.47	--	1.99	0.33	0.28	--	--	--	--	--	--	--	--	--	--
	Mercury	2	<0.05	<0.050	<0.050	--	0.056	<0.050	<0.050	--	--	--	--	--	--	--	--	--	--
	Hexavalent Chromium	48 ⁴	19	47	<11	<10	25	<11	<11	<10	12	<10	<10	<10	<10	<10	<10	<10	<10

Notes:

¹Exploration locations shown on Figure 6.

²MTCA Method A Cleanup Level for groundwater.

³Total metals analyzed by U.S. Environmental Protection Agency (EPA) 200.7/6010C

⁴No Method A Value exists for this metal, MTCA Method B Value was used in its place.

⁵Discrete groundwater sample collected from temporary well screen in an open borehole.

µg/L = micrograms per liter

-- = value not calculated; measured from temporary well screen and elevations not surveyed

Bolding indicates analyte was detected. Yellow highlighting indicates exceedance of MTCA cleanup level.

Table 3
Summary of Groundwater Chemical Analytical Data (Dissolved Metals)
 Aladdin Plating RI/FS
 Tacoma, Washington

Exploration Location ¹	Proposed Groundwater Cleanup Levels ²	MW-1s					MW-2s					MW-3s					
		Date Sampled	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14
Sampling Performed by		Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	
Dissolved Metals ³ (µg/L)	Beryllium	32.0 ⁴	-	-	<0.10	<0.10	-	-	-	<0.10	<0.10	-	-	-	<0.1	<0.50	-
	Total Chromium	50 ⁴	-	-	4.87	2.1	-	-	-	4.95	44.2	-	-	-	22.9	78	-
	Nickel	320	-	-	3.69	2.41	< 10	-	-	3.07	4.15	< 10	-	-	314	2100	250
	Copper	320	-	-	0.46	0.31	-	-	-	0.65	0.67	-	-	-	0.92	24.6	-
	Zinc	4,800	-	-	2.8	1.9	-	-	-	5.6	3	-	-	-	6	30.4	-
	Arsenic	5 ⁴	-	-	0.38	0.31	-	-	-	0.47	0.33	-	-	-	0.66	0.46	-
	Selenium	80	-	-	0.53	<0.50	-	-	-	<0.50	<0.50	-	-	-	<0.50	0.59	-
	Silver	80	-	-	<0.020	<0.020	-	-	-	<0.020	<0.020	-	-	-	<0.020	<0.020	-
	Antimony	6.4	-	-	<0.20	<0.20	-	-	-	<0.20	<0.20	-	-	-	<0.20	<0.20	-
	Cadmium	5 ⁴	-	-	0.1	<0.020	-	-	-	0.037	<0.020	-	-	-	0.044	0.1	-
	Thallium	0.160 ⁴	-	-	<0.1	<0.10	-	-	-	<0.10	<0.10	-	-	-	<0.10	<0.10	-
	Lead	15.0 ⁴	-	-	0.057	0.06	-	-	-	0.048	0.05	-	-	-	0.05	0.049	-
	Mercury	2	-	-	<0.050	<0.050	-	-	-	<0.050	<0.050	-	-	-	<0.050	<0.050	-
	Hexavalent Chromium	48 ⁴	-	-	<11	<11	-	-	-	<11	58	-	-	-	26	106	-

Exploration Location ¹	Proposed Groundwater Cleanup Levels ²	MW-4d					MW-4s					MW-5s				
		Date Sampled	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14	Nov-05	Jul-06	Oct-06	Mar-07	Mar-14	Jul-06	Oct-06	Mar-07	Mar-14
Sampling Performed by		Landau Associates	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	Landau Associates	Landau Associates	GeoEngineers	Landau Associates	
Dissolved Metals ³ (µg/L)	Beryllium	32.0 ⁴	--	--	<0.10	<0.10	--	--	--	0.18	3.31	--	--	<0.10	<0.10	--
	Total Chromium	50 ⁴	--	--	3.21	1.9	--	--	--	194	817	--	--	2.1	2.3	--
	Nickel	320	--	--	3.5	6.67	260	--	--	16,300	41,900	7,690	--	7.02	5.45	< 10
	Copper	320	--	--	0.35	0.91	--	--	--	0.38	0.8	--	--	0.26	0.55	--
	Zinc	4,800	--	--	1.3	5.7	--	--	--	5.7	8.8	--	--	3	45.6	--
	Arsenic	5 ⁴	--	--	0.81	0.85	--	--	--	0.13	0.36	--	--	0.56	0.51	--
	Selenium	80	--	--	0.74	0.87	--	--	--	<0.50	0.81	--	--	<0.50	0.5	--
	Silver	80	--	--	<0.020	<0.020	--	--	--	<0.020	<0.020	--	--	<0.020	0.02	--
	Antimony	6.4	--	--	<0.20	<0.20	--	--	--	<0.20	<0.20	--	--	<0.20	0.2	--
	Cadmium	5 ⁴	--	--	0.02	0.023	--	--	--	0.064	0.291	--	--	0.026	0.027	--
	Thallium	0.160 ⁴	--	--	<0.10	0.1	--	--	--	<0.10	<0.10	--	--	<0.10	0.14	--
	Lead	15.0 ⁴	--	--	0.064	0.073	--	--	--	0.035	0.055	--	--	0.027	0.095	--
	Mercury	2	--	--	<0.050	0.05	--	--	--	<0.050	<0.050	--	--	<0.050	<0.050	--
Hexavalent Chromium	48 ⁴	--	--	<11	<11	--	--	--	193	951	--	--	<11	<11	--	

Exploration Location ¹	Proposed Groundwater Cleanup Levels ²	MW-6s				MW-7s				Direct Push Grab Water Samples ⁵									
		Jul-06	Oct-06	Mar-07	Mar-14	Jul-06	Oct-06	Mar-07	Mar-14	SB-15	SB-16	SB-17	SB-18	SB-19	SB-20	SB-21	SB-22	SB-23	SB-24
Date Sampled		Landau Associates	Landau Associates	GeoEngineers					Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	Mar-14	
Sampling Performed by																			
Dissolved Metals ³ (µg/L)	Beryllium	32.0 ⁴	--	<0.10	<0.10	--	--	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
	Total Chromium	50 ⁴	--	2.1	1.2	--	--	1.1	1.4	--	--	--	--	--	--	--	--	--	--
	Nickel	320	--	19.2	11	< 10	--	1.93	3.08	--	1,290	3,210	230	<10	<10	20	<10	<10	<10
	Copper	320	--	1.32	1.81	--	--	0.34	0.61	--	--	--	--	--	--	--	--	--	--
	Zinc	4,800	--	9.2	17.5	--	--	4.1	2.4	--	--	--	--	--	--	--	--	--	--
	Arsenic	5 ⁴	--	0.97	1.13	--	--	0.56	0.58	--	--	--	--	--	--	--	--	--	--
	Selenium	80	--	<0.50	1.2	--	--	<0.50	<0.50	--	--	--	--	--	--	--	--	--	--
	Silver	80	--	<0.020	<0.020	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	--	--
	Antimony	6.4	--	<0.20	<0.20	--	--	<0.20	<0.20	--	--	--	--	--	--	--	--	--	--
	Cadmium	5 ⁴	--	0.076	0.074	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	--	--
	Thallium	0.160 ⁴	--	<0.10	<0.10	--	--	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
	Lead	15.0 ⁴	--	0.12	0.094	--	--	0.049	0.13	--	--	--	--	--	--	--	--	--	--
	Mercury	2	--	<0.050	<0.050	--	--	<0.050	<0.050	--	--	--	--	--	--	--	--	--	--
Hexavalent Chromium	48 ⁴	--	<11	<11	--	--	<11	11	--	--	--	--	--	--	--	--	--	--	

Notes:

¹Exploration locations shown on Figure 6.

²Model Toxics Cleanup Act (MTCA) Method A Cleanup Level for groundwater.

³Dissolved metals analyzed by U.S. Environmental Protection Agency (EPA) 200.7/6010C

⁴No Method A Value exists for this metal, MTCA Method B Value was used in its place.

⁵Discrete groundwater sample collected from temporary well screen in an open borehole.

µg/L = micrograms per liter

-- = value not calculated; measured from temporary well screen and elevations not surveyed

Bolding indicates analyte was detected. Yellow highlighting indicates exceedance of MTCA cleanup level.

Table 4
Proposed Soil Cleanup Levels
 Aladdin Plating RI/FS
 Tacoma, Washington

Analyte	CAS No.	MTCA Method A Cleanup Level For Unrestricted Land Use (MTCA Table 740-1)	MTCA Method B Cleanup Level Protective of Direct Contact Cleanup Level For Unrestricted Land Use (Standard Formula Value ¹)		Naturally Occurring Background Concentration	MTCA Method B Cleanup Level Protective of MTCA Method B Groundwater Cleanup Levels ¹	MTCA Method B Cleanup Level Protective of MCL Groundwater Cleanup Levels ¹	Proposed Soil Cleanup Levels Protective of MTCA Method B Groundwater Cleanup Levels
			Carcinogenic	Non-Carcinogenic				
Metals (mg/kg)								
Chromium (total)	7440-47-3	2,000 ²	NE	120,000	48	NE	2,000	2,000
Chromium VI	18540-29-9	19	NE	240	NE	18.4	18.4	18.4
Lead	7439-92-1	250	NE	NE	24	NE	3,000	250
Nickel	7440-02-0	NE	NE	1,600	48	417	130	417

Notes:

¹ Value based on Model Toxics Control Act (MTCA) Method B 3-Phase Soil Model (Washington Administrative Code [WAC] 173-201A-240).

² Value for Chromium III; criteria for total chromium has not been evaluated.

mg/kg = milligrams per kilogram

NE = No criteria is currently established for this analyte

Table 5
Proposed Groundwater Cleanup Levels
 Aladdin Plating RI/FS
 Tacoma, Washington

Analyte	CAS No.	MTCA Method B Groundwater Cleanup Level	MTCA Method B Groundwater Cleanup Level ¹ (Standard Formula Value)		Maximum Contaminant Level	Proposed Groundwater Cleanup Levels ²
			Carcinogen	Non-Carcinogen		
Metals (µg/L)						
Chromium (total)	7440-47-3	50	NE	NE	100	50
Chromium III	16065-83-1	NE	NE	24,000	NE	24,000
Chromium VI	18540-29-9	NE	NE	48	NE	48
Lead	7439-92-1	15	NE	NE	15	15
Nickel	7440-02-0	NE	NE	320	100	320

Notes:

¹ Model Toxics Control Act (MTCA) Method B criteria for surface water (WAC 173-340-730).

² The groundwater cleanup level for the site based on protection of drinking water.

MTCA = Washington State Model Toxics Control Act

µg/L = Micrograms per liter

NE = No criteria is currently established for this analyte

Table 6
Summary of Groundwater Level Measurements
 Aladdin Plating RI/FS
 Tacoma, Washington

Well ID	MW-1s		MW-2s		MW-3s		MW-4s		MW-4d		MW-5s		MW-6s		MW-7s	
	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
Measured by Landau Associates																
11/29/2005	31.79	213.66	31.58	213.77	30.83	213.71	31.38	213.73	33.68	211.56	--	--	--	--	--	--
11/6/2006	31.35	214.10	31.10	214.25	30.43	214.11	31.00	214.11	33.64	211.60	--	--	--	--	--	--
7/11/2006	30.09	215.36	30.72	214.63	29.98	214.56	30.56	214.55	32.91	212.33	32.35	215.64	143.00	215.21	28.78	213.91
8/9/2006	31.26	214.19	31.08	214.27	30.34	214.20	30.91	214.20	33.45	211.79	31.70	216.29	143.15	215.06	29.09	213.60
10/19/2006	31.50	213.95	31.33	214.02	30.58	213.96	31.17	213.94	33.45	211.79	32.92	215.07	143.41	214.80	29.31	213.38
11/28/2006	31.01	214.44	30.79	214.56	30.04	214.50	30.71	214.40	33.16	212.08	32.35	215.64	143.40	214.81	29.12	213.57
12/29/2006	30.84	214.61	30.58	214.77	29.89	214.65	30.49	214.62	32.99	212.25	32.16	215.83	143.29	214.92	28.93	213.76
1/18/2007	30.63	214.82	30.40	214.95	29.70	214.84	30.30	214.81	32.80	212.44	32.00	215.99	142.97	215.24	28.70	213.99
2/26/2007	30.60	214.85	30.41	214.94	29.67	214.87	30.26	214.85	32.52	212.72	31.93	216.06	142.76	215.45	28.57	214.12
3/20/2007	30.41	215.04	30.25	215.1	29.6	214.94	30.1	215.01	32.57	212.67	31.82	216.17	142.66	215.55	28.5	214.19
4/17/2007	30.25	215.20	30.02	215.33	29.34	215.20	29.99	215.12	32.18	213.06	31.63	216.36	142.37	215.84	28.22	214.47
5/31/2007	31.05	214.40	29.95	215.40	29.25	215.29	29.80	215.31	32.15	213.09	31.50	216.49	142.15	216.06	28.05	214.64
6/21/2007	30.13	215.32	29.95	215.4	29.22	215.32	29.80	215.31	32.03	213.21	31.48	216.51	142.13	216.08	28.00	214.69
Measured by GeoEngineers																
1/13/2014	26.03	219.42	25.87	219.48	25.20	219.34	25.70	219.41	28.40	216.84	27.2	220.79	138.1	220.11	24.29	218.4
3/17/2014	25.51	219.94	25.32	220.0	24.62	219.92	25.17	219.94	28.17	217.07	26.65	221.34	137.88	220.33	23.82	218.87

Notes:
 -- = not measured, not tested, or value not established

Table 7
Soil Chemical Analytical Data vs Proposed CULs

Aladdin Plating RI/FS
Tacoma, Washington

Exploration Location	Sample ID	Depth (feet bgs)	Total Metals ¹ (mg/kg)			
			Chromium	Hexavalent Chromium	Lead	Nickel
Direct Push Borings Completed March 24, 2014						
SB-1	GEI-SB1-0.5-1	0.5 to 1.0	57.8	< 0.404	33	223
	GEI-SB1-3-3.5	3.0 to 3.5	22.4	< 0.424	< 2	31
	GEI-SB1-5-5.5	5.0 to 5.5	27.7	< 0.409	< 2	34
	GEI-SB1-7-7.5	7.0 to 7.5	23.2	< 0.466	< 2	34
SB-2	GEI-SB2-0.5-1	0.5 to 1.0	123	1.92	61	1,050
	GEI-SB2-3-3.5	3.0 to 3.5	39.7	< 0.423	10	106
	GEI-SB2-5-5.5	5.0 to 5.5	32.5	< 0.418	2	51
	GEI-SB2-7-7.5	7.0 to 7.5	35.9	< 0.450	< 2	64
SB-3	GEI-SB3-0.5-1	0.5 to 1.0	460	22.1	734	1,480
	GEI-SB3-3-3.5	3.0 to 3.5	43.0	1.58	< 2	115
	GEI-SB3-5-5.5	5.0 to 5.5	221	13.6	< 2	119
	GEI-SB3-7-7.5	7.0 to 7.5	38.9	0.934	< 2	277
	GEI-SB3-9-9.5	9.0 to 9.5	-	< 0.480	3	-
	GEI-SB3-11-11.5	11.0 to 11.5	-	1.15	3	-
	GEI-SB3-13-13.5	13.0 to 13.5	-	< 0.413	< 2	-
SB-4	GEI-SB4-0.5-1	0.5 to 1.0	487	96.2	532	4,250
	GEI-SB4-3-3.5	3.0 to 3.5	34.7	0.769	< 2	248
	GEI-SB4-5-5.5	5.0 to 5.5	40.0	0.772	< 2	255
	GEI-SB4-7-7.5	7.0 to 7.5	41.0	2.44	< 2	377
	GEI-SB4-9-9.5	9.0 to 9.5	-	1.31	5	61
	GEI-SB4-11-11.5	11.0 to 11.5	-	10.9	127	2,410
	GEI-SB4-13-13.5	13.0 to 13.5	-	0.425	< 2	84
	GEI-SB4-14.5-15	14.5 to 15.0	-	0.578	< 2	448
SB-5	GEI-SB5-0.5-1	0.5 to 1.0	51.3	< 0.406	6	626
	GEI-SB5-3-3.5	3.0 to 3.5	26.7	< 0.414	< 2	208
	GEI-SB5-5-5.5	5.0 to 5.5	28.4	< 0.417	< 2	279
	GEI-SB5-7-7.5	7.0 to 7.5	140	7.31	< 2	326
SB-6	GEI-SB6-0.5-1	0.5 to 1.0	1,130	934	3,120	2,690
	GEI-SB6-3-3.5	3.0 to 3.5	153	1.80	< 2	96
	GEI-SB6-5-5.5	5.0 to 5.5	679	15.5	2	125
	GEI-SB6-7-7.5	7.0 to 7.5	556	12.7	< 2	102
	GEI-SB6-9-9.5	9.0 to 9.5	-	4.28	< 7	607
	GEI-SB6-11-11.5	11.0 to 11.5	-	8.83	38	223
	GEI-SB6-13-13.5	13.0 to 13.5	-	0.919	< 2	276
SB-7	GEI-SB7-0.5-1	0.5 to 1.0	334	23.6	239	2,180
	GEI-SB7-3-3.5	3.0 to 3.5	467	15.2	321	1,730
	GEI-SB7-5-5.5	5.0 to 5.5	543	16.3	5	159
	GEI-SB7-7-7.5	7.0 to 7.5	167	8.70	< 2	149
	GEI-SB7-9-9.5	9.0 to 9.5	-	1.17	4	146
	GEI-SB7-11-11.5	11.0 to 11.5	-	11.3	30	326
	GEI-SB7-13-13.5	13.0 to 13.5	-	0.877	< 2	122
	GEI-SB7-14.5-15	14.5 to 15.0	-	0.540	< 2	240
SB-8	GEI-SB8-0.5-1	0.5 to 1.0	482	7.02	292	2,060
	GEI-SB8-3-3.5	3.0 to 3.5	82.5	2.18	28	255
	GEI-SB8-5-5.5	5.0 to 5.5	80.1	0.439	4	163
	GEI-SB8-7-7.5	7.0 to 7.5	99.9	39.0	11	143
	GEI-SB8-9-9.5	9.0 to 9.5	-	-	14	167
	GEI-SB8-11-11.5	11.0 to 11.5	-	-	41	314
	GEI-SB8-13-13.5	13.0 to 13.5	-	-	39	359
	GEI-SB8-14.5-15	14.5 to 15.0	-	-	3	184
MTCA Method A or B Cleanup Level for Unrestricted Land Use			2,000 ²	18.4	250	130
Natural Background Soil Metals Concentrations in the Puget Sound³			48	-	24	48

Exploration Location	Sample ID	Depth (feet bgs)	Total Metals ¹ (mg/kg)			
			Chromium	Hexavalent Chromium	Lead	Nickel
SB-9	GEI-SB9-0.5-1	0.5 to 1.0	955	15.0	357	1,780
	GEI-SB9-3-3.5	3.0 to 3.5	143	4.10	3	65
	GEI-SB9-5-5.5	5.0 to 5.5	257	11.0	5	66
	GEI-SB9-7-7.5	7.0 to 7.5	59.7	3.24	< 2	100
	GEI-SB9-9-9.5	9.0 to 9.5	--	--	3	104
	GEI-SB9-11-11.5	11.0 to 11.5	--	--	4	84
	GEI-SB9-13-13.5	13.0 to 13.5	--	--	2	74
	GEI-SB9-14.5-15	14.5 to 15.0	--	--	2	84
SB-10	GEI-SB10-0.5-1	0.5 to 1.0	428	15.4	275	2,190
	GEI-SB10-3-3.5	3.0 to 3.5	92.7	4.55	2	65
	GEI-SB10-5-5.5	5.0 to 5.5	107	5.19	3	62
	GEI-SB10-7-7.5	7.0 to 7.5	172	4.32	5	162
	GEI-SB10-9-9.5	9.0 to 9.5	--	--	5	105
	GEI-SB10-11-11.5	11.0 to 11.5	--	--	28	223
	GEI-SB10-13-13.5	13.0 to 13.5	--	--	2	91
	GEI-SB10-14.5-15	14.5 to 15.0	--	--	2	69
SB-11	GEI-SB11-0.5-1	0.5 to 1.0	51.5	< 0.424	37	970
	GEI-SB11-3-3.5	3.0 to 3.5	26.6	< 0.416	< 2	438
	GEI-SB11-5-5.5	5.0 to 5.5	26.7	< 0.422	< 2	306
	GEI-SB11-7-7.5	7.0 to 7.5	670	11.9	2	257
SB-12	GEI-SB12-0.5-1	0.5 to 1.0	63.2	< 0.414	16	499
	GEI-SB12-3-3.5	3.0 to 3.5	29.4	< 0.415	< 2	65
	GEI-SB12-5-5.5	5.0 to 5.5	34.8	< 0.410	2	93
	GEI-SB12-7-7.5	7.0 to 7.5	744	10.7	< 2	171
SB-13	GEI-SB13-0.5-1	0.5 to 1.0	148	< 0.421	40	834
	GEI-SB13-3-3.5	3.0 to 3.5	34.2	< 0.413	< 2	63
	GEI-SB13-5-5.5	5.0 to 5.5	30.3	< 0.419	< 2	135
	GEI-SB13-7-7.5	7.0 to 7.5	431	7.67	< 7	568
SB-14	GEI-SB14-0.5-1	0.5 to 1.0	343	< 0.431	70	904
	GEI-SB14-3-3.5	3.0 to 3.5	43.5	0.794	< 2	133
	GEI-SB14-5-5.5	5.0 to 5.5	102	3.00	10	145
	GEI-SB14-7-7.5	7.0 to 7.5	198	3.23	< 2	3,010
	GEI-SB14-9-9.5	9.0 to 9.5	--	--	--	138
	GEI-SB14-11-11.5	11.0 to 11.5	--	--	--	138
	GEI-SB14-13-13.5	13.0 to 13.5	--	--	--	110
	GEI-SB14-14.5-15	14.5 to 15.0	--	--	--	127
MTCA Method A or B Cleanup Level for Unrestricted Land Use			2,000 ²	18.4	250	417
Natural Background Soil Metals Concentrations in the Puget Sound³			48	--	24	48

Notes:

¹Total metals analyzed by U.S. Environmental Protection Agency (EPA) SW7196A.

²Cleanup level for Chromium III. No cleanup level has been established for total chromium.

³Natural Background Soil Metals Concentrations in Washington State, Ecology publication number 94-115, October 1994.

-- = not measured, not tested, or value not established

bgs = below ground surface

CULs = Remedial Investigation / Feasibility Study Cleanup Levels

MTCA = Model Toxics Cleanup Act

mg/kg = milligrams per kilogram

NS = no sheen

ppm = parts per million

Bolding indicates analyte was detected. Yellow highlighting indicates exceedance of proposed cleanup level.

Table 8
Groundwater Chemical Analytical Data vs Proposed CULs
 Aladdin Plating RI/FS
 Tacoma, Washington

Exploration Location	Total Metals ¹ (µg/L)			Dissolved Nickel
	Chromium	Hexavalent Chromium	Nickel	
Sampled March 17 to 21, 2014				
MW-1s	< 5	< 10	< 0.01	< 10
MW-2s	< 5	< 10	< 0.01	< 10
MW-3s	< 5	< 10	270	250
MW-4s	98	44	7,770	7,690
MW-4d	< 5	< 10	10	260
MW-5s	< 5	< 10	< 10	< 10
MW-6s	10	< 10	10	< 10
MW-7s	< 5	< 10	< 10	< 10
Sampled March 25 to 27, 2014²				
SB-15	49	12	1,390	1,290
SB-16	62	< 10	3,670	3,210
SB-17	17	< 10	260	230
SB-18	19	< 10	20	< 10
SB-19	86	< 10	100	< 10
SB-20	42	< 10	70	20
SB-21	< 5	< 10	< 10	< 10
SB-22	< 5	< 10	< 10	< 10
SB-23	< 5	< 10	< 10	< 10
SB-24	< 5	< 10	< 10	< 10
MTCA Method A or B Cleanup Level for Unrestricted Land Use	50	48	100	320

Notes:

¹Total metals analyzed by U.S. Environmental Protection Agency (EPA) 6010C/7471B.

²Discrete groundwater sample collected from temporary well screen in an open borehole.

CULs = Remedial Investigation / Feasibility Study Cleanup Levels

µg/L = micrograms per liter

Bolding indicates analyte was detected. Yellow highlighting indicates exceedance of proposed cleanup level.

Table 9
Site Specific Applicable or Relevant and Appropriate Requirements (ARARS)
Aladdin Plating RI/FS
Tacoma, Washington

Authorizing Statute	Implementing Regulation	Description	Rationale
Potential Chemical-Specific ARARS			
Hazardous Waste Management; Chapter 70.105D RCW	Washington Model Toxics Control Act Cleanup Regulation; Chapter 173-340 WAC	Establishes groundwater and soil cleanup levels.	Potentially applicable to contaminated soil and groundwater at the Site.
Potential Action-Specific ARARS			
Hazardous Waste Management; Chapter 70.105D RCW	Selection of Cleanup Actions; WAC 173-340-350	Minimum requirements and procedures for conducting remedial investigation and feasibility studies.	Applicable to remedial action selection and implementation.
Hazardous Waste Management; Chapter 70.105D RCW	Institutional Controls; WAC 173-340-440	Institutional control requirements.	Potentially applicable to remedial action selection and implementation.
Hazardous Waste Management; Chapter 70.105D RCW	Compliance Monitoring Requirements; WAC 173-340-410, -720(9), -730(7), -740(7), and -745(8)	Compliance monitoring requirements for soil, groundwater, and surface water.	Potentially applicable to remedial action selection and implementation.
Ecology Area of Contamination Policy	8/20/1991 Interprogram Policy	Allows movement/placement of excavated contaminated material within the regulated site without triggering dangerous waste designation.	Could be applicable for containment remedial alternatives.
Water Well Construction; Chapter 18.104 RCW	Minimum Standards for Construction and Maintenance of Wells; Chapter 173-160 WAC	Applies to the construction and maintenance of monitoring wells	Potentially applicable to wells constructed for groundwater withdrawal and monitoring and decommissioning of existing or future wells.
Hazardous Waste Management; Chapter 70.105 RCW	Dangerous Waste Regulations; Chapter 173-303 WAC	Applies if dangerous wastes are generated during remedial program	These regulations must be fully complied with for any off site disposal of waste determined to be dangerous waste. This would only apply to upland remedial options as dredged sediment is exempt from waste classification.
Washington State Water Pollution Control Act; Chapter 90.48 RCW	NPDES Permit Program; Chapter 173-220 WAC	Applicable to the discharge of pollutants and other wastes and materials to the surface waters of the state	NPDES may be required for discharges related to ongoing remedial actions or discharge of stormwater/drainage.
State Environmental Policy Act (SEPA); Chapter 43.21C.110 RCW	SEPA Rules; Chapter 197-11 WAC	Applies if future construction/remedial action occurs at the site	Applies if future construction/ remedial action occurs at the site.
Solid Waste Management; Chapter 43.21A RCW	Minimum Functional Standards for Solid Waste Handling WAC 173-304	Establishes minimum functional standards for the handling of solid waste.	Applies if non-dangerous wastes are generated during remedial action
Transportation of Hazardous Material; 49 USC 5101-5127	Hazardous Materials Regulations; 49 CFR Parts 171 through 180	Regulations that govern the transportation of hazardous materials.	Applies to any hazardous materials transported off-site as part of remediation.
Hazardous Waste-Land Disposal Restrictions; USEPA	40 CFR 268/22 CCR 66268	Establishes land disposal restrictions and treatment standards for hazardous wastes applicable to generators.	Any hazardous wastes generated as a result of on-site activities or by treatment systems must meet land disposal restriction requirements.
Washington State Clean Air Act; Chapter 70.94 RCW	General Requirements for Air Pollution Sources; Chapter 173-400 WAC. Controls for New Sources of Toxic Air Pollutants; Chapter 173-460 WAC	Establishes technically feasible and reasonably attainable standards and rules generally applicable to the control and/or prevention of the emission of air contaminants.	May apply to remedial alternatives that produce emissions to air.

Table 10
Soil Remediation Technology Screening
Aladdin Plating RI/FS
Tacoma, Washington

(Shaded remediation technologies are retained for further evaluation.)

General Response Action	Remediation Technology	Process Option	Description	Effectiveness	Implementability	Relative Cost	Summary of Screening
No Action	No Action	None	No institutional or engineering controls or treatment.	Not effective for protecting human health and environment.	Implementable but not acceptable to the general public or government agencies.	None	Sometimes used as a baseline for comparison. Not retained.
Institutional Controls/ Access Control	Institutional Control	Deed Notification/ Restriction and Fencing/ Warning Signage	Implement deed notification to inform future owners of the presence of potentially hazardous substances at the site and/or implement deed restriction to restrict certain activities and uses of the site. Construct or maintain existing site fencing and signage to control site access by the general public thereby reducing potential exposure to contaminants.	Effectiveness for protection of human health would depend on enforcement of and compliance with deed restrictions. Not applicable for ecological risks.	Technically implementable. Specific legal requirements and authority would need to be met. Signage would be easily implemented, but would require maintenance to ensure effectiveness.	Low capital	Potentially applicable in combination with other technologies, but not necessary due to remediation of Site soil. Not retained.
Soil Containment	Capping	Surface Cap	Installation of surface cap over contaminated soil areas to reduce contaminant migration (i.e., erosion of soil) and to prevent exposure. Caps may include asphalt or concrete paving, and buildings or structures.	Effective for preventing direct contact exposure (i.e. dermal contact or ingestion). Limits infiltration and leachate formation, but less effective than source removal options for protection of groundwater.	Technically implementable. The selected capping technology must be consistent with proposed future land use.	Moderate capital. Low O&M.	Applicable technology where contaminants pose little threat to groundwater. Costs not appropriate to scale of this Site. Not retained.
Soil Removal/Disposal	Removal with Land Disposal	Excavation and Landfill	Excavation of contaminated soil using common excavation methods. Disposal of impacted soil at a permitted, off-site landfill.	Effective for complete range of contaminant groups.	Technically implementable using common excavation and transport methods. Impacted soil must be profiled for disposal and pre-treatment may be required for some soil.	Moderate to high capital. Negligible O&M.	Applicable technology to the Site. Retained.
Soil Removal with Ex Situ Soil Treatment	Physical/Chemical Treatment	Stabilization	Contaminants are physically bound or enclosed within a stabilized mass using Portland cement or another pozzolanic material. This technology has been reliably demonstrated for contaminants such as heavy metals.	Stabilization is a common and effective technology for reducing the leachability of metals in soil. This technology is less permanent because contaminants are left on-site.	Technically implementable. However most processes result in significant increase in volume. This technology would also require significant mobilization of equipment to the Site, and significant area necessary for soil mixing.	Moderate to high capital. Low O&M. Moderate cost relative to other ex situ physical/chemical options. Due to the relatively low volume of metals-contaminated soil at the Site, this technology would have a high cost per cubic yard.	Potentially applicable for metals-impacted soil, and uncertainty associated with effectiveness for other contaminants at the Site. Difficult to implement. High cost per cubic yard relative to offsite disposal. Not retained.
		Soil Washing	Wash soil with water-based surfactants, detergents, acids, chemical bonding agents etc., to remove chemicals from soil particles. Treat or dispose of high chemical concentration residuals fluids.	Most effective for high-concentration inorganic chemicals, semi-volatile organic compounds (SVOCs) and fuels, not as effective for metals.	Residuals may be difficult to extract from matrix and may require additional treatment/disposal. This technology would also require significant mobilization of equipment to the Site, and significant area necessary for soil mixing. Would require ongoing monitoring of soil conditions.	High capital and O&M. High cost relative to other ex situ physical/chemical options.	Difficult to implement. Difficult to formulate washing fluids for complex waste mixtures. Soils may remain toxic due to difficulty extracting residual fluids. Not retained.
In Situ Soil Treatment	Phytoremediation	Natural Attenuation	Natural processes such as volatilization, biodegradation, adsorption, and chemical reactions with soil materials can reduce contaminant concentrations to acceptable levels.	Generally not effective for quickly reducing risk to human health and ongoing threats to groundwater. Shallow metals can be reduced through natural uptake by native plants. Effectiveness is highest in combination with other technologies as a final step to achieve cleanup levels when risks to human health and the environment are low.	Technically implementable. Monitoring may be required to ensure adequate reduction rate. May require institutional controls during treatment period.	Negligible capital. Low O&M. Low cost relative to other in situ options.	Slow technology. Not retained.
		Phytoextraction	Plants, called "Hyperaccumulators" have the capacity to extract and store large amounts of contaminants (metals, hydrocarbons etc.) from soil and use them as nutrients during metabolism. Phytoremediation typically involves interaction of plant roots and microorganisms associated with them to remediate soil. Phytoextraction applicability has been demonstrated for individual site contaminants, but the effectiveness at treating all of the target metals under site conditions is unproven.	Technology has been effective in laboratory or field studies for removal of arsenic, copper, iron, nickel, and zinc. Most effective for treatment of sites with low to moderate levels of shallow soil contamination over large areas. Phytoextraction applicability has been demonstrated for individual site contaminants, but the effectiveness at treating all of the target metals under site conditions is unproven. The combined suite of metals present at the site may be treatable but would require extensive pilot testing over a long period to confirm.	Technically implementable. However, there has been little commercial application. Soil amendments including use of fertilizers, water, chelating agents to assist binding, and disposal of accumulated waste materials or plant materials may be necessary. Pilot testing that would be required will significantly delay implementation of full-scale remediation. Would not be effective in treating deep metals contamination.	Moderate capital and O&M. High cost relative to other in situ options.	Site use may be amenable to plantings. Effectiveness not certain without completion of long-term field pilot testing. Not retained.

Table 11
Summary of Remedial Alternatives
 Aladdin Plating RI/FS
 Tacoma, Washington

Matrix	Contaminants Exceeding Proposed Cleanup Levels	CLEANUP ACTION ALTERNATIVE COMPONENTS	
		REMEDIAL ALTERNATIVE 1 Soil Excavation to Cleanup Levels Using Method B Values Protective of Groundwater as Drinking Water	REMEDIAL ALTERNATIVE 2 Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Direct Contact
Soil	Metals	Excavation and off-site disposal of metals-contaminated soil contributing to contamination in groundwater in compliance with the MTCA Method A and B cleanup levels protective of direct human contact and MTCA Method B cleanup levels for soil protective of groundwater as drinking water.	Excavation and off-site disposal of metals-contaminated soil contributing to contamination in groundwater in compliance with the MTCA Method A and B cleanup levels protective of direct human contact and MTCA Method B and cleanup levels for soil protective of groundwater as drinking water, with the exception of nickel, which would be remediated only to protection of direct contact.
Groundwater	Metals	Installation of monitoring wells to monitor the natural attenuation of groundwater after completion of metal debris and metals contaminated soil removal.	Installation of monitoring wells to monitor the natural attenuation of groundwater after completion of metal debris and metals contaminated soil removal.

Table 12
Summary of Evaluation and Comparison of Remedial Alternatives
 Aladdin Plating RI/FS
 Tacoma, Washington

Alternative Description	REMEDIAL ALTERNATIVE 1 Soil Excavation to Cleanup Levels Using Method B Values Protective of Groundwater as Drinking Water	REMEDIAL ALTERNATIVE 2 Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Direct Contact
Alternative Ranking Under MTCA		
1. Compliance with MTCA Threshold Criteria		
<i>Protection of Human Health and the Environment</i>	Yes - Alternative would protect human health and the environment through a combination of removal, capping, and natural attenuation/recovery.	Yes - Alternative would protect human health and the environment through a combination of removal, capping, and natural attenuation/recovery.
<i>Compliance With Cleanup Standards</i>	Yes - Alternative would require long term monitoring to ensure compliance with cleanup standards.	Yes - Alternative would require long term monitoring to ensure compliance with cleanup standards.
<i>Compliance With Applicable State and Federal Regulations</i>	Yes - Alternative complies with state and federal regulation.	Yes - Alternative complies with state and federal regulation.
<i>Provision for Compliance Monitoring</i>	Yes - Alternative includes provisions for monitoring to assess the natural attenuation of groundwater concentrations.	Yes - Alternative includes provisions for monitoring to assess the natural attenuation of groundwater concentrations.
2. Restoration Time Frame		
	Time frame for design, permitting, and construction of remedial actions is relatively short. The time frame for natural recovery is moderate. The time frame for long-term monitoring and maintenance is indefinite as the remedial actions will be required to be maintained into the future.	Time frame for design, permitting, and construction of remedial actions is relatively short. The time frame for natural recovery is moderate. The time frame for long-term monitoring and maintenance is indefinite as the remedial actions will be required to be maintained into the future.
3. Relative Benefits Ranking		
	Score = 4	Score = 3
<i>Protectiveness</i>	Achieves a medium-high level of overall protectiveness as a result of soil removal to MTCA Method B cleanup levels protective of groundwater as drinking water. Majority of contaminated soil would be removed and remaining metals-impacted soil would effectively be isolated from human and ecological receptors. Longterm protectiveness reliant on natural attenuation of contaminants in groundwater.	Achieves a medium level of overall protectiveness as a result of soil removal to combined MTCA Method B cleanup levels protective of groundwater as drinking water, with the exception of nickel, which would be remediated only to protection of direct contact. Contaminated soil would be removed and remaining metals-impacted soil would effectively be isolated from human and ecological receptors. Longterm protectiveness reliant on natural attenuation of contaminants in groundwater.
<i>Permanence</i>	Score = 4	Score = 3
	Achieves reduction of toxicity and mobility of hazardous substances at the Site by removal of contaminated soil and containment and isolation of remaining contaminated soil. The quantity of impacted soil removed from site is greater than with Alternative 2.	Achieves reduction of toxicity and mobility of hazardous substances at the Site by removal of contaminated soil and containment and isolation of remaining impacted soil. The quantity of contaminated soil allowed to remain on site is greater than Alternative 1.
<i>Long-Term Effectiveness</i>	Score = 3	Score = 3
	Removes a significant quantity of hazardous substances from the Site to cleanup levels protective of groundwater as drinking water. Prevents contact with remaining impacted soil by human and ecological receptors. Long term effectiveness reliant on monitoring of natural attenuation in groundwater.	Removes a significant quantity of hazardous substances from the Site to cleanup levels protective of groundwater as drinking water. Prevents contact with remaining impacted soil by human and ecological receptors. Long term effectiveness reliant on monitoring of natural attenuation in groundwater.
<i>Management of Short-Term Risks</i>	Score = 4	Score = 4
	Involves removal of contaminated soil from the Site. The construction methods required under this alternative are well established and capable of reducing short-term risks.	Involves removal of contaminated soil from the Site. The construction methods required under this alternative are well established and capable of reducing short-term risks.
<i>Technical and Administrative Implementability</i>	Score = 4	Score = 4
	Soil removal and monitored attenuation are common approaches for remediation of contaminated Sites. Common construction methods and equipment are used.	Soil removal and monitored attenuation are common approaches for remediation of contaminated Sites. Common construction methods and equipment are used.
<i>Consideration of Public Concerns</i>	Score = 3	Score = 3
	Addresses the exposure of human and ecological receptors to contaminated soil, groundwater, and stormwater runoff. Includes removal and offsite disposal of the most contaminated soil from the Site.	Addresses the exposure of human and ecological receptors to contaminated soil and groundwater. Includes removal and offsite disposal of contaminated soil from the Site.

Table 13

**Cost Estimate - Remedial Alternative 1 - Soil Excavation to Cleanup Levels Using MTCA Method B Values
Protective of Groundwater as Drinking Water
Aladdin Plating RI/FS
Tacoma, Washington**

Item No.	Description	Plan Quant	Unit	Unit Price	Amount (2014 \$)	Notes
Design, Permitting, and Administrative Costs						
1	Design and Permitting	1	LS	\$15,000.00	\$15,000	Prepare design, contracting documents, permit applications.
					Subtotal	\$15,000
					Pre-Construction Total	\$15,000
Mobilization, Site Preparation, Demolition and Restoration						
2	Mobilization/Site Controls/Demobilization	1	LS	\$14,000.00	\$14,000	Estimated as 10% of construction capital costs.
					Subtotal	\$14,000
Soil Removal and Disposal of Sources to Groundwater						
3	Contaminated Soil Excavation and Stockpiling	400	CY	\$8.00	\$3,200	Excavation of soil to cleanup level protective of groundwater by MTCA Method B
4	Contaminated Soil (non-haz) Transport and Disposal at Approved Off-Site Facility	510	TON	\$60.00	\$30,600	Assumes a CY-to-Tons conversion factor of 1.7. Assumes 75% of total excavated volume will be suitable for disposal at Subtitle D landfill. Assumes 20% volume expansion from bank to loose soil.
5	Contaminated Soil (haz) Transport and Disposal at Approved Off-Site Facility	170	TON	\$225.00	\$38,300	Assumes 25% of total excavated requires disposal at Subtitle C landfill. Assumes 20% volume expansion from bank to loose soil.
6	Excavation Oversight Confirmation Soil Sampling and Analysis	1	EA	\$30,000.00	\$30,000	Oversight of soil excavation and sampling and analysis for metals in soil.
7	Import, Backfill, Grade and Compact Clean Material	680	TON	\$12.00	\$8,200	
					Subtotal	\$110,300
Groundwater Monitoring						
8	Install Monitoring Wells	2	EA	\$3,000.00	\$6,000	Assumes installation of 2 wells.
9	Perform Initial 4 Semi-Annual Monitoring Events	4	EA	\$7,050.00	\$28,200	Monitor for attenuation of metals.
					Subtotal	\$34,200
Construction Overhead and Contingency						
	Contractor Overhead (Based on total of Tasks 3-9)	10.00%	%		\$15,850	Contractor Overhead applied to construction items.
	Sales Tax (Based on total of Tasks 1-9)	9.5%	%		\$16,483	Sales Tax applied to sum of construction items and construction overhead.
					Total Purchase and Installation Subtotal	\$190,833
	Construction Management and Field Monitoring	10.0%	%		\$19,083	
	Construction Contingency (Conceptual Design Level)	15.0%	%		\$31,487	
					Construction Total	\$241,403
					OVERALL PROJECT TOTAL COSTS	\$256,000

Table 14

**Cost Estimate - Remedial Alternative 2 - Soil Excavation to Cleanup Levels Using
MTCA Method A and B Values Protective of Direct Contact
Aladdin Plating RI/FS
Tacoma, Washington**

Item No.	Description	Plan Quant	Unit	Unit Price	Amount (2014 \$)	Notes
Design, Permitting, and Administrative Costs						
1	Design and Permitting	1	LS	\$15,000.00	\$15,000	Prepare design, contracting documents, permit applications.
					Subtotal	\$15,000
					Pre-Construction Total	\$15,000
Mobilization, Site Preparation, Demolition and Restoration						
3	Mobilization/Site Controls/Demobilization	1	LS	\$12,000.00	\$12,000	Estimated as 10% of construction capital costs.
					Subtotal	\$12,000
Soil Removal and Disposal of Sources to Groundwater						
5	Contaminated Soil Excavation and Stockpiling	260	CY	\$8.00	\$2,100	Excavation of soil to cleanup level protective of direct human contact by MTCA Method A or B
6	Contaminated Soil (non-haz) Transport and Disposal at Approved Off-Site Facility	338	TON	\$60.00	\$20,300	Assumes a CY-to-Tons conversion factor of 1.7. Assumes 75% of total excavated volume will be suitable for disposal at Subtitle D landfill. Assumes 20% volume expansion from bank to loose soil.
7	Contaminated Soil (haz) Transport and Disposal at Approved Off-Site Facility	112	TON	\$225.00	\$25,200	Assumes 25% of total excavated requires disposal at Subtitle C landfill. Assumes 20% volume expansion from bank to loose soil.
8	Excavation Oversight Confirmation Soil Sampling and Analysis	1	EA	\$30,000.00	\$30,000	Oversight of soil excavation and sampling and analysis for metals in soil.
9	Import, Backfill, Grade and Compact Clean Material	450	TON	\$12.00	\$5,400	
					Subtotal	\$83,000
Groundwater Monitoring						
11	Install Monitoring Wells	2	EA	\$3,000.00	\$6,000	Assumes installation of 2 wells.
12	Perform Initial 4 Semi-Annual Monitoring Events	4	EA	\$7,050.00	\$28,200	Monitor for attenuation of metals.
					Subtotal	\$34,200
Construction Overhead and Contingency						
	Contractor Overhead (Based on total of Tasks 3-9)	10.00%	%		\$12,920	Contractor Overhead applied to construction items.
	Sales Tax (Based on total of Tasks 1-9)	9.5%	%		\$13,699	Sales Tax applied to sum of construction items and construction overhead.
					Total Purchase and Installation Subtotal	\$155,819
	Construction Management and Field Monitoring	10.0%	%		\$15,582	
	Construction Contingency (Conceptual Design Level)	15.0%	%		\$25,710	
					Construction Total	\$197,111
					OVERALL PROJECT TOTAL COSTS	\$212,000

Table 15

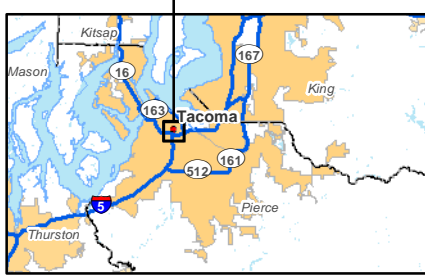
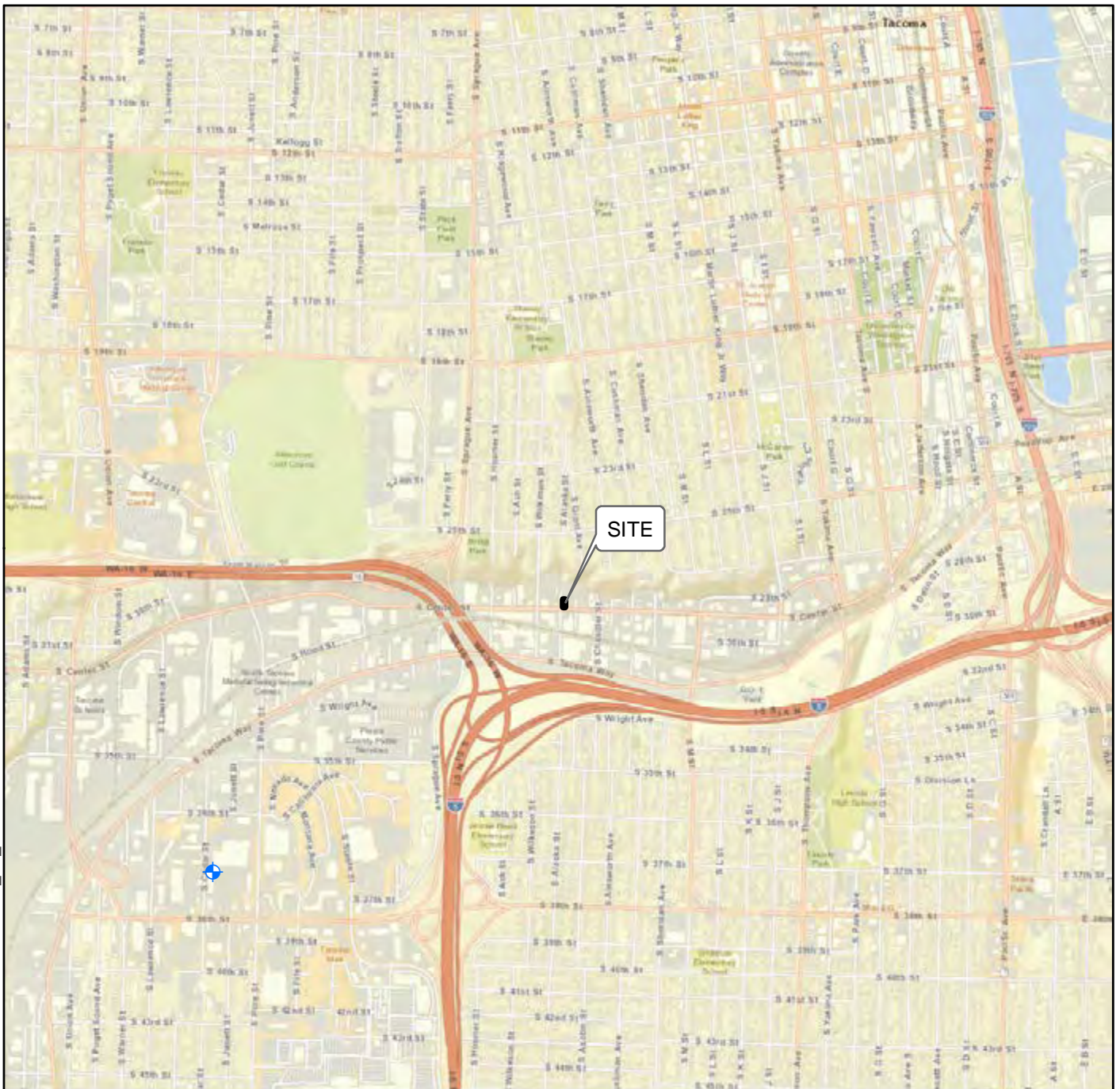
Summary of MTCA Evaluation and Ranking of Remedial Action Alternatives

Aladdin Plating RI/FS

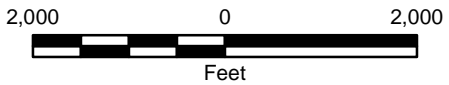
Tacoma, Washington

Alternative Number	ALTERNATIVE 1 Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Drinking Water	ALTERNATIVE 2 Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Direct Contact
Alternative Ranking Under MTCA		
1. Compliance with MTCA Threshold Criteria	YES	YES
2. Restoration Time Frame	Design/construction - Short Natural attenuation/recovery - Moderate	Design/construction - Short Natural attenuation/recovery - Moderate
3. Relative Benefits Ranking	2nd	1st
<i>Protectiveness</i>	4	3
<i>Permanence</i>	4	3
<i>Long-Term Effectiveness</i>	3	3
<i>Management of Short-Term Risks</i>	4	4
<i>Technical and Administrative Implementability</i>	4	4
<i>Consideration of Public Concerns</i>	3	3
Total of Scores	22	20
Overall Alternative Ranking	1st	2nd

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 City of Tacoma production well



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
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Data Sources: ESRI Data & Maps, Street Maps 2005
 Base map from ESRI Data Online.
 Transverse Mercator, Zone 10 N North, North American Datum 1983
 North arrow oriented to grid north

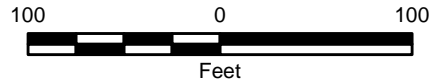
Vicinity Map	
Former Aladdin Plating Facility Tacoma, Washington	
	Figure 1



Property Boundary



Parcel Boundary (Pierce County)



Notes:

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Data Sources: Parcel Boundary and roads from Pierce County GIS.
 Base map from ESRI Data Online.
 Transverse Mercator, Zone 10 N North, North American Datum 1983
 North arrow oriented to grid north

Site Map

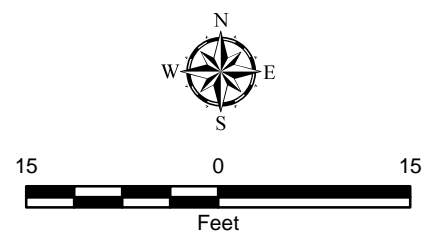
Former Aladdin Plating Facility
 Tacoma, Washington



Figure 2



- | | | | | |
|-------|--|--------------------------|--|--------------------------|
| ALD1 | | Soil Test Pit | | Property Boundary |
| ALDW1 | | Groundwater Push Probe | | Historical Site Features |
| MW-1s | | Existing Monitoring Well | | |



Data Source: Aerial image base from Google Earth Pro
 Historical site features from Landau Associates, Historical Electroplating Operations, Figure 3, November 7, 2005.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes:
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Former Site Features and Previous Investigation Locations

Former Aladdin Plating Facility
 Tacoma, Washington



Figure 3



- MW-1s  Groundwater Monitoring Well and Number
-  Property Boundary



Data Source: Aerial base from ArcGIS Data Online.
 Existing monitoring well locations from Landau Associates,
 Monitoring Well Locations and Groundwater Contours March 2007,
 Figure 4, 7/30/2007.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

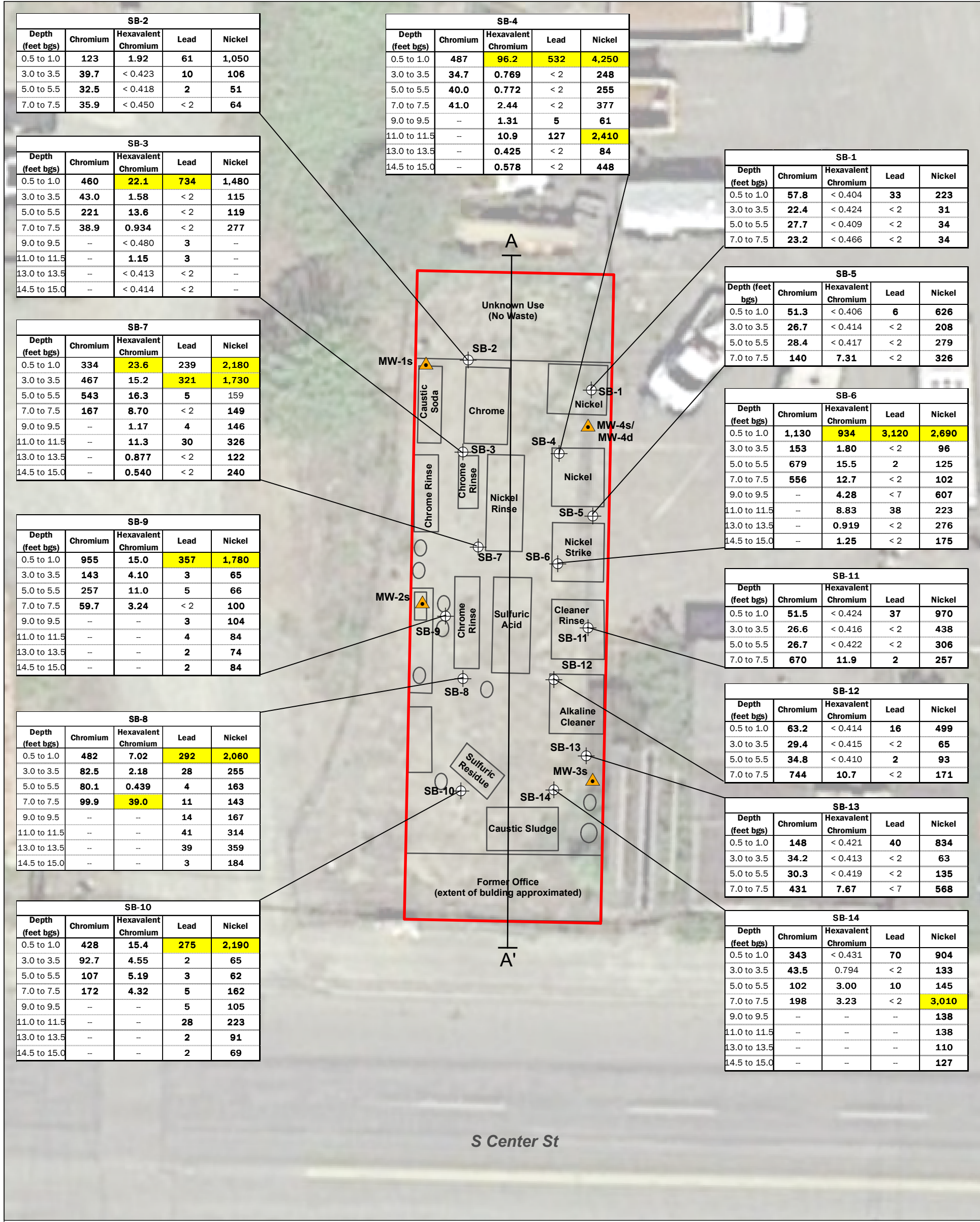
Notes:
 1. The locations of all features shown are approximate.
 2. This drawing is for information purposes. It is intended
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Site Groundwater Monitoring Wells

Former Aladdin Plating Facility
 Tacoma, Washington



Figure 4



SB-2				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	123	1.92	61	1,050
3.0 to 3.5	39.7	< 0.423	10	106
5.0 to 5.5	32.5	< 0.418	2	51
7.0 to 7.5	35.9	< 0.450	< 2	64

SB-4				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	487	96.2	532	4,250
3.0 to 3.5	34.7	0.769	< 2	248
5.0 to 5.5	40.0	0.772	< 2	255
7.0 to 7.5	41.0	2.44	< 2	377
9.0 to 9.5	--	1.31	5	61
11.0 to 11.5	--	10.9	127	2,410
13.0 to 13.5	--	0.425	< 2	84
14.5 to 15.0	--	0.578	< 2	448

SB-3				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	460	22.1	734	1,480
3.0 to 3.5	43.0	1.58	< 2	115
5.0 to 5.5	221	13.6	< 2	119
7.0 to 7.5	38.9	0.934	< 2	277
9.0 to 9.5	--	< 0.480	3	--
11.0 to 11.5	--	1.15	3	--
13.0 to 13.5	--	< 0.413	< 2	--
14.5 to 15.0	--	< 0.414	< 2	--

SB-1				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	57.8	< 0.404	33	223
3.0 to 3.5	22.4	< 0.424	< 2	31
5.0 to 5.5	27.7	< 0.409	< 2	34
7.0 to 7.5	23.2	< 0.466	< 2	34

SB-7				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	334	23.6	239	2,180
3.0 to 3.5	467	15.2	321	1,730
5.0 to 5.5	543	16.3	5	159
7.0 to 7.5	167	8.70	< 2	149
9.0 to 9.5	--	1.17	4	146
11.0 to 11.5	--	11.3	30	326
13.0 to 13.5	--	0.877	< 2	122
14.5 to 15.0	--	0.540	< 2	240

SB-5				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	51.3	< 0.406	6	626
3.0 to 3.5	26.7	< 0.414	< 2	208
5.0 to 5.5	28.4	< 0.417	< 2	279
7.0 to 7.5	140	7.31	< 2	326

SB-9				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	955	15.0	357	1,780
3.0 to 3.5	143	4.10	3	65
5.0 to 5.5	257	11.0	5	66
7.0 to 7.5	59.7	3.24	< 2	100
9.0 to 9.5	--	--	3	104
11.0 to 11.5	--	--	4	84
13.0 to 13.5	--	--	2	74
14.5 to 15.0	--	--	2	84

SB-6				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	1,130	934	3,120	2,690
3.0 to 3.5	153	1.80	< 2	96
5.0 to 5.5	679	15.5	2	125
7.0 to 7.5	556	12.7	< 2	102
9.0 to 9.5	--	4.28	< 7	607
11.0 to 11.5	--	8.83	38	223
13.0 to 13.5	--	0.919	< 2	276
14.5 to 15.0	--	1.25	< 2	175

SB-8				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	482	7.02	292	2,060
3.0 to 3.5	82.5	2.18	28	255
5.0 to 5.5	80.1	0.439	4	163
7.0 to 7.5	99.9	39.0	11	143
9.0 to 9.5	--	--	14	167
11.0 to 11.5	--	--	41	314
13.0 to 13.5	--	--	39	359
14.5 to 15.0	--	--	3	184

SB-11				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	51.5	< 0.424	37	970
3.0 to 3.5	26.6	< 0.416	< 2	438
5.0 to 5.5	26.7	< 0.422	< 2	306
7.0 to 7.5	670	11.9	2	257

SB-10				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	428	15.4	275	2,190
3.0 to 3.5	92.7	4.55	2	65
5.0 to 5.5	107	5.19	3	62
7.0 to 7.5	172	4.32	5	162
9.0 to 9.5	--	--	5	105
11.0 to 11.5	--	--	28	223
13.0 to 13.5	--	--	2	91
14.5 to 15.0	--	--	2	69

SB-12				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	63.2	< 0.414	16	499
3.0 to 3.5	29.4	< 0.415	< 2	65
5.0 to 5.5	34.8	< 0.410	2	93
7.0 to 7.5	744	10.7	< 2	171

SB-13				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	148	< 0.421	40	834
3.0 to 3.5	34.2	< 0.413	< 2	63
5.0 to 5.5	30.3	< 0.419	< 2	135
7.0 to 7.5	431	7.67	< 7	568

SB-14				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	343	< 0.431	70	904
3.0 to 3.5	43.5	0.794	< 2	133
5.0 to 5.5	102	3.00	10	145
7.0 to 7.5	198	3.23	< 2	3,010
9.0 to 9.5	--	--	--	138
11.0 to 11.5	--	--	--	138
13.0 to 13.5	--	--	--	110
14.5 to 15.0	--	--	--	127

MW-1s Groundwater Monitoring Well Location and Number
SB-3 Boring Location and Number
 Property Boundary
 Historical Site Features
 Cross Section Line

Results reported in milligrams per kilograms (mg/kg).
 Bold results indicate detection of analyte.
 Shaded results indicate exceedances of MTCA cleanup levels.

MTCA Cleanup Levels
 Total Chromium 2,000¹
 Chromium VI 19
 Nickel 1,600²

¹Cleanup Level for Chromium III
²Cleanup Level for Soluble Nickel Salts

Data Source: Aerial image base from Google Earth Pro
 Historical site features from Landau Associates, Historical Electroplating Operations, Figure 3, November 7, 2005.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

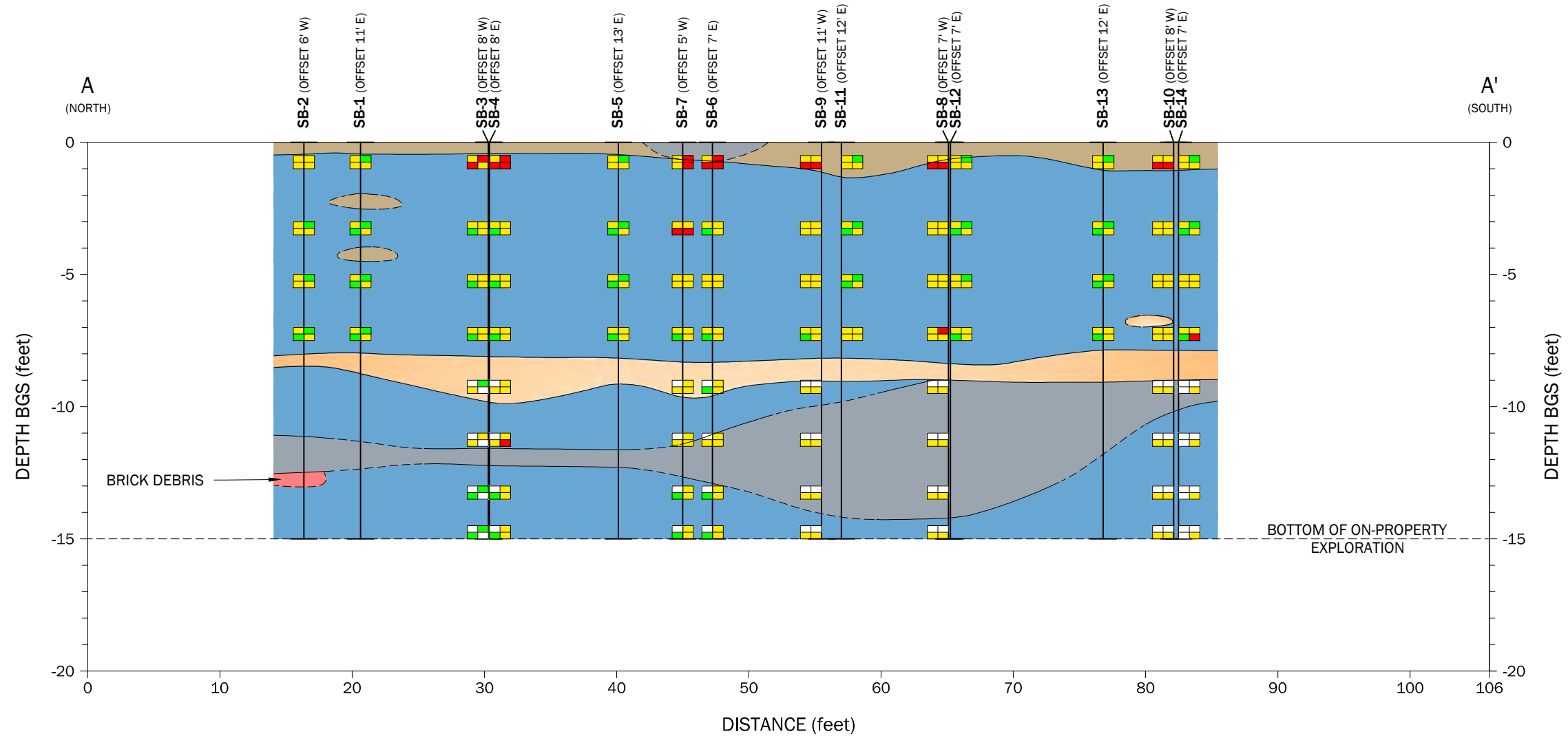
Notes:
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Remedial Investigation Soil Analytical Results for On-Property Boring Locations

Former Aladdin Plating Facility
Tacoma, Washington

Figure 5

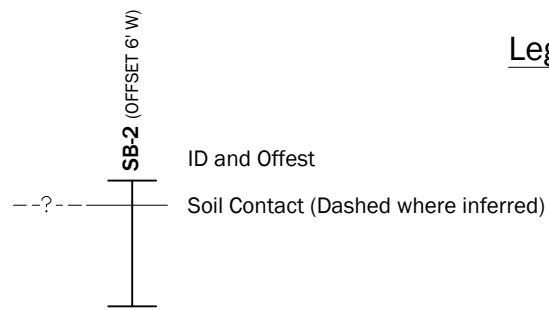
W:\REDMOND\PROJECTS\0504095\00\CAD\050409500_T300_F6_Cross Section AA.dwg TAB:AA MODIFIED BY TMICHAUD ON Nov 21, 2014 - 13:34



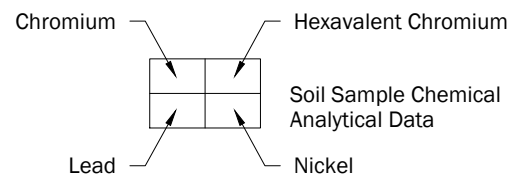
BRICK DEBRIS

BOTTOM OF ON-PROPERTY EXPLORATION

Legend

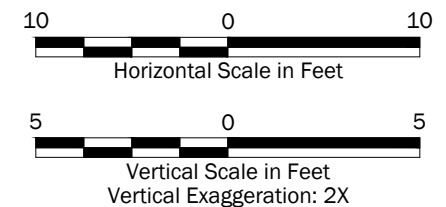


- Silty sand, sand-silt mixture
- Poorly graded sand, gravelly sand
- Silt, sandy silt
- Poorly graded gravel, gravel-sand mixture



MTCA = Model Toxics Control Act

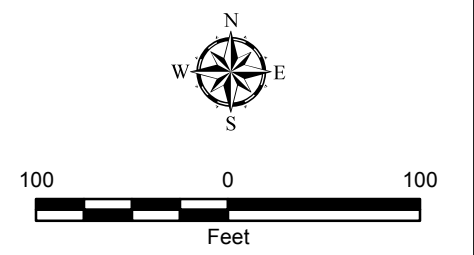
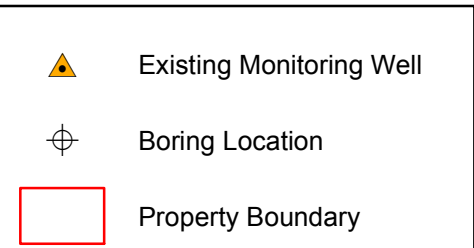
- Not Analyzed
- Contaminants of concern were not detected. Metals were detected at concentrations similar to natural background concentrations.
- Contaminants of concern detected at concentrations less than the corresponding MTCA Method A or B cleanup levels for direct contact.
- Contaminants of concern detected at concentrations greater than the corresponding MTCA Method A or B cleanup levels for direct contact.



Notes

1. The subsurface conditions shown are based on interpolation between widely spaced explorations and should be considered approximate; actual subsurface conditions may vary from those shown.
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Generalized Geologic Cross-Section A-A' with Chemical Analytical Results	
Former Aladdin Plating Facility Tacoma, Washington	
GEOENGINEERS	Figure 6



Data Source: Aerial base from ArcGIS Data Online.
 Existing monitoring well locations from Landau Associates,
 Monitoring Well Locations and Groundwater Contours March 2007,
 Figure 4, 7/30/2007.

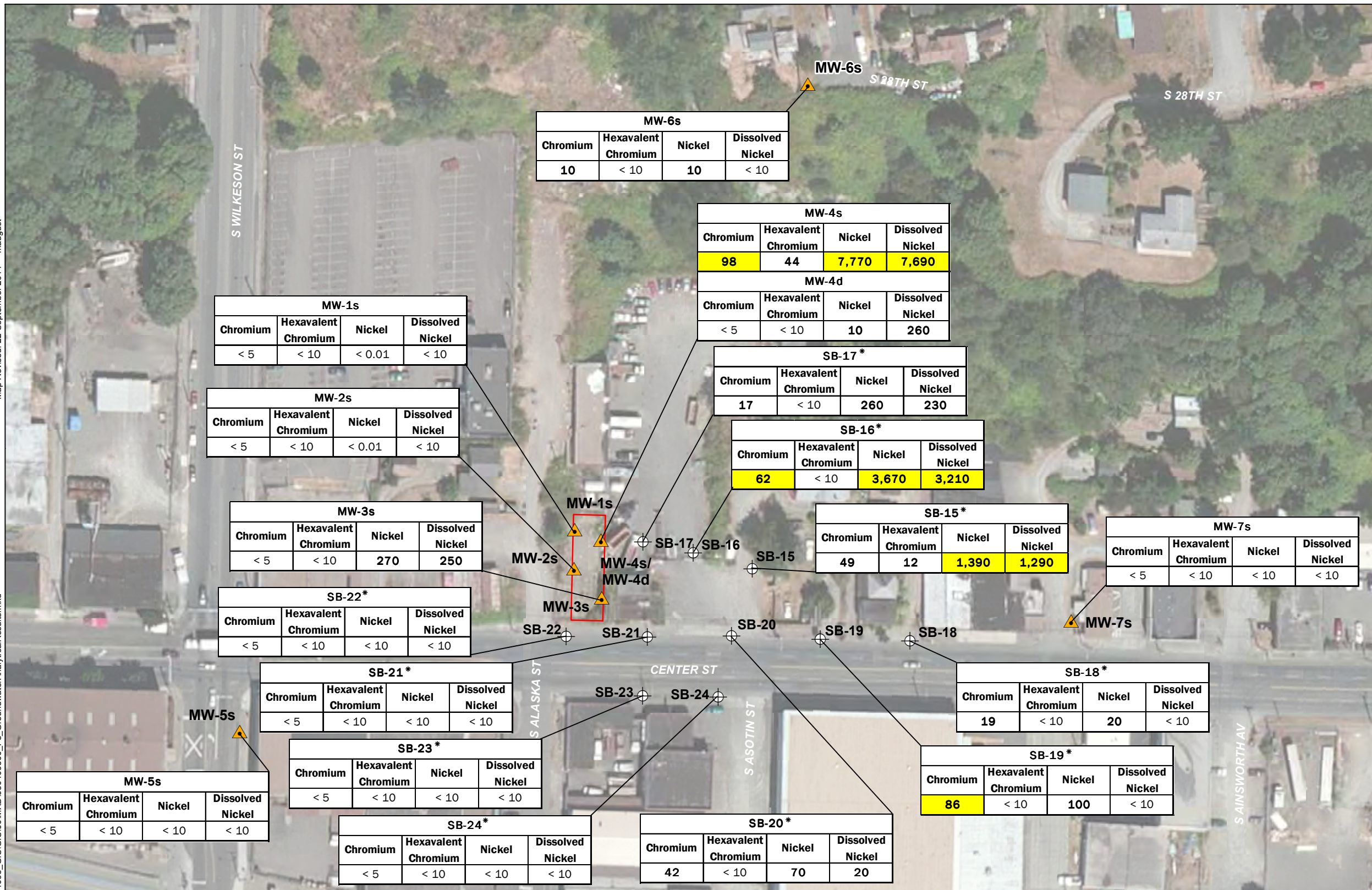
Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Notes:
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 and will serve as the official record of this communication.

Remedial Investigation Locations Off-Property	
Former Aladdin Plating Facility Tacoma, Washington	
	Figure 7

Map Revised: 22 September 2014 maugust

Office: PDX Path: \\pdx\Projects\0\0504095_GIS\GIS\00\MXD\050409505_F8_GroundwaterAnalyticalResults.mxd



- MW-1s** Groundwater Monitoring Well Location and Number
- SB-18** Boring Location
- Property Boundary

Results reported in micrograms per liter (µg/L). Bold results indicate detection of analyte. Shaded results indicates exceedances of MTCA cleanup levels.

* Discrete groundwater sample collected from temporary well screen in open borehold.

MTCA Cleanup Levels

Total Chromium	50
Chromium VI	48 ¹
Nickel	320

¹Method B Cleanup Level for Chromium VI

MW-5s			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 10	< 10

MW-1s			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 0.01	< 10

MW-2s			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 0.01	< 10

MW-3s			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	270	250

SB-22*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 10	< 10

SB-21*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 10	< 10

SB-23*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 10	< 10

SB-24*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 10	< 10

MW-6s			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
10	< 10	10	< 10

MW-4s			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
98	44	7,770	7,690

MW-4d			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	10	260

SB-17*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
17	< 10	260	230

SB-16*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
62	< 10	3,670	3,210

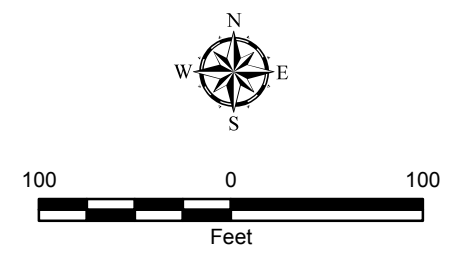
SB-15*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
49	12	1,390	1,290

MW-7s			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
< 5	< 10	< 10	< 10

SB-18*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
19	< 10	20	< 10

SB-19*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
86	< 10	100	< 10

SB-20*			
Chromium	Hexavalent Chromium	Nickel	Dissolved Nickel
42	< 10	70	20



Data Source: Aerial base from ArcGIS Data Online. Existing monitoring well locations from Landau Associates, Monitoring Well Locations and Groundwater Contours March 2007, Figure 4, 7/30/2007.

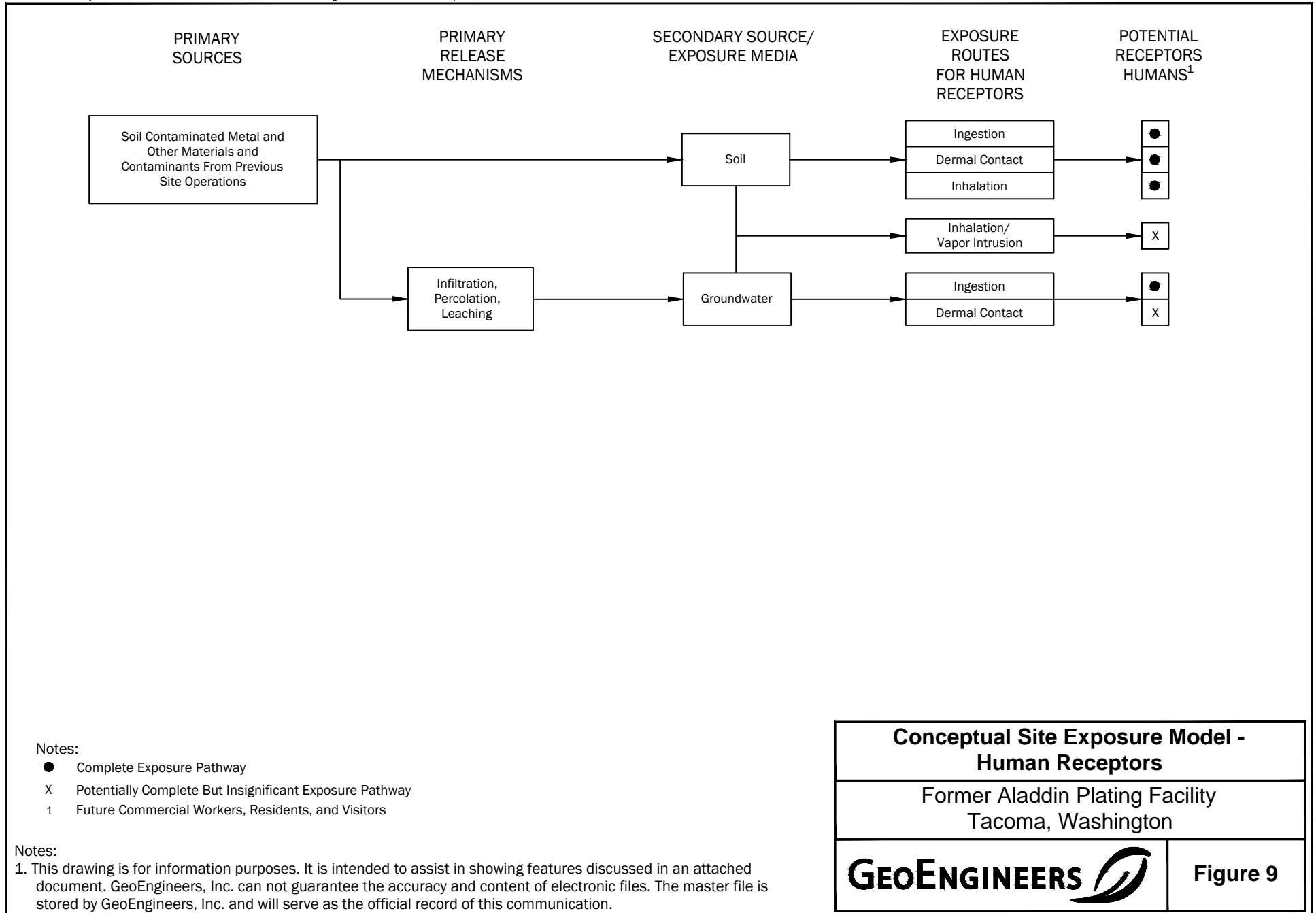
Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

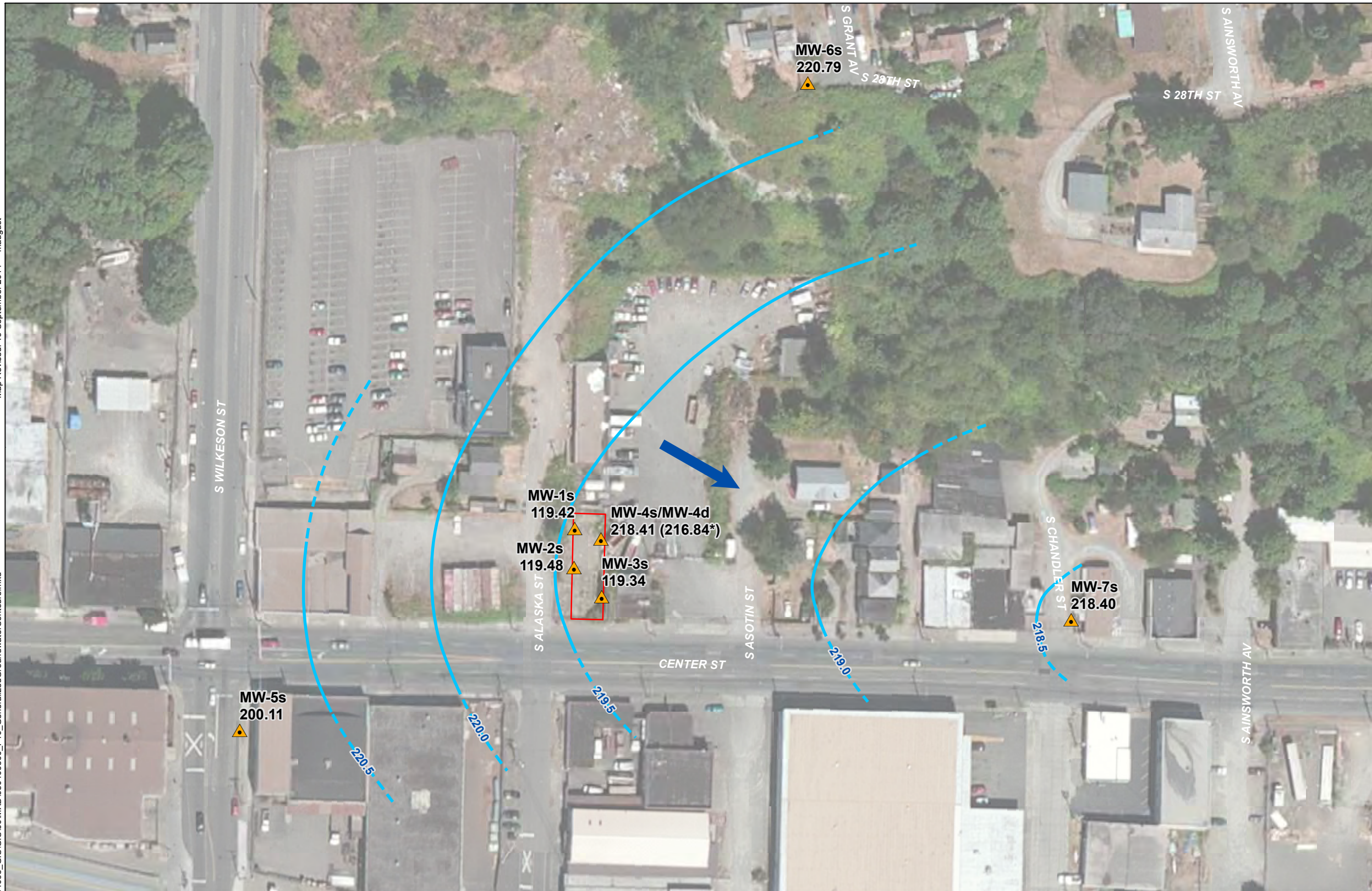
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Groundwater Analytical Results
March 2014

Former Aladdin Plating Facility
 Tacoma, Washington

GEOENGINEERS **Figure 8**





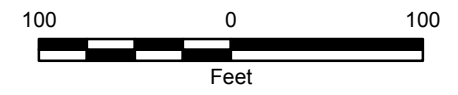
MW-1s
200.11
▲ Groundwater Monitoring Well Location and Groundwater Elevation

— 200.5 — Groundwater Contour and Elevation

➔ Groundwater Flow Direction

▭ Property Boundary

* Groundwater elevation not used in contouring.



Data Source: Aerial base from ArcGIS Data Online.
Monitoring well locations from Landau Associates,
Monitoring Well Locations and Groundwater Contours March 2007,
Figure 4, 7/30/2007.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Notes:
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**Generalized Groundwater Contours
March 2014**

Former Aladdin Plating Facility
Tacoma, Washington



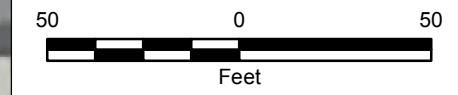
Figure 10

Map Revised: 19 September 2014 maugust

Office: PORT Path: \pdx\projects\00504095_GIS\GIS\00\MXD\050409500_F11_Total_Chromium.mxd



- MW-1s Existing Monitoring Well
- SB-1 Boring Location
- Groundwater with total chromium concentrations above the MTCA Method A cleanup level of 50 µg/L.
- Soil with total chromium concentrations above the MTCA Method B cleanup level of 2,000 mg/kg.
- Property Boundary



Data Source: Aerial base from ArcGIS Data Online.
 Existing monitoring well locations from Landau Associates,
 Monitoring Well Locations and Groundwater Contours March 2007,
 Figure 4, 7/30/2007.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Notes:
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**Extent of Total Chromium Contamination
 in Site Soil and Groundwater**

Former Aladdin Plating Facility
 Tacoma, Washington



Figure 11



<p>MW-1s ▲ Groundwater Monitoring Well Location and Number</p>	<p>▭ Property Boundary</p>	<p>Soil with hexavalent chromium concentrations above the MTCA Method B cleanup level of 18.4 mg/kg.</p>	
<p>SB-3 ⊕ Boring Location and Number</p>	<p>▭ Historical Site Features</p>		

Data Source: Aerial image base from Google Earth Pro
Historical site features from Landau Associates, Historical Electroplating Operations, Figure 3, November 7, 2005.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes:
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Extent of Hexavalent Chromium Contamination in Site Soil

Former Aladdin Plating Facility
Tacoma, Washington

GEOENGINEERS **Figure 12**



<p>MW-1s ▲ Groundwater Monitoring Well Location and Number</p>	<p>▭ Property Boundary</p>	<p>Soil with lead concentrations above the MTCA Method A cleanup level of 250 mg/kg.</p>	
<p>SB-3 ⊕ Boring Location and Number</p>	<p>▭ Historical Site Features</p>		

Data Source: Aerial image base from Google Earth Pro
Historical site features from Landau Associates, Historical Electroplating Operations, Figure 3, November 7, 2005.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes:
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Extent of Lead Contamination in Site Soil

Former Aladdin Plating Facility
Tacoma, Washington

GEOENGINEERS **Figure 13**

Map Revised: 24 November 2014 maugust

Office: PORT Path: \\pdx\projects\00504095_GIS\GIS\00\MXD\050409500_F14_Extent_of_Nickel.mxd



- MW-1s Existing Monitoring Well
- SB-1 Boring Location
- Groundwater with nickel concentrations above the MTCA Method B cleanup level of 320 µ/L.
- Soil with nickel concentrations above the MTCA Method B cleanup level of 417 mg/kg.
- Property Boundary



Data Source: Aerial base from ArcGIS Data Online.
 Existing monitoring well locations from Landau Associates,
 Monitoring Well Locations and Groundwater Contours March 2007,
 Figure 4, 7/30/2007.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Notes:

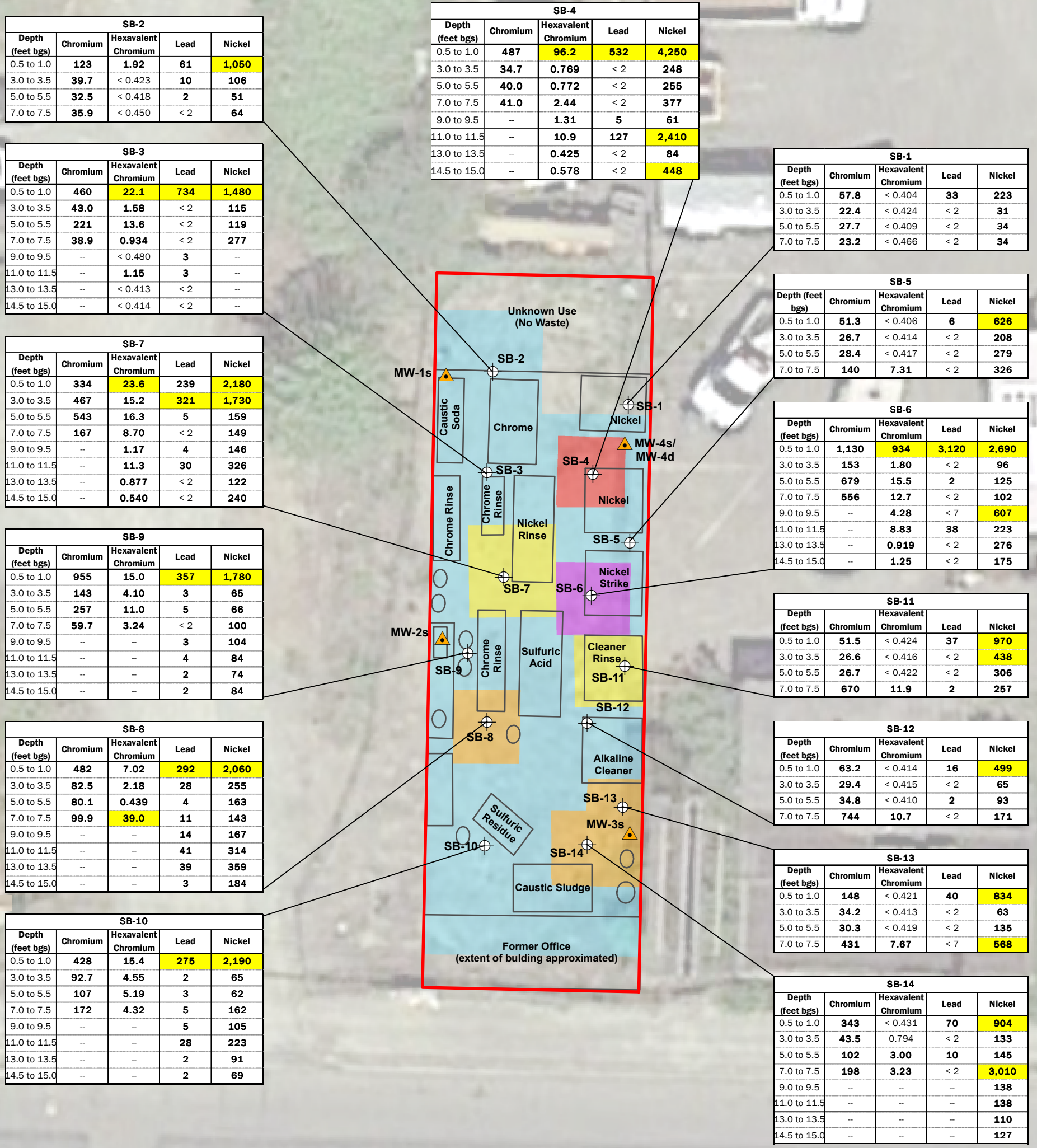
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

**Extent of Nickel Contamination
 in Site Soil and Groundwater**

Former Aladdin Plating Facility
 Tacoma, Washington



Figure 14



SB-2				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	123	1.92	61	1,050
3.0 to 3.5	39.7	< 0.423	10	106
5.0 to 5.5	32.5	< 0.418	2	51
7.0 to 7.5	35.9	< 0.450	< 2	64

SB-4				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	487	96.2	532	4,250
3.0 to 3.5	34.7	0.769	< 2	248
5.0 to 5.5	40.0	0.772	< 2	255
7.0 to 7.5	41.0	2.44	< 2	377
9.0 to 9.5	--	1.31	5	61
11.0 to 11.5	--	10.9	127	2,410
13.0 to 13.5	--	0.425	< 2	84
14.5 to 15.0	--	0.578	< 2	448

SB-1				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	57.8	< 0.404	33	223
3.0 to 3.5	22.4	< 0.424	< 2	31
5.0 to 5.5	27.7	< 0.409	< 2	34
7.0 to 7.5	23.2	< 0.466	< 2	34

SB-3				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	460	22.1	734	1,480
3.0 to 3.5	43.0	1.58	< 2	115
5.0 to 5.5	221	13.6	< 2	119
7.0 to 7.5	38.9	0.934	< 2	277
9.0 to 9.5	--	< 0.480	3	--
11.0 to 11.5	--	1.15	3	--
13.0 to 13.5	--	< 0.413	< 2	--
14.5 to 15.0	--	< 0.414	< 2	--

SB-5				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	51.3	< 0.406	6	626
3.0 to 3.5	26.7	< 0.414	< 2	208
5.0 to 5.5	28.4	< 0.417	< 2	279
7.0 to 7.5	140	7.31	< 2	326

SB-7				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	334	23.6	239	2,180
3.0 to 3.5	467	15.2	321	1,730
5.0 to 5.5	543	16.3	5	159
7.0 to 7.5	167	8.70	< 2	149
9.0 to 9.5	--	1.17	4	146
11.0 to 11.5	--	11.3	30	326
13.0 to 13.5	--	0.877	< 2	122
14.5 to 15.0	--	0.540	< 2	240

SB-6				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	1,130	934	3,120	2,690
3.0 to 3.5	153	1.80	< 2	96
5.0 to 5.5	679	15.5	2	125
7.0 to 7.5	556	12.7	< 2	102
9.0 to 9.5	--	4.28	< 7	607
11.0 to 11.5	--	8.83	38	223
13.0 to 13.5	--	0.919	< 2	276
14.5 to 15.0	--	1.25	< 2	175

SB-9				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	955	15.0	357	1,780
3.0 to 3.5	143	4.10	3	65
5.0 to 5.5	257	11.0	5	66
7.0 to 7.5	59.7	3.24	< 2	100
9.0 to 9.5	--	--	3	104
11.0 to 11.5	--	--	4	84
13.0 to 13.5	--	--	2	74
14.5 to 15.0	--	--	2	84

SB-11				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	51.5	< 0.424	37	970
3.0 to 3.5	26.6	< 0.416	< 2	438
5.0 to 5.5	26.7	< 0.422	< 2	306
7.0 to 7.5	670	11.9	2	257

SB-8				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	482	7.02	292	2,060
3.0 to 3.5	82.5	2.18	28	255
5.0 to 5.5	80.1	0.439	4	163
7.0 to 7.5	99.9	39.0	11	143
9.0 to 9.5	--	--	14	167
11.0 to 11.5	--	--	41	314
13.0 to 13.5	--	--	39	359
14.5 to 15.0	--	--	3	184

SB-12				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	63.2	< 0.414	16	499
3.0 to 3.5	29.4	< 0.415	< 2	65
5.0 to 5.5	34.8	< 0.410	2	93
7.0 to 7.5	744	10.7	< 2	171

SB-10				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	428	15.4	275	2,190
3.0 to 3.5	92.7	4.55	2	65
5.0 to 5.5	107	5.19	3	62
7.0 to 7.5	172	4.32	5	162
9.0 to 9.5	--	--	5	105
11.0 to 11.5	--	--	28	223
13.0 to 13.5	--	--	2	91
14.5 to 15.0	--	--	2	69

SB-13				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	148	< 0.421	40	834
3.0 to 3.5	34.2	< 0.413	< 2	63
5.0 to 5.5	30.3	< 0.419	< 2	135
7.0 to 7.5	431	7.67	< 7	568

SB-14				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	343	< 0.431	70	904
3.0 to 3.5	43.5	0.794	< 2	133
5.0 to 5.5	102	3.00	10	145
7.0 to 7.5	198	3.23	< 2	3,010
9.0 to 9.5	--	--	--	138
11.0 to 11.5	--	--	--	138
13.0 to 13.5	--	--	--	110
14.5 to 15.0	--	--	--	127

S Center St

MW-1s Groundwater Monitoring Well Location and Number

SB-3 Boring Location and Number

Property Boundary

Historical Site Features

Proposed Excavation Depths

- Excavate to 2.5 ft bgs
- Excavate to 5.0 ft bgs
- Excavate to 9.0 ft bgs
- Excavate to 11.0 ft bgs
- Excavate to 16.0 ft bgs

Soil Cleanup Levels Using MTCA Method B Values Protective of Groundwater as Drinking Water (mg/kg)

Total Chromium	2,000 ¹
Chromium VI	18.4
Lead	250
Nickel	417

¹Cleanup Level for Chromium III

15 0 15

Feet

Results reported in milligrams per kilograms (mg/kg).
 Bold results indicate detection of analyte.
 Shaded results indicate exceedances of MTCA cleanup levels.

Data Source: Aerial image base from Google Earth Pro
 Historical site features from Landau Associates, Historical Electroplating Operations, Figure 3, November 7, 2005.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

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Remedial Alternative 1 - Soil Excavation to Cleanup Levels Using MTCA Method B Values Protective of Drinking Water

Former Aladdin Plating Facility
 Tacoma, Washington

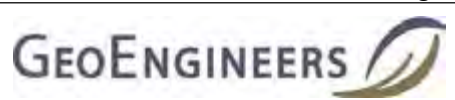
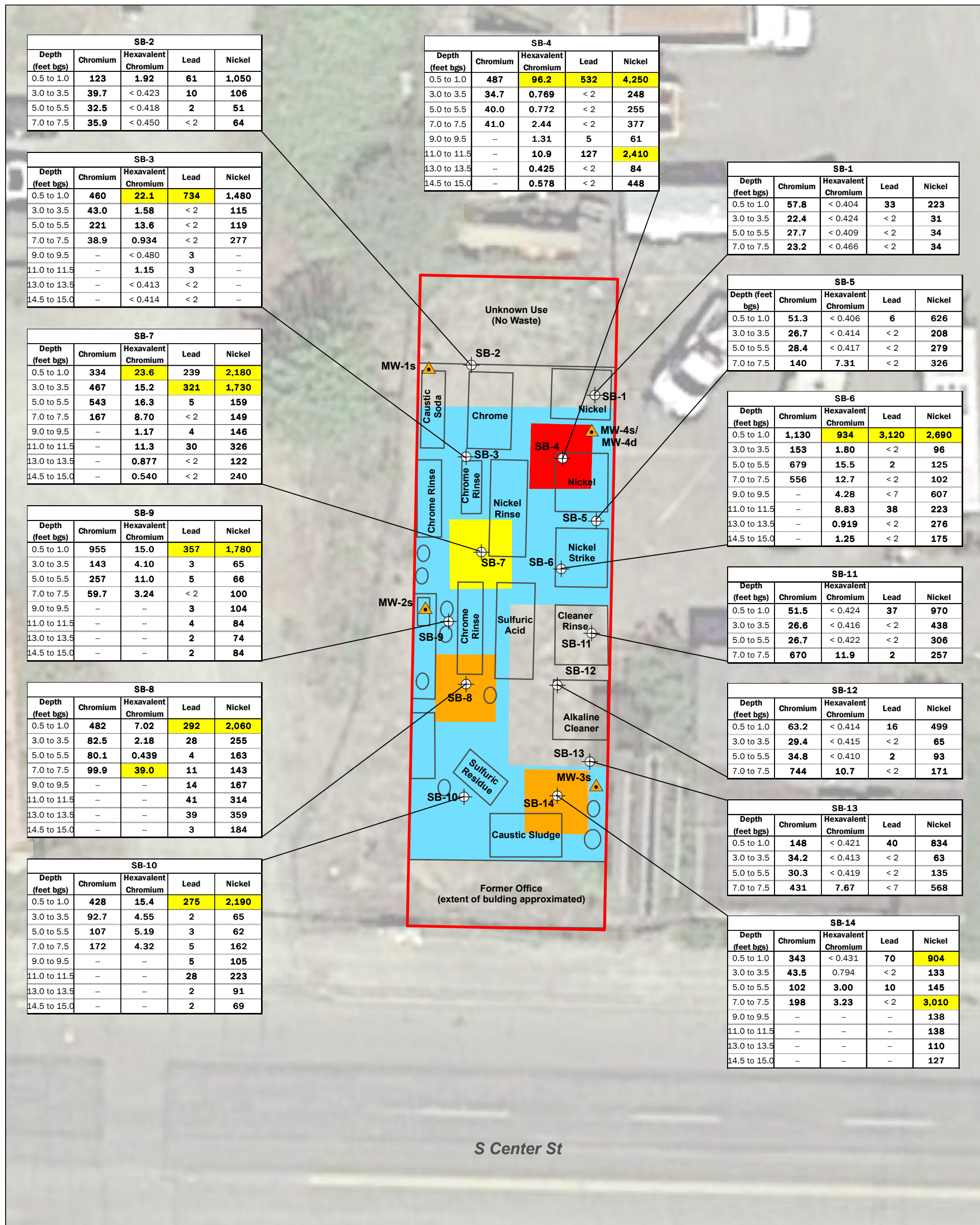


Figure 15



SB-2				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	123	1.92	61	1,050
3.0 to 3.5	39.7	< 0.423	10	106
5.0 to 5.5	32.5	< 0.418	2	51
7.0 to 7.5	35.9	< 0.450	< 2	64

SB-4				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	487	96.2	532	4,250
3.0 to 3.5	34.7	0.769	< 2	248
5.0 to 5.5	40.0	0.772	< 2	255
7.0 to 7.5	41.0	2.44	< 2	377
9.0 to 9.5	--	1.31	5	61
11.0 to 11.5	--	10.9	127	2,410
13.0 to 13.5	--	0.425	< 2	84
14.5 to 15.0	--	0.578	< 2	448

SB-1				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	57.8	< 0.404	33	223
3.0 to 3.5	22.4	< 0.424	< 2	31
5.0 to 5.5	27.7	< 0.409	< 2	34
7.0 to 7.5	23.2	< 0.466	< 2	34

SB-3				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	460	22.1	734	1,480
3.0 to 3.5	43.0	1.58	< 2	115
5.0 to 5.5	221	13.6	< 2	119
7.0 to 7.5	38.9	0.934	< 2	277
9.0 to 9.5	--	< 0.480	3	--
11.0 to 11.5	--	1.15	3	--
13.0 to 13.5	--	< 0.413	< 2	--
14.5 to 15.0	--	< 0.414	< 2	--

SB-5				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	51.3	< 0.406	6	626
3.0 to 3.5	26.7	< 0.414	< 2	208
5.0 to 5.5	28.4	< 0.417	< 2	279
7.0 to 7.5	140	7.31	< 2	326

SB-7				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	334	23.6	239	2,180
3.0 to 3.5	467	15.2	321	1,730
5.0 to 5.5	543	16.3	5	159
7.0 to 7.5	167	8.70	< 2	149
9.0 to 9.5	--	1.17	4	146
11.0 to 11.5	--	11.3	30	326
13.0 to 13.5	--	0.877	< 2	122
14.5 to 15.0	--	0.540	< 2	240

SB-6				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	1,130	934	3,120	2,690
3.0 to 3.5	153	1.80	< 2	96
5.0 to 5.5	679	15.5	2	125
7.0 to 7.5	556	12.7	< 2	102
9.0 to 9.5	--	4.28	< 7	607
11.0 to 11.5	--	8.83	38	223
13.0 to 13.5	--	0.919	< 2	276
14.5 to 15.0	--	1.25	< 2	175

SB-9				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	955	15.0	357	1,780
3.0 to 3.5	143	4.10	3	65
5.0 to 5.5	257	11.0	5	66
7.0 to 7.5	59.7	3.24	< 2	100
9.0 to 9.5	--	--	3	104
11.0 to 11.5	--	--	4	84
13.0 to 13.5	--	--	2	74
14.5 to 15.0	--	--	2	84

SB-11				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	51.5	< 0.424	37	970
3.0 to 3.5	26.6	< 0.416	< 2	438
5.0 to 5.5	26.7	< 0.422	< 2	306
7.0 to 7.5	670	11.9	2	257

SB-8				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	482	7.02	292	2,060
3.0 to 3.5	82.5	2.18	28	255
5.0 to 5.5	80.1	0.439	4	163
7.0 to 7.5	99.9	39.0	11	143
9.0 to 9.5	--	--	14	167
11.0 to 11.5	--	--	41	314
13.0 to 13.5	--	--	39	359
14.5 to 15.0	--	--	3	184

SB-12				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	63.2	< 0.414	16	499
3.0 to 3.5	29.4	< 0.415	< 2	65
5.0 to 5.5	34.8	< 0.410	2	93
7.0 to 7.5	744	10.7	< 2	171

SB-10				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	428	15.4	275	2,190
3.0 to 3.5	92.7	4.55	2	65
5.0 to 5.5	107	5.19	3	62
7.0 to 7.5	172	4.32	5	162
9.0 to 9.5	--	--	5	105
11.0 to 11.5	--	--	28	223
13.0 to 13.5	--	--	2	91
14.5 to 15.0	--	--	2	69

SB-13				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	148	< 0.421	40	834
3.0 to 3.5	34.2	< 0.413	< 2	63
5.0 to 5.5	30.3	< 0.419	< 2	135
7.0 to 7.5	431	7.67	< 7	568

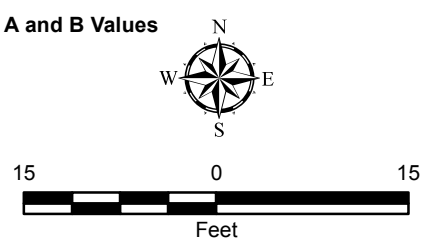
SB-14				
Depth (feet bgs)	Chromium	Hexavalent Chromium	Lead	Nickel
0.5 to 1.0	343	< 0.431	70	904
3.0 to 3.5	43.5	0.794	< 2	133
5.0 to 5.5	102	3.00	10	145
7.0 to 7.5	198	3.23	< 2	3,010
9.0 to 9.5	--	--	--	138
11.0 to 11.5	--	--	--	138
13.0 to 13.5	--	--	--	110
14.5 to 15.0	--	--	--	127

MW-1s Groundwater Monitoring Well Location and Number
 SB-3 Boring Location and Number

Property Boundary
 Historical Site Features

Proposed Excavation Depths
 Excavate to 2.5 ft bgs
 Excavate to 5.0 ft bgs
 Excavate to 9.0 ft bgs
 Excavate to 13.0 ft bgs

Soil Cleanup Levels Using MTCA Method A and B Values Protective of Direct Contact (mg/kg)
 Total Chromium 2,000¹
 Chromium VI 19
 Lead 250
 Nickel 1,600²



¹Cleanup Level for Chromium III
²Cleanup Level for Nickel Salts

Results reported in milligrams per kilograms (mg/kg).
 Bold results indicate detection of analyte.
 Shaded results indicate exceedances of MTCA cleanup levels.

Data Source: Aerial image base from Google Earth Pro
 Historical site features from Landau Associates, Historical Electroplating Operations, Figure 3, November 7, 2005.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes:
 1. The locations of all features shown are approximate.
 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Remedial Alternative 2 - Soil Excavation to Cleanup Levels Using MTCA Method A and B Values Protective of Direct Contact

Former Aladdin Plating Facility
 Tacoma, Washington



Figure 16

APPENDIX A

Investigation Logs

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS	
			GRAPH	LETTER		
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS <small>(LITTLE OR NO FINES)</small>		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES	
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES	
	SAND AND SANDY SOILS	CLEAN SANDS <small>(LITTLE OR NO FINES)</small>	SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
			CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>	SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SW	WELL-GRADED SANDS, GRAVELLY SANDS
			CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SP	POORLY-GRADED SANDS, GRAVELLY SAND
FINE GRAINED SOILS	SILTS AND CLAYS	SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SM	SILTY SANDS, SAND - SILT MIXTURES	
		CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SC	CLAYEY SANDS, SAND - CLAY MIXTURES	
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY	
	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
		LIQUID LIMIT GREATER THAN 50		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
		LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS	
SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50	LIQUID LIMIT GREATER THAN 50		CH	INORGANIC CLAYS OF HIGH PLASTICITY	
		LIQUID LIMIT GREATER THAN 50		OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY	
	HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

Sampler Symbol Descriptions

	2.4-inch I.D. split barrel
	Standard Penetration Test (SPT)
	Shelby tube
	Piston
	Direct-Push
	Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS		TYPICAL DESCRIPTIONS
GRAPH	LETTER	
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/Quarry Spalls
	TS	Topsoil/Forest Duff/Sod

Groundwater Contact



Measured groundwater level in exploration, well, or piezometer



Measured free product in well or piezometer

Graphic Log Contact



Distinct contact between soil strata or geologic units



Approximate location of soil strata change within a geologic soil unit

Material Description Contact



Distinct contact between soil strata or geologic units



Approximate location of soil strata change within a geologic soil unit

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
PPM	Parts per million
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)		Elevation (ft)
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS	
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					Graphic Log
0	60			1			SP-SM	Brown fine to coarse sand with silt	NS	<1	Wet soil observed at 7 feet during drilling
							SP	Light brown fine to coarse sand with trace silt			
				2			SM	Brown silty fine sand			
							SP	Light brown fine to coarse sand with trace silt and occasional fine gravel	NS	<1	
				3			SM	Brown silty fine sand			
5	60						SP	Light brown fine to coarse sand with trace silt and occasional fine gravel	NS	<1	
				4							
				5			ML	Brown silt			
							Rock	Gray/brown fractured rock	NS	<1	
10	48			6			SP	Brown sand with fine to coarse gravel and trace silt	NS	<1	
				7				Becomes fine to coarse sand with fine to coarse gravel			
				8			SP	Brown fine to coarse sand with occasional brick pieces			
15								Bottom of boring at 15 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB1



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-2
 Sheet 1 of 1

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)		Elevation (ft)
Notes:							See Remarks				

Elevation (feet)	FIELD DATA					Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing							
0	30			1			SM SP	Brown silty fine to coarse sand with fine to coarse gravel Brown fine to medium sand with occasional gravel	NS	<1		
	30			2			SP	Brown fine to coarse sand with fine to coarse gravel and trace silt	NS	<1		
5	48			3								
				4					NS	<1	Wet soil observed at 7 feet during drilling	
				5			ML SP	Brown silt Brown fine to medium sand with trace silt	NS	<1		
10	60			6			GP	Multi-colored gravel with fine to coarse sand	NS	<1		
				7			Brick SP	Brick pieces Brown fine to medium sand				
15				8					NS	<1		
Bottom of boring at 15 feet bgs												

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB2



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-3
 Sheet 1 of 1

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)		Elevation (ft)
Notes:							See Remarks				

Elevation (feet)	FIELD DATA					Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing							
0	48			1			SM	Brown silty fine to coarse sand with fine to coarse gravel	NS	<1		
				2			SP	Brown fine to coarse sand with fine to coarse gravel				
5	60			3					NS	<1		
				4								
				5			ML	Brown silt	NS	<1		
10	60			6			Cobble	Cobble				
				6			SP-SM	Brown fine to coarse sand with fine to coarse gravel and silt	NS	<1		
				7			GP	Gray gravel/cobble				
				7			SP	Brown fine to coarse sand with occasional fine to coarse gravel	NS	<1		
15				8								
Bottom of boring at 15 feet bgs												
Wet soil observed at 8 feet during drilling												

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB3



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

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Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing				
0			48					SP-SM	Brown fine to coarse sand with silt and occasional gravel	Wet soil observed at 7.5 feet during drilling
					1			SP	Brown fine to coarse sand with fine to coarse gravel and trace silt	
					2			Cobble	Cobbles with gravel	
					3			SP	Brown fine to coarse sand with fine to coarse gravel and trace silt	
5			60		4					
					5			SM/ML	Brown silty fine sand with some interbedded silt layers	
					6			SP	Brown fine to coarse sand with fine to coarse gravel	
10			60		7			GP	Multi-colored fractured gravel	
					8			SP	Brown fine to medium sand with occasional fine to coarse gravel	
15	Bottom of boring at 15 feet bgs									

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB4



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured		Depth to Water (ft)		Elevation (ft)		See Remarks
Notes:											

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS		
	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing					Water Level	Graphic Log
0			48		1			SM	Brown silty fine to coarse sand with occasional fine to coarse gravel	NS	<1	Wet soil observed at 7.5 feet during drilling
					2			SP	Brown fine to coarse sand with fine to coarse gravel and trace silt			
5			60		3							
					4					NS	<1	
					5			ML	Brown silt with occasional fine sand			
10			60		6			SP	Brown fine to coarse sand with fine to coarse gravel and trace silt	NS	<1	
					7			GP	Multi-colored crushed gravel (possible brick pieces)			
					8			SP	Brown fine to coarse sand	NS	<1	
15	Bottom of boring at 15 feet bgs											

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB5



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-6
 Sheet 1 of 1

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:							See Remarks				

Elevation (feet)	FIELD DATA					Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing							
0	48			1			GP-GM SP	Brown fine to coarse gravel with fine to coarse sand and silt Brown fine to coarse sand with fine to coarse gravel and trace silt				
				2					NS	<1		
5	60			3			ML SP	Red silt Brown fine to coarse sand with fine to coarse gravel and trace silt				
				4								
				5			ML	Brown silt				
10	60			6			SP	Brown fine to coarse sand with fine to coarse gravel				
				7			GP	Gray/brown crushed gravel	NS	<1		
				8			SP	Brown fine to coarse sand				
15								Bottom of boring at 15 feet bgs				
											Wet soil observed at 7.5 feet during drilling	

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB6



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-7
 Sheet 1 of 1

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)		Elevation (ft)
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					
0	60			1		o	GP-GM	Brown fine to coarse gravel with fine to coarse sand and silt			
				2		o	SP	Brown/red fine to coarse sand with fine to coarse gravel and trace silt			
5	60			3				Brown fine to medium sand with occasional fine to coarse gravel			
				4				Brown fine to coarse sand with occasional fine to coarse gravel	NS	<1	Wet soil observed at 7.5 feet during drilling
				5			ML	Brown silt			
10	60			6			SP	Brown fine to coarse sand with fine to coarse gravel			
				7				Grades to less gravel			
				8				Brown fine to coarse sand	NS	<1	
15								Bottom of boring at 15 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB7



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-8
 Sheet 1 of 1

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured		Depth to Water (ft)		Elevation (ft)		See Remarks
Notes:											

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS		
	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing					Water Level	Graphic Log
0			60		1			GP-GM SP	Brown fine to coarse gravel with silt and fine to coarse sand Brown fine to coarse sand with occasional fine gravel			
					2							
5			60		3							
					4							
					5			ML SP	Brown silt with occasional fine sand Brown fine to coarse sand with fine to coarse gravel	NS	<1	Wet soil observed at 7 feet during drilling
10			60		6							
					7					NS	<1	
					8							
15	Bottom of boring at 15 feet bgs											

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB8



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					
0		48			1		SP	Brown fine to coarse sand with fine to coarse gravel and trace silt	NS	<1	
					2		GP	Gray/brown fine to coarse gravel with fine to coarse sand			
5		60			3						
					4				NS	<1	Wet soil observed at 7 feet during drilling
					5		ML	Brown silt with occasional 1-inch lenses of fine to medium sand			
10		48			6		GP	Gray/brown fine to coarse gravel (some fractured) with fine to coarse sand			
					7		SM	Brown silty fine to coarse sand with fine to coarse gravel			
					8		SP	Brown fine to coarse sand with fine to coarse gravel and trace silt	NS	<1	
15	Bottom of boring at 15 feet bgs										

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB9



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\lib\template\GEOENGINEERS\GDT\GEB_ENVIRONMENTAL_STANDARD

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured		Depth to Water (ft)		Elevation (ft)		
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					
0		48		1			SP-SM	Brown sand with silt	NS	<1	
				2			SP	Brown fine to coarse sand with fine to coarse gravel and trace silt			
5		60		3			SP	Gray fine to coarse sand with occasional fine to coarse gravel			
				4			ML	Brown silt			
				4			SP	Brown fine to medium sand with occasional fine gravel (wet)	NS	<1	Wet soil observed at 6.5 feet during drilling
				5			ML	Brown silt			
10		60		5			GP	Crushed and fractured gravel			
				6			SP	Gray/brown fine to coarse sand with fine to coarse gravel			
				7					NS	<1	
15				8							
Bottom of boring at 15 feet bgs											

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB10



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00


Figure A-11
Sheet 1 of 1

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\Env\ENGINEERS\GDT\GEIB_ENVIRONMENTAL_STANDARD

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured		Depth to Water (ft)		Elevation (ft)		See Remarks
Notes:											

Elevation (feet)	FIELD DATA						Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing								
0		48		1				SM	Brown silty fine to coarse sand with fine to coarse gravel	NS	<1		
				2				SP	Gray/brown fine to coarse sand with fine to coarse gravel and trace silt				
5		60		3									
				4						NS	<1		
				5				ML	Brown silt				
10		60		6				SP	Brown fine to coarse sand with fine to coarse gravel and trace silt				
				7						NS	<1		
				8				GP	Crushed cobbles				
15								SP	Brown fine to coarse sand				
Bottom of boring at 15 feet bgs													
Notes: See Figure A-1 for explanation of symbols.													

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\Bib\Template:GEOENGINEERS_GDTYGEIB_ENVIRONMENTAL_STANDARD

Log of Boring SB11		
	Project: Former Aladdin Plating Facility	
	Project Location: Tacoma, Washington	
	Project Number: 0504-095-00	Figure A-12 Sheet 1 of 1

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)		Elevation (ft)
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS	
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					Graphic Log
0		36		1			SM	Brown silty fine to coarse sand with occasional fine to coarse gravel	NS	<1	
				2			SP	Gray/brown fine to coarse sand with fine to coarse gravel and trace silt			
5		60		3					NS	<1	
				4			SP-SM	Red/brown fine to coarse sand with occasional fine gravel and silt	NS	<1	Wet soil observed at 7 feet during drilling
				5			ML	Brown silt			
10		48		6			GP	Gray fine to coarse gravel with fine to coarse sand and trace silt			
				7					NS	<1	
				8			Cobble	Cobble			
15							SP	Brown fine to coarse sand with fine to coarse gravel			
Bottom of boring at 15 feet bgs											

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB12



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-13
 Sheet 1 of 1

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\lib\Template:GEOENGINEERS_GDT\GEIB_ENVIRONMENTAL_STANDARD

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)		Elevation (ft)
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					
0		48		1			SM	Brown silty fine to coarse sand with occasional fine to coarse gravel	NS	<1	Wet soil observed at 7 feet during drilling
				2			SP	Gray/brown fine to coarse sand with fine to coarse gravel and trace silt			
5		60		3				Becomes wet			
				4			ML	Brown silt			
				5			SP	Gray/brown fine to coarse sand (more coarse) with fine to coarse gravel and trace silt (not wet)	NS	<1	
10		60		6			GP	Gray fine to coarse gravel with fine to coarse sand			
				7			SP	Gray fine to coarse sand with fine to coarse gravel and trace silt	NS	<1	
15				8				Bottom of boring at 15 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB13



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\lib\template\GEOENGINEERS\GDT\GEB_ENVIRONMENTAL_STANDARD

Drilled	Start 3/24/2014	End 3/24/2014	Total Depth (ft)	15	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)		Elevation (ft)
Notes:							See Remarks				

Elevation (feet)	FIELD DATA						Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					
0		55		1			SM	Brown silty fine to coarse sand with fine to coarse gravel	NS	<1	
				2			SP	Gray fine to coarse sand with fine to coarse gravel and trace silt			
5		60		3							
				4					NS	<1	Wet soil observed at 6.5 feet during drilling
				5			ML	Brown silt			
10		40		6			GP	Gray fine to coarse gravel with fine to coarse sand	NS	<1	
				7			SP	Gray fine to coarse sand with fine to coarse gravel			
15				8			SP	Brown coarse sand with fine to coarse gravel	NS	<1	
Bottom of boring at 15 feet bgs											

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB14



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\lib\template.GEENGINEERS.GDT\GEIB_ENVIRONMENTAL_STANDARD

Drilled	Start 3/25/2014	End 3/25/2014	Total Depth (ft)	40	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:					3/24/2014		26.5				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
0	60						GP-GM	Brown gravel with silt		
							SM	Brown silty fine sand with occasional fine gravel		
							SP	Gray fine to coarse sand with fine to coarse gravel and trace silt	NS	<1
5	60						Cobble	Cobble		
							SP	Brown fine to coarse sand with occasional fine gravel	NS	<1
10	24						GP	Brown fine to coarse gravel with fine to coarse sand and trace silt		
							Cobble	Cobble No recovery		
15	60						SP-SM	Brown fine to coarse sand with silt and fine to coarse gravel		
							SP	Brown fine sand	NS	<1
20										

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB15



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

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Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS	
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					Graphic Log
20		60					SP	Brown fine to medium sand with occasional coarse gravel (moist)	NS	<1	
25		60						Becomes wet and lacks gravel	NS	<1	
30		60							NS	<1	
35		60							NS	<1	
40							GP	Brown fine to coarse gravel with fine to coarse sand			Bottom of boring at 40 feet bgs

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB15 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Drilled	Start 3/25/2014	End 3/25/2014	Total Depth (ft)	40	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured	Depth to Water (ft)	Elevation (ft)		
Notes:					3/25/2014		24.0				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
0	60					AC	Asphalt			
						SM	Brown silty fine to coarse sand with fine to coarse gravel			
						SP	Brown fine to coarse sand with occasional fine to coarse gravel			
5	60					ML	Brown silt	NS	<1	Wet soil observed at 6.5 feet during drilling
						GP	Gray fine to coarse gravel with cobbles and trace silt			
10	60					SP	Brown fine to medium sand with occasional fine gravel and trace silt	NS	<1	
						GP	Cobble (fractured)			
15	60					SP	Brown fine to medium sand with occasional fine gravel	NS	<1	
20										

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB16



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

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Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
20	60									
25	60						GP			Becomes wet
30	60									
35	60									
40							GP			Gray fine to coarse gravel with cobble Bottom of boring at 40 feet bgs

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB16 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-17
 Sheet 2 of 2

Drilled	Start 3/25/2014	End 3/25/2014	Total Depth (ft)	40	Logged By Checked By	PDR IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured	Depth to Water (ft)	Elevation (ft)		
Notes:							3/25/2014	27.0			

Elevation (feet)	FIELD DATA						Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Depth (feet)	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing							
0								AC	Asphalt				
		60						GP	Gray/brown fine to coarse gravel with fine to coarse sand and trace silt				
								SP	Brown fine to coarse sand with fine to coarse gravel and trace silt	NS	<1		
5		60						SP	Black fine to coarse gravel Gray fine to medium sand	NS	<1		
								ML	Brown silt				
								GP	Brown fine to coarse gravel with fine to coarse sand and trace silt	NS	<1		
10		60						SP	Brown fine to coarse sand with fine to coarse gravel and trace silt				
								GP	Fine to coarse gravel lense				
								SP	Brown fine to coarse sand				
15		60							Brown fine to medium sand	NS	<1		
20									Brown fine to medium sand	NS	<1		

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB17



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

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Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
20	60									
25	60					GP SP	Fine to coarse gravel/cobbles Brown fine to coarse sand with occasional fine to coarse gravel (wet)			
30	60						Gray/brown fine to medium sand	NS	<1	
35	60						Grades to fine sand			
40							Bottom of boring at 40 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB17 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-18
 Sheet 2 of 2

Drilled	Start 3/26/2014	End 3/26/2014	Total Depth (ft)	40	Logged By Checked By	BMB IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:					3/26/2014		22.4				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS	
	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing					Water Level
0			24					AC	Asphalt, concrete, bricks		
								SP-SM	Brownish gray silty fine sand (moist)	NS	<1
								GP	Brown fine to medium gravel with fine to coarse sand, trace silt (moist)		
5			45					SP	Gray fine to coarse sand with gravel, trace silt (moist)	NS	<1
10			35						Light brown fine sand, trace silt (moist)		
15			60					SP-SM	Gray fine to medium sand with silt and occasional gravel (moist)	NS	<1
								SP	Light brown fine to medium sand, trace silt (moist)		
20								GP	Brown fine to medium gravel with fine to coarse sand, trace silt (wet)		

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB18



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

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Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
20		48								
						SP	Brown fine to coarse sand, occasional gravel, trace silt (wet)	NS	<1	
25		48					Grayish brown fine to medium sand, trace silt (wet)	NS	<1	
30		60					Gray fine to medium sand, trace silt (wet)	NS	<1	
35		60				ML	Gray silt, occasional fine sand			
						SP	Grayish red fine to medium sand, trace silt (wet)			
						GP	Brown-gray fine to medium gravel with fine to coarse sand, trace silt (wet)			
40							Bottom of boring at 40 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB18 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-19
 Sheet 2 of 2

Drilled	Start 3/26/2014	End 3/26/2014	Total Depth (ft)	40	Logged By Checked By	BMB IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:					3/26/2014		22.0				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
0	40						AC	Asphalt, concrete, brick		
							SP	Gray to brown fine to medium sand, occasional gravel, trace silt (moist)	NS	<1
							ML	Gray silt with occasional fine sand		
5	48						GP	Gray fine to medium gravel with fine to coarse sand, trace silt (moist)		
							SP	Brown fine to coarse sand, occasional gravel, trace silt (moist)	NS	<1
10	60						GP	Gray fine to medium gravel with fine to coarse sand, trace silt (moist)		
							SP	Brown fine to medium sand, occasional gravel, trace silt (moist)		
15	60						GP	Brown fine to medium gravel with fine to coarse sand, trace silt (moist)	NS	<1
							SP	Brown fine to medium sand, occasional gravel, trace silt (moist)		
20								Cobble at 19.5 feet		

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB19



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

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Elevation (feet)	FIELD DATA						Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					
20	60						SM	Gray silty fine to coarse sand with gravel (moist)			
							GP	Brown fine to medium gravel with sand, trace silt (moist)	NS	<1	
							SP	Brown fine to medium sand, occasional gravel, trace silt (moist to wet)			
25	60						GP	Brown fine to medium gravel with sand, trace silt (wet)			
							SP	Gray fine to medium sand, occasional gravel, trace silt (wet)	NS	<1	
30	60						SP	Gray fine sand, trace silt (wet)			
							SP	Gray fine to medium sand, occasional gravel, trace silt (wet)			
35	60						GP	Brown fine to medium gravel with fine to coarse sand, trace silt (wet)	NS	<1	
40											Bottom of boring at 40 feet bgs

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB19 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-20
 Sheet 2 of 2

Drilled	Start 3/26/2014	End 3/26/2014	Total Depth (ft)	40	Logged By Checked By	BMB IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured	Depth to Water (ft)	Elevation (ft)		
Notes:					3/26/2014		21.6				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
0	48						AC	Asphalt, concrete, brick		
							GP	Gray fine gravel with sand, trace silt (moist)	NS	<1
							SP	Brown fine to coarse sand with gravel, trace silt (moist)		
5	30						GP	Gray fine to medium gravel with sand, trace silt ((moist)		
							SP	Brown fine to medium sand with occasional gravel, trace silt (moist)	NS	<1
							ML	Light reddish brown silt with fine sand (moist)		
10	60						SP	Gray fine to coarse sand with gravel, trace silt (moist)	NS	<1
								Brown fine to medium sand, occasional gravel, trace silt (moist)		
								Light brown fine sand, trace silt (moist)	NS	<1
15	48							Brown fine to medium sand, occasional gravel, trace silt (moist)		
								Light brown fine sand, trace silt (moist)		
								Brown fine to medium sand, occasional gravel, trace silt (moist)		
20										

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB20



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

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Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS	
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level					Graphic Log
20	60						SP-SM	Gray fine to medium sand with silt, with gravel	NS	<1	
							SP	Brown-gray fine to medium sand, occasional gravel, trace silt (moist)	NS	<1	
25	60							Gray fine sand, trace silt (wet)	NS	<1	
								Brown fine to coarse sand, occasional gravel, trace silt (wet)	NS	<1	
30	48							Gray fine to medium sand, occasional gravel, trace silt (wet)	NS	<1	
							ML	Gray silt, occasional fine sand (wet)			
35	60						SP	Gray fine sand, trace silt (wet)			
							GP	Brown fine to medium gravel, with fine to coarse sand, trace silt (wet)			
40								Bottom of boring at 40 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB20 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-21
 Sheet 2 of 2

Drilled	Start 3/27/2014	End 3/27/2014	Total Depth (ft)	35	Logged By Checked By	BMB IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured	Depth to Water (ft)	Elevation (ft)		
Notes:					3/27/2014		23.8				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
0		36					AC	Asphalt, concrete, brick		
							SP-SM	Reddish brown fine sand with silt, occasional gravel (moist)	NS	<1
							SP	Gray fine to medium sand, occasional gravel, trace silt (moist)		
5		48					ML	Mottled red and gray silt, occasional fine sand (moist)	NS	<1
							SP	Light brown fine to medium sand, occasional gravel, trace silt (moist)		
							GP	Light brown fine to medium gravel with fine to coarse sand, trace silt (moist)		
							SP	Brown fine to medium sand with gravel, trace silt (moist)		
10		60					SP-SM	Reddish-brown fine sand with silt (moist)		
							SP	Brown fine to medium sand, occasional gravel, trace silt (moist)		
								Cobble at 12.5 feet		
								Light brown fine sand, trace silt (moist)		
15		60					ML	Light brown silt, occasional fine sand (moist)		
							SP	Gray fine to medium sand, occasional gravel, trace silt (moist)		
							SP-SM	Reddish brown fine to medium sand with silt, occasional gravel (moist)		
							SP	Light brown fine sand, occasional gravel, trace silt (moist)		
20										

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB21



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\LIB\Template:GEOENGINEERS.GDT\GEB_ENVIRONMENTAL_STANDARD

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
20		60								
							Brown fine to medium sand, occasional gravel, trace silt (moist to wet)	NS	<1	
25		60					Gray fine to medium sand, occasional gravel, trace silt (wet)	NS	<1	
30		60					Gray fine sand, trace silt (moist)			
35							Bottom of boring at 35 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB21 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Drilled	Start 3/27/2014	End 3/27/2014	Total Depth (ft)	35	Logged By Checked By	BMB IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:					3/27/2014		24.0				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
0	36					AC	Asphalt, concrete, brick	NS	<1	
						GP	Gray fine to coarse gravel with sand, trace silt (moist)			
						SP	Brown fine to medium sand, occasional gravel, trace silt (moist)			
							Gray fine to medium sand, occasional gravel, trace silt (moist)			
5	60					ML	Mottled red and gray silt with fine to medium sand (moist)	NS	<1	
						SP	Cobble at 7.5 feet; Gray fine to medium sand, trace silt (moist)			
							Gray fine to coarse sand with gravel, trace silt (moist)			
10	60						Brown fine to medium sand, occasional gravel, trace silt (moist)	NS	<1	
						SP-SM	Gray fine to medium sand with silt, occasional gravel (moist)			
						GP	Brown fine gravel with sand, trace silt (moist)			
						SP	Brown fine to coarse sand, occasional gravel, trace silt (moist)			
							Brown fine sand, trace silt			
15	60							NS	<1	
20										

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB22



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\lib\Template:GEOENGINEERS.GDT\GEIB_ENVIRONMENTAL_STANDARD

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\LIB\Template:GEOENGINEERS.GDT\GEB_ENVIRONMENTAL_STANDARD

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
20		60								
							Gray fine to medium sand with silt, occasional gravel (moist)	NS	<1	
							Brown fine to medium sand, occasional gravel, trace silt (moist to wet)			
							Gray fine to medium sand, occasional gravel, trace silt (wet)			
25		60								
							Gray fine sand, trace silt (wet)	NS	<1	
							Gray fine sand, occasional gravel, trace silt (wet)			
							Gray fine sand, trace silt (wet)			
30		60								
							Gray fine sand, trace silt (wet)	NS	<1	
							Gray fine sand, trace silt (wet)			
35							Bottom of boring at 35 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB22 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-23
 Sheet 2 of 2

Drilled	Start 3/27/2014	End 3/27/2014	Total Depth (ft)	35	Logged By Checked By	BMB IY	Driller	Cascade Drilling	Drilling Method	Continuous			
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data			Drilling Equipment				Geoprobe-Track mounted	
Easting (X) Northing (Y)			System Datum		Groundwater			Date Measured		Depth to Water (ft)		Elevation (ft)	
Notes:								3/27/2014		22.6			

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS		
	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing					Water Level	Graphic Log
0			36					AC	Asphalt, concrete, brick			
								SP-SM	Brown fine to coarse sand with silt, occasional gravel (moist)	NS	<1	
								SP	Brown fine to medium sand, occasional gravel, trace silt (moist)			
5			40					ML	Mottled red and gray silt, occasional fine to medium sand (moist)	NS	<1	
								SP	Brown fine to medium sand, occasional gravel, trace silt (moist)			
10			40					SP-SM	Brown fine to coarse sand with silt, occasional gravel (moist)	NS	<1	
								SP	Brown fine to medium sand, occasional gravel, trace silt (moist)			
15			50					SM	Brown silty fine to medium sand, occasional gravel, trace silt (moist)	NS	<1	
									Brown fine to medium sand, trace silt (moist)			
20												

Notes: See Figure A-1 for explanation of symbols.

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Templates\lib\template:GEOENGINEERS.GDT\GEIB_ENVIRONMENTAL_STANDARD

Log of Boring SB23



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\LIB\Template\GEOENGINEERS.GDT\GEB_ENVIRONMENTAL_STANDARD

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
20		60								
							SP-SM	Brown fine to medium sand with silt (moist)	NS	<1
							SP	Gray fine to medium sand, occasional gravel, trace silt (moist)		
25		60							NS	<1
30		60								
								Gray fine sand, trace silt (wet)		
35										

Bottom of boring at 35 feet bgs

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB23 (continued)



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Figure A-24
 Sheet 2 of 2

Drilled	Start 3/27/2014	End 3/27/2014	Total Depth (ft)	35	Logged By Checked By	BMB IY	Driller	Cascade Drilling	Drilling Method	Continuous	
Surface Elevation (ft) Vertical Datum			Undetermined		Hammer Data		Drilling Equipment				Geoprobe-Track mounted
Easting (X) Northing (Y)			System Datum		Groundwater		Date Measured		Depth to Water (ft)	Elevation (ft)	
Notes:					3/27/2014		21.8				

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS		
	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing					Water Level	Graphic Log
0		30						AC	Asphalt, concrete, brick			
					NS			SP-SM	Brown fine to medium sand with silt, occasional gravel (moist)	<1		
								SP	Gray fine to medium sand, trace silt (moist)			
								ML	Gray silt, occasional fine sand (moist)			
5		30						SP	Gray fine to medium sand, trace silt (moist)			
								ML	Dark brown silt, occasional fine sand (moist)			
								SP	Gray fine to medium sand, occasional gravel, trace silt (moist)			
10		48			NS			ML	Brown fine to medium sand, occasional gravel, trace silt (moist)	<1		
								ML	Light brown silt, occasional fine sand			
								SP	Brown fine to medium sand, occasional gravel, trace silt (moist)			
								ML	Gray silt, occasional fine sand (moist)			
15		60						SP	Brown fine to medium sand, occasional gravel, trace silt (moist)			
									Brown fine to medium sand, trace silt (moist)			
20												

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB24



Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\lib\template:GEOENGINEERS.GDT\GEB_ENVIRONMENTAL_STANDARD

Seattle: Date: 5/14/14 Path: C:\USERS\KJ\ANCI\DESKTOP\050409500.GPJ_DB\Template\GeoENGINEERS.GDT\GEIB_ENVIRONMENTAL_STANDARD

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level				
20	60			NS				<1		
25	60						Brown fine to medium sand, occasional gravel, trace silt (moist) Gray fine to medium sand, occasional gravel, trace silt (wet)			
30	60			NS				<1		
35							Gray silt with fine sand (wet) Bottom of boring at 35 feet bgs			

Notes: See Figure A-1 for explanation of symbols.

Log of Boring SB24 (continued)









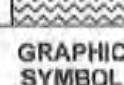


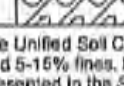
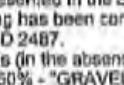
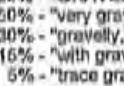
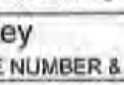





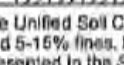
Project: Former Aladdin Plating Facility
 Project Location: Tacoma, Washington
 Project Number: 0504-095-00

ATTACHMENT 1

Boring Logs

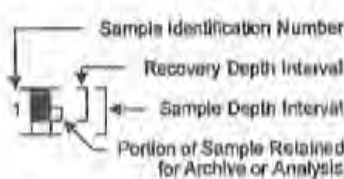
Soil Classification System

	MAJOR DIVISIONS	USCS GRAPHIC LETTER SYMBOL SYMBOL ⁽¹⁾	USCS GRAPHIC LETTER SYMBOL SYMBOL ⁽¹⁾	TYPICAL DESCRIPTIONS ⁽²⁾⁽³⁾	
COARSE-GRAINED SOIL <small>(More than 50% of material is larger than No. 200 sieve size)</small>	GRAVEL AND GRAVELLY SOIL <small>(More than 50% of coarse fraction retained on No. 4 sieve)</small>	CLEAN GRAVEL <small>(Little or no fines)</small>		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES <small>(Appreciable amount of fines)</small>		GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
	SAND AND SANDY SOIL <small>(More than 50% of coarse fraction passed through No. 4 sieve)</small>	CLEAN SAND <small>(Little or no fines)</small>		GM	Silty gravel; gravel/sand/silt mixture(s)
			CLAYEY GRAVEL; GRAVEL/SAND/CLAY MIXTURE(S)		GC
		SAND WITH FINES <small>(Appreciable amount of fines)</small>		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
FINE-GRAINED SOIL <small>(More than 50% of material is smaller than No. 200 sieve size)</small>	SILT AND CLAY <small>(Liquid limit less than 50)</small>		SM	Silty sand; sand/silt mixture(s)	
			SC	Clayey sand; sand/clay mixture(s)	
			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity	
	SILT AND CLAY <small>(Liquid limit greater than 50)</small>		CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay	
			OL	Organic silt; organic, silty clay of low plasticity	
			MH	Inorganic silt; micaceous or diatomaceous fine sand	
			CH	Inorganic clay of high plasticity; fat clay	
		OH	Organic clay of medium to high plasticity; organic silt		
	PT	Peat; humus; swamp soil with high organic content			

OTHER MATERIALS	USCS GRAPHIC LETTER SYMBOL SYMBOL	TYPICAL DESCRIPTIONS	
PAVEMENT		AC or PC	Aphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

- Notes: 1. USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., MU/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)* outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the *Standard Test Method for Classification of Soils for Engineering Purposes*, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:
- Primary Constituents: > 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
 - Secondary Constituents: > 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.
 - > 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.
 - Additional Constituents: > 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.
 - ≤ 5% - "trace gravel," "trace sand," "trace silt," etc., or not noted.

Drilling and Sampling Key		Field and Lab Test Data	
SAMPLER TYPE	SAMPLE NUMBER & INTERVAL	Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon	PP = 1.0	Pocket Penetrometer, tsf
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon	TV = 0.5	Torvane, tsf
c	Shelby Tube	PID = 100	Photoionization Detector VOC screening, ppm
d	Grab Sample	W = 10	Moisture Content, %
e	Single-Tube Core Barrel	D = 120	Dry Density, pcf
f	Double-Tube Core Barrel	-200 = 60	Material smaller than No. 200 sieve, %
g	Other - See text if applicable	GS	Grain Size - See separate figure for data
1	300-lb Hammer, 30-inch Drop	AL	Atterberg Limits - See separate figure for data
2	140-lb Hammer, 30-inch Drop	GT	Other Geotechnical Testing
3	Pushed	CA	Chemical Analysis
4	Rotasonic		
5	Air Rotary (Rock)		
6	Wash Rotary (Rock)		
7	Other - See text if applicable		



Groundwater

▽ ATD Approximate water elevation at time of drilling (ATD) or on date noted. Groundwater levels can fluctuate due to precipitation, seasonal conditions, and other factors.

6/6/07 \\MED\DATA\PROJECTS\54\001\F2\REF\WTR\WELLCD-105-9001.GPJ - SOIL CLASS SHEET

MW1s

SAMPLE DATA						SOIL PROFILE		GROUNDWATER		
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger		Monitoring Well Detail	
							Ground Elevation (ft): 240.49			
0	1	a1	13	0		SM	Brown, silty, gravelly, fine to medium SAND, no odor, no sheen (loose to medium dense, moist) (fill)			
5	2	a1	47	0		SP	Brown, gravelly, fine to medium SAND with trace silt and trace wood fragments, no odor, no sheen (dense, damp to dry)			
10	3	a1	85	0		SP-SM	Brown, gravelly, fine to medium SAND with silt, no odor, no sheen (dense, moist) (outwash) @ 10 ft: becomes very dense			
15	4	a1	50/6"	0		SP	Brown, fine to medium SAND with trace silt, no odor, no sheen (very dense, damp) (advance outwash)			
20	5	a1	50/5"	0						
25	6	a1	86	0						
30	8	a1	50/6"	0						

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 669

934001.10 6/8/07 NEDMDATA\PROJECTS\934001\FILER\MTWELLCO-11934001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW1s

Figure
A-2
(1 of 2)

MW1s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER				
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): <u>240.49</u>	Water Level	Monitoring Well Detail	
30	9	a1	50/ 6"	0		SP	Brown, fine to medium SAND with trace silt, no odor, no sheen (very dense, damp) (advance outwash) @ 30: ft fining with depth (wet)	ATD			
35											
40	10	a1	50/ 6"	0							
Boring Completed 11/16/05 Total Depth of Boring = 42.0 ft.							Monitoring Well Completed 11/16/05 Total Depth of Monitoring Well = 42.3 ft.				
45											
50											
55											
60											

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 669

934001.10 6/8/07 \\EDM\DATA\PROJECTS\934001\FILER\MW1WELLCO-1\934001.GPJ WELL LOG

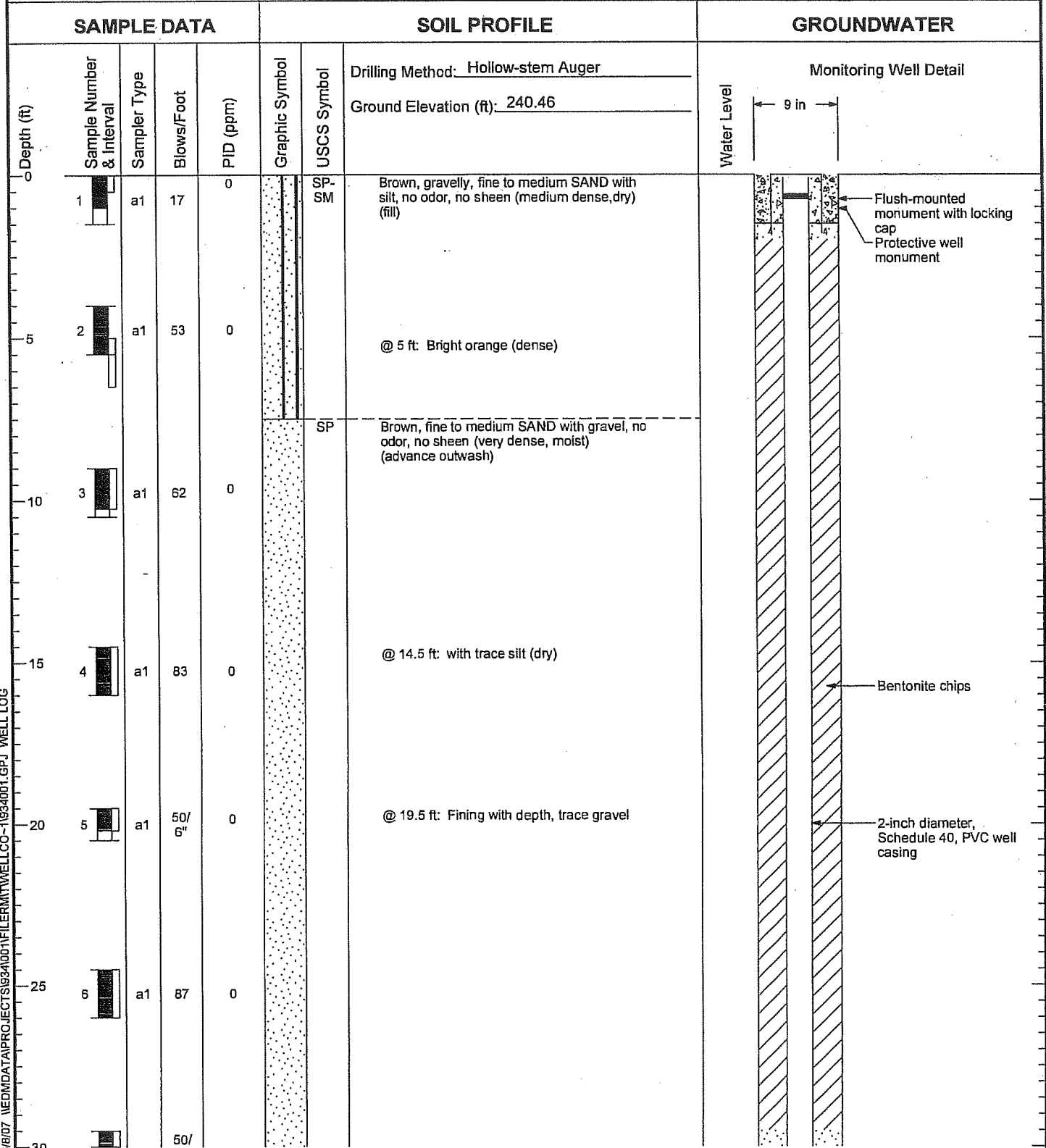


Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW1s

Figure
A-2
(2 of 2)

MW2s



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 673

934001.1D 6/9/07 \\EDM\DATA\PROJECTS\1934\101\FILER\MITWELLCO-1934\001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW2s

Figure
A-3
(1 of 2)

MW2s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER			
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): <u>240.46</u>	Water Level	Monitoring Well Detail
30	8	a1	6"	0		SP	@ 29.5 ft: light brown with faint oxidation laminations Brown, fine to medium SAND with gravel, no odor, no sheen (very dense, moist) (advance outwash)	@ 34.5 ft: light gray		2/12 Silica Sand Pack 2-inch diameter, Schedule 40, PVC screen (0.020-inch slot size) Threaded end cap
35	9	a1	50/6"	0						
40	10	a1	50/6"	0						

Boring Completed 11/16/05
 Total Depth of Boring = 42.0 ft.

Monitoring Well Completed 11/16/05
 Total Depth of Monitoring Well = 41.9 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 673

934001.10 6/8/07 \\IEDM\DATA\PROJECTS\934001\FILER\MTWELLCO-1934001.GPJ WELL LOG



Former Aladdin Plating Facility
 Tacoma, Washington

Log of Monitoring Well MW2s

Figure

A-3
 (2 of 2)

MW3s

SAMPLE DATA					SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger	Monitoring Well Detail	
							Ground Elevation (ft): 240.32	Water Level	9 in
0	464400	d4	10	0		SP-SM	Brown, gravelly, fine to medium SAND with silt, no odor, no sheen (loose, moist) (outwash)		
5	464401	a1	10	0			@ 5 ft: medium dense		
10	464402	a1	14	0			@ 10 ft: Brown with trace oxidation staining.		
15	464403	a1	50/6"	0		SP	Brown, fine to medium SAND with trace silt, no odor, no sheen (very dense, damp) (advance outwash)		Bentonite chips
20	464404	a1	50/6"	0			@ 20 ft: with trace gravel		2-inch diameter, Schedule 40, PVC well casing
25	464405	a1	50/5"	0					
30	464406	a1	50/4"	0					

594001.10 6/16/07 MEDMATA\PROJECTS\934001\FILER\MTTWELLCO-11934001.GPJ WELL LOG

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 670



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW3s

Figure
A-4
(1 of 2)

MW3s

SAMPLE DATA					SOIL PROFILE			GROUNDWATER		
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger		Monitoring Well Detail	
							Ground Elevation (ft): 240.32			
30	464407	a1	50/2"	0	[Dotted pattern]	SP	Brown, fine to medium SAND with trace silt, no odor, no sheen (very dense, damp) (advance outwash) @ 31: Light gray (wet)		ATD	[Well diagram]
	464408	a1	50/5"	0						
	464409	a1	50/6"	0						
35	464410	a1	50/5"	0	[Vertical lines]	SM	@ 35 ft: faint oxidation laminations. Light brown, silty, fine to medium SAND, no odor, no sheen (very dense, wet)		[Well diagram]	[Well diagram]
	464411	a1	50/3"	0						
40	464412	a1	50/5"	0						
					[Vertical lines]	ML	Brown-orange, non-plastic SILT, no odor, no sheen, homogenous (very stiff to hard, damp)		[Well diagram]	[Well diagram]
					[Circles]	GP	Gray, rounded, sandy, fine GRAVEL with trace silt, no odor, no sheen (medium dense, wet)		[Well diagram]	[Well diagram]
45	464413	a1	50/4"	0						
					[Dotted pattern]	SP	Gray, fine to medium gravelly SAND with trace silt, no odor, no sheen (very dense, wet)		[Well diagram]	[Well diagram]
50	464414	a1	50/6"	0						

Boring Completed 11/16/05
Total Depth of Boring = 55.0 ft.

Monitoring Well Completed 11/14/05
Total Depth of Monitoring Well = 40.3 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 670

934001.10 6/8/07 (EDM)DATA\PROJECTS\9341001\FILLER\MW3\WELLCO-1934001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW3s

Figure
A-4
(2 of 2)

MW4d

SAMPLE DATA					SOIL PROFILE			GROUNDWATER		
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>		Monitoring Well Detail	
							Ground Elevation (ft): <u>240.75</u>		Water Level	9 in
0	464422	a1	10	0	[Symbol]	SM	Brown, silty, gravelly, fine to medium SAND, no odor, no sheen (loose to medium dense, moist) (fill)		[Diagram]	[Diagram]
5	464416	a1	2	0	[Symbol]	SP-SM				
10	464417	a1	13	0	[Symbol]		@ 15 ft: becomes very dense		[Diagram]	[Diagram]
15	464418	a1	63	0	[Symbol]	SP				
20	464419	a1	50/ 6"	0	[Symbol]		2-inch diameter, Schedule 40, PVC well casing		[Diagram]	[Diagram]
25	464420	a1	50/ 4"	0	[Symbol]					
30										

93-001-10 6/6/07 11EDMDATA\PROJECTS\93-001\FILER\MTWELLCO-11934001.GPJ WELL LOG

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 671



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW4d

Figure
A-5
(1 of 3)

MW4d

SAMPLE DATA					SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger		Water Level
							Ground Elevation (ft): 240.75		
30	464421	a1	50/4"	0		SP	Brown, fine to medium SAND with trace silt, no odor, no sheen (very dense, damp) (advance outwash) @ 30: ft fining with depth (wet)		
35	464423	a1	50/5"	0			@ 35 ft: faint oxidation laminations.		
40	464424	a1	50/6"	0		ML	Brown-orange, non-plastic SILT, no odor, no sheen, homogenous (very stiff to hard, damp)		
45						GP	Gray, rounded, sandy, fine GRAVEL with trace silt, no odor, no sheen (medium dense, wet)		
50	464425	a1	50/6"	0					
55	464426	a1	50/5"	0		SP	Gray, fine to medium SAND with trace gravel, no odor, no sheen (dense, wet)		
60									

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 671

934001.10 6/9/07 \\EDM\DATA\PROJECTS\934001\FILER\MITWELLCO--1934001.GPJ WELL LOG



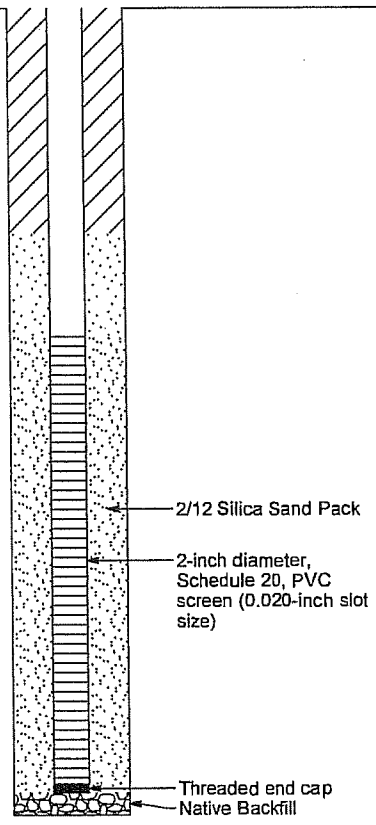
Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW4d

Figure
A-5
(2 of 3)

MW4d

SAMPLE DATA					SOIL PROFILE		GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger	Ground Elevation (ft): 240.75
60						SM	Monitoring Well Detail	Water Level
65	464427	a1	50/ 2"	0		Brown with trace orange staining, silty, fine to medium SAND, no odor, no sheen (very dense, wet)		
70	464428	a1	50/ 3"	0		Gray, very silty, subrounded to subangular GRAVEL, no odor, no sheen (very dense, wet)		
75	464429	a1	50/ 6"	0		Black with trace red grains, fine to medium SAND with trace silt, no odor, no sheen (very dense, wet)		



Boring Completed 11/14/05
Total Depth of Boring = 80.0 ft.

Monitoring Well Completed 11/15/05
Total Depth of Monitoring Well = 77.5 ft.

934001.10 6/8/07 \\IEDM\DATA\PROJECTS\934001\FILER\MITWELLCO-1934001.GPJ WELL LOG

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 671



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW4d

Figure
A-5
(3 of 3)

MW4s

SAMPLE DATA				SOIL-PROFILE		GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol
				Drilling Method: <u>Hollow-stem Auger</u>		Monitoring Well Detail
				Ground Elevation (ft): <u>240.36</u>		
0					SM	Brown, silty, gravelly, fine to medium SAND, no odor, no sheen (loose to medium dense, moist) (fill) *samples not collected; lithology inferred from MW-4d*
5					SP-SM	Brown, gravelly, fine to medium SAND with silt, no odor, no sheen (loose, moist) (outwash) *samples not collected; lithology inferred from MW-4d*
10						
15						
20					SP	Brown, fine to medium SAND with trace silt, no odor, no sheen (very dense, damp) (advance outwash) *samples not collected; lithology inferred from MW-4d*
25						
30						

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 672

934001.10_6/8/07_IEDMIDATA\PROJECTS\934\001\FILER\MW\WELLCO-1934001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW4s

Figure
A-6
(1 of 2)

MW4s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER			
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): <u>240.36</u>	Water Level	Monitoring Well Detail
30						SP	Brown, fine to medium SAND with trace silt, no odor, no sheen (very dense, damp) (advance outwash)		▽ ATD	<p style="font-size: small;">2/12 Silica Sand Pack</p> <p style="font-size: small;">2-inch diameter, Schedule 40, PVC screen (0.020-inch slot size)</p> <p style="font-size: small;">Threaded end cap</p>
35							<p>*samples not collected; lithology inferred from MW-4d*</p> <p>@ 30: ft fining with depth (wet)</p> <p>@ 35 ft: faint oxidation laminations.</p>			
40										

Boring Completed 11/15/05
Total Depth of Boring = 40.0 ft.

Monitoring Well Completed 11/15/05
Total Depth of Monitoring Well = 40.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APN 672

934001.10 6/8/07 \MEDMDATA\PROJECTS\934001\FILER\MW4S\LOG.GPJ WELL LOG



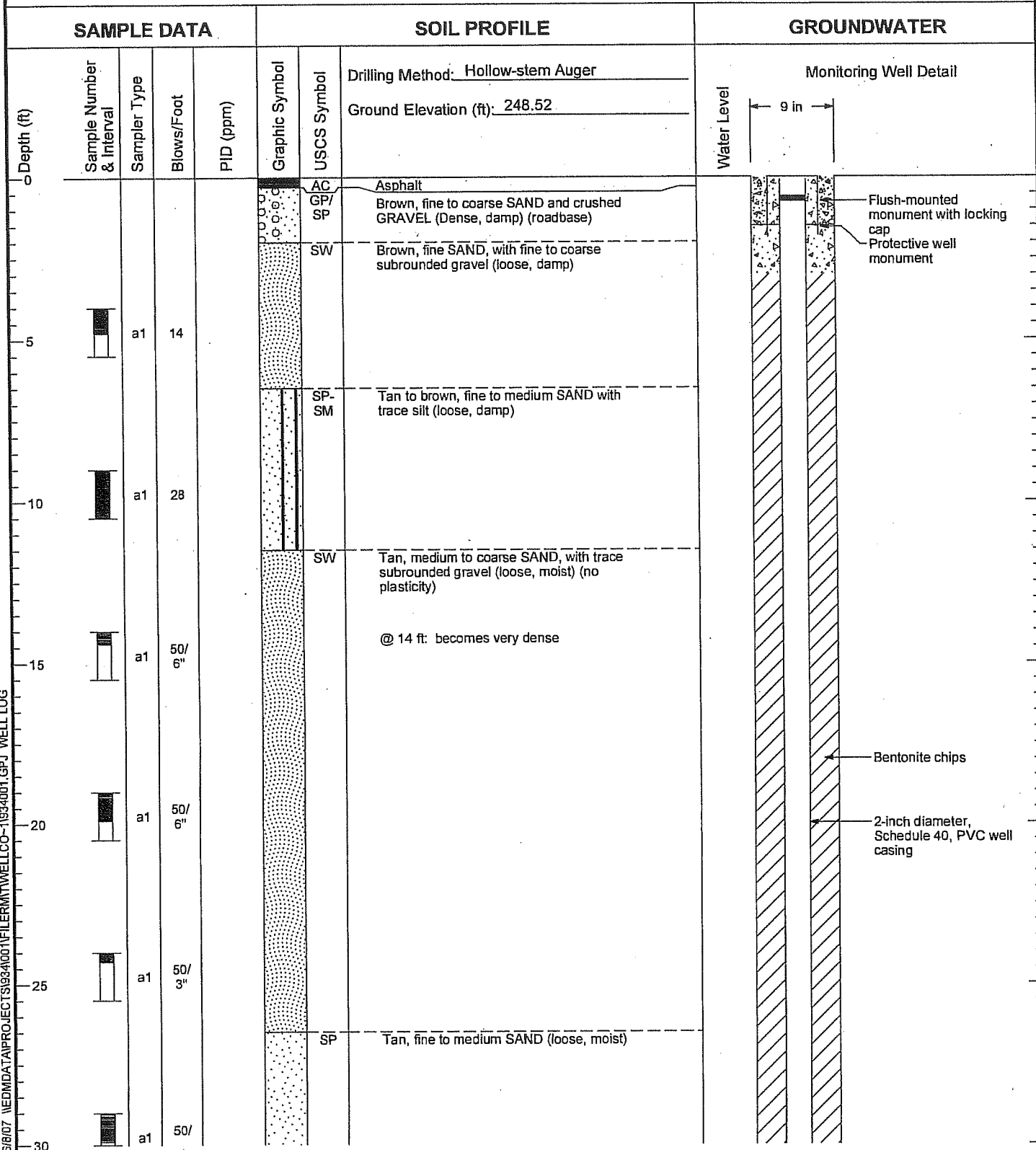
Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW4s

Figure

A-6
(2 of 2)

MW-5s



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 443

934001.30 6/6/07 \\EDM\DATA\PROJECTS\1934001\FILER\MITWELLCO-1\934001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-5s

Figure
A-7
(1 of 2)

MW-5s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER		
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Water Level	
							Ground Elevation (ft): <u>248.52</u>		Monitoring Well Detail
	30				SP		Tan, fine to medium SAND (loose, moist)		
	35	a1	50/1"		SP-SM		Tan, fine SAND, with medium sand, and trace silt (dense, moist)		
40	a1	50/6"		SP		Tan, fine SAND, with medium sand (dense, very moist)			
45							Threaded end cap		

Boring Completed 06/21/06
Total Depth of Boring = 45.0 ft.

Monitoring Well Completed 06/21/06
Total Depth of Monitoring Well = 45.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 443

934001_30 6/19/07 \\EDM\DATA\PROJECTS\934001\FILER\MITWELLCO-1894001.GPJ WELL LOG

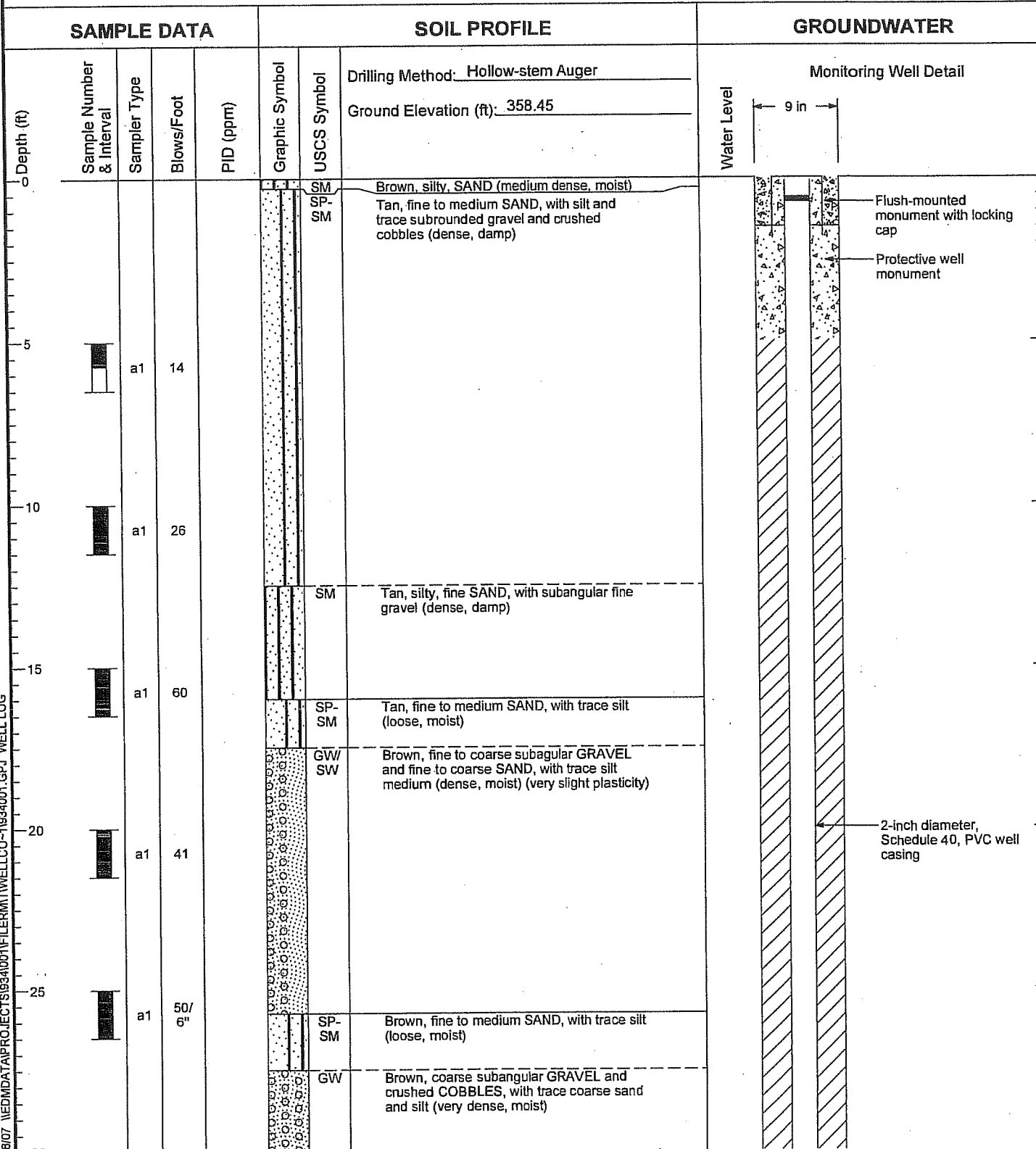


Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-5s

Figure
A-7
(2 of 2)

MW-6s



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 440

934001.30 6/6/07 \\EDMDATA\PROJECTS\934001\FILER\MITWELLCO-1934001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-6s

Figure

A-8
(1 of 6)

MW-6s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER			
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): <u>358.45</u>	Water Level	Monitoring Well Detail
30	a1	a1	50/ 6"		GW		Brown, coarse subangular GRAVEL and crushed COBBLES, with trace coarse sand and silt (very dense, moist)		Water Level	Monitoring Well Detail
35	a1	a1	50/ 6"		SW	Tan, fine to medium SAND, with coarse subangular gravel (dense, damp)				
40	a1	a1	50/ 6"							
45	a1	a1	50/ 6"							Bentonite chips
50	a1	a1	50/ 6"							
55	a1	a1	50/ 6"							
60	a1	a1	50/ 6"							

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 440

934001.30. 6/8/07. \EDM\DATA\PROJECTS\934\001\FILER\M\TWELLCO-1934001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-6s

Figure
A-8
(2 of 6)

MW-6s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Monitoring Well Detail	
							Water Level	
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>358.45</u>	
60			4"			SW		
						SP		
65		a1	50/ 1"					
70		a1	50/ 4"					
75		a1	50/ 2"					
80		a1	50/ 4"			SP- SM		
85		a1	50/ 3"			GP/ SW		
90		a1	50/					

994001.30 6/18/07 NEDMDATA\PROJECTS\9341001\FILLER\MTTWELLCO-11934001.GPJ WELL LOG

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 440



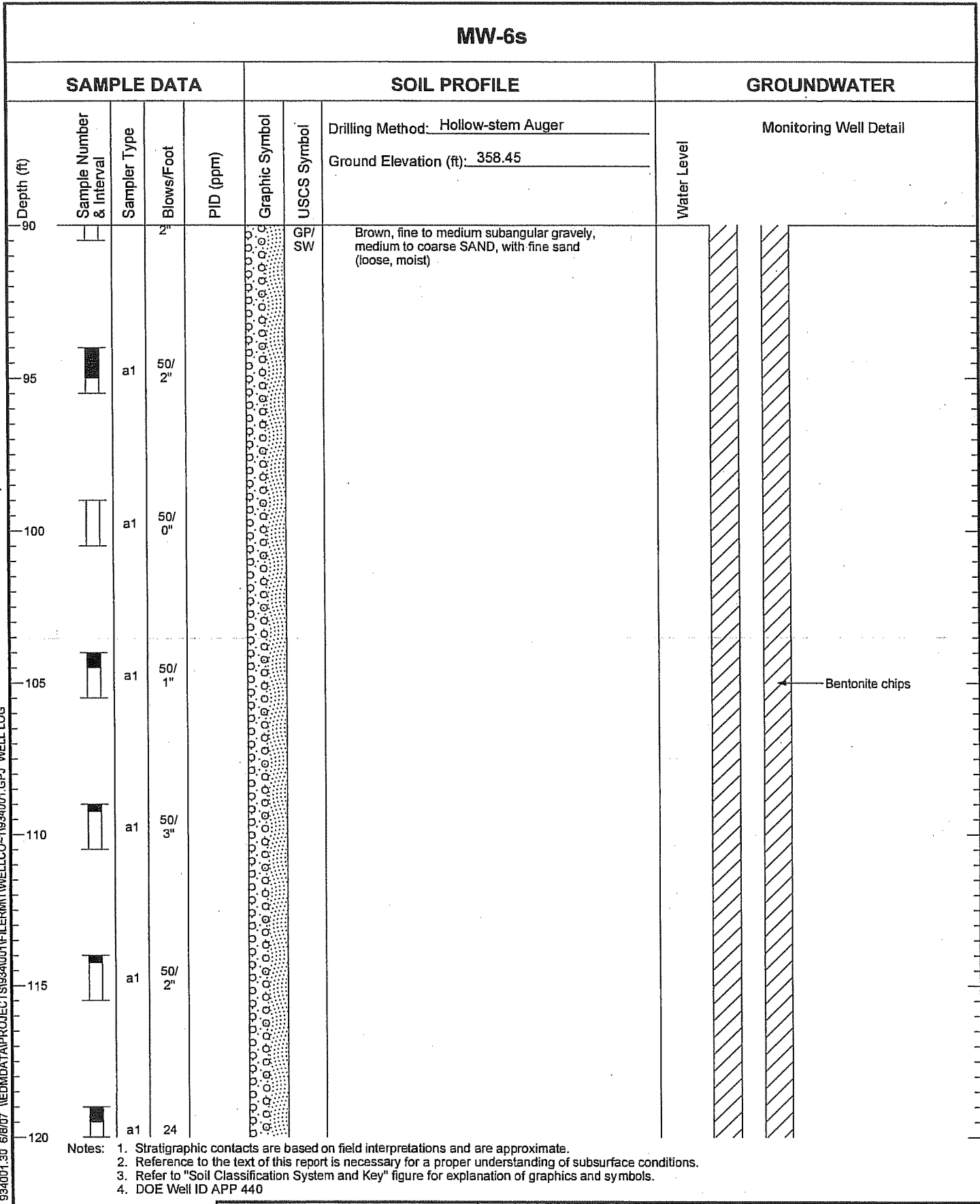
Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-6s

Figure

A-8
(3 of 6)

MW-6s



994001.30 6/8/07 WEDMATA\PROJECTS\994001\FILER\MTWELLCO-11934001.GPJ WELL LOG

- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 440

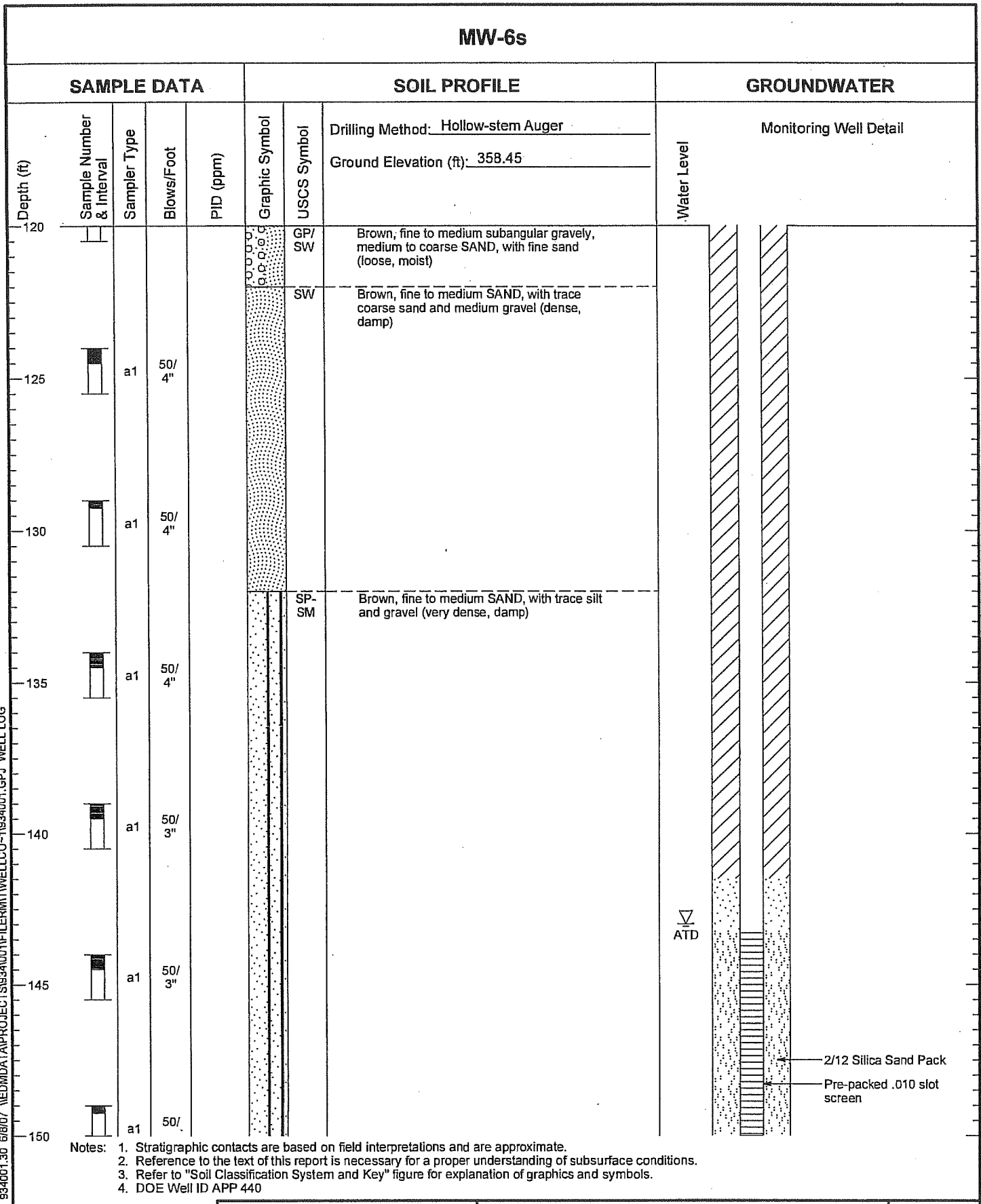


Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-6s

Figure
A-8
(4 of 6)

MW-6s



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 440

934001.30 6/8/07 IEDMBDATA\PROJECTS\934001\FILER\MW\WELL CO-1934001.GPJ WELL LOG



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-6s

Figure
A-8
(5 of 6)

MW-6s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER		
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Water Level	Monitoring Well Detail
			3"		SP-SM	Ground Elevation (ft): <u>358.45</u>			
150					[Graphic Symbol: Dotted pattern]	SP-SM	Brown, fine to medium SAND, with trace silt and gravel (very dense, damp)		[Monitoring Well Detail: Well casing with screen and threaded end cap]
155	Boring Completed 06/13/06 Total Depth of Boring = 153.5 ft.						Monitoring Well Completed 06/13/06 Total Depth of Monitoring Well = 153.5 ft.		
160									
165									
170									
175									
180									

934001.30 6/18/07 WEDMDATA\PROJECTS\934001\FILER\MTIWELLCO-11934001.GPJ WELL LOG

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 440



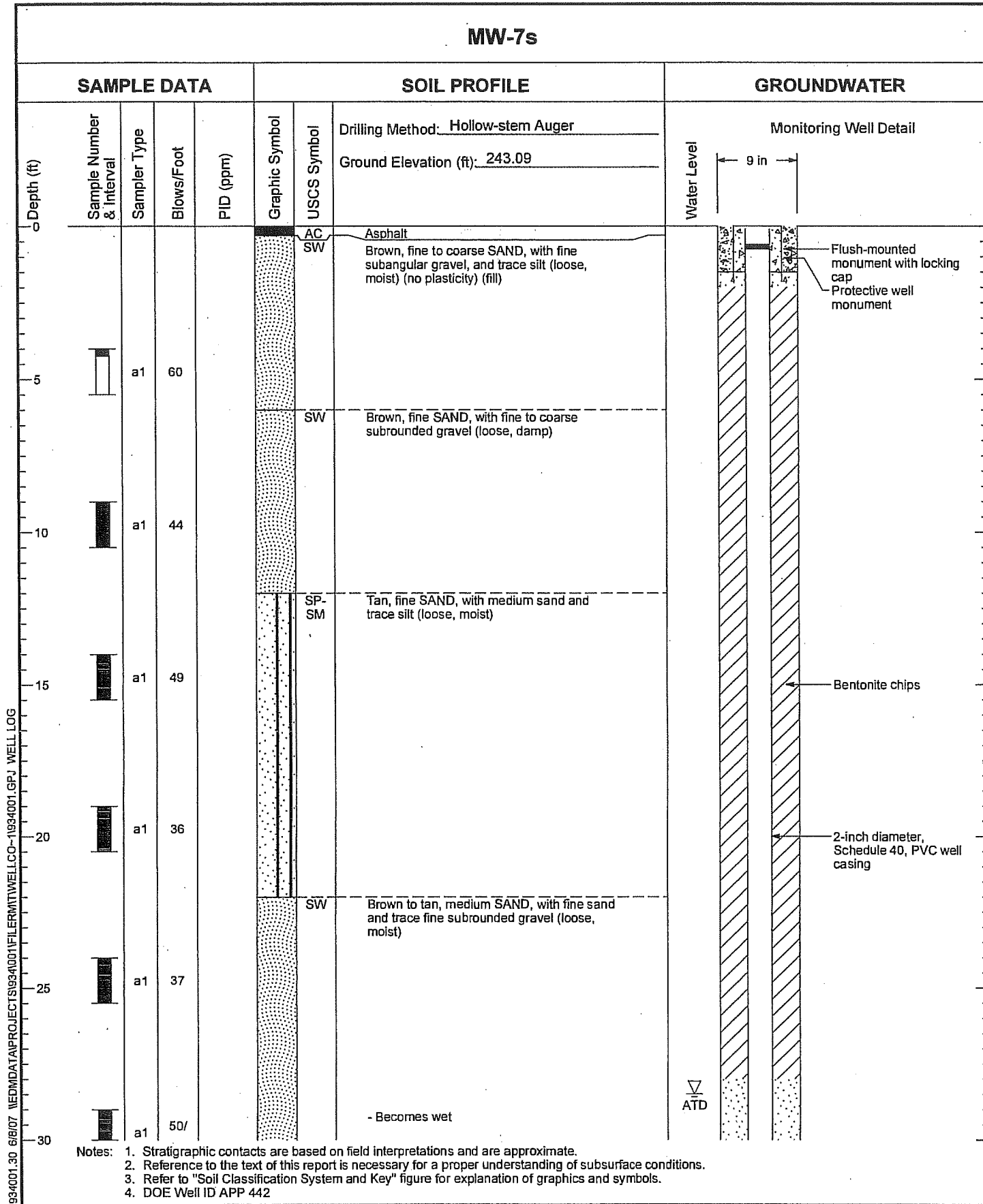
Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-6s

Figure

A-8
(6 of 6)

MW-7s



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 442



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-7s

Figure
A-9
(1 of 2)

MW-7s

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-stem Auger	Water Level
							Ground Elevation (ft): 243.09	
30	a1	50/ 1"	6"			SW	Brown to tan, medium SAND, with fine sand and trace fine subrounded gravel (loose, moist)	
35							- No sample collected; formational heave	2/12 Silica Sand Pack
40								2-inch diameter, Schedule 40, PVC screen (0.020-inch slot size)
								Threaded end cap

Boring Completed 06/21/06
Total Depth of Boring = 42.0 ft.

Monitoring Well Completed 06/21/06
Total Depth of Monitoring Well = 42.0 ft.

99-4001.30 6/18/07 NED\MDATA\PROJECTS\99-4001\FILER\MW\WELL-1934001.GPJ WELL LOG

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
 4. DOE Well ID APP 442



Former Aladdin Plating Facility
Tacoma, Washington

Log of Monitoring Well MW-7s

Figure

A-9
(2 of 2)

APPENDIX B

Field Procedures

APPENDIX B FIELD PROCEDURES

Underground Utility Locate

Prior to drilling activities, an underground utility locate was conducted in the area of the proposed boring locations to identify any subsurface utilities and/or potential underground physical hazards. An underground utility check consisting of contacting a local utility alert service and a private utility locating service was also performed.

Soil Sampling

Subsurface conditions at the Site were evaluated by completing 24 direct-push explorations using equipment owned and operated by Cascade Drilling of Woodinville, a Washington state-licensed drilling company.

Direct-push drilling was conducted using truck-mounted direct-push drilling equipment. Continuous soil cores were obtained from the direct-push borings using 2¼-inch diameter, 5-foot long stainless steel sampler rods driven with a pneumatic hammer. Soil samples were collected in clean, plastic 1½-inch diameter disposable liners. The liners were placed inside the sampling rod and then hydraulically driven or pushed into the soil at the selected sampling depth. Soil samples obtained from the direct push borings were collected from the sampler with a stainless steel knife or new gloves. The direct push sampler was driven a maximum of 48 inches using a pneumatic hammer. A portion of each sample was placed in laboratory-prepared sample jars for possible chemical analysis. The remaining portion of each sample was used for field screening. The sampling equipment was decontaminated prior to each use with an Alconox® wash and a clean water rinse. The direct push borings extended to a maximum depth of approximately 15 feet bgs. The sampling equipment was decontaminated before each sampling attempt with an Alconox® wash and a clean water rinse. Soil samples were obtained from continuous cores for field screening and possible chemical analysis.

A representative from our staff classified the soil encountered in each of the borings. Soil in the explorations was visually classified in general accordance with ASTM D 2488-94. The boring logs are presented in Figures A-2 through A-25.

Samples from each boring were selected for chemical analysis based the sample location relative to potential sources of contamination. Samples submitted for chemical analysis are shown on the logs. The soil samples were placed in a cooler with ice for transport to the laboratory. Standard chain-of-custody procedures were followed in transporting the soil samples to the laboratory.

Field Screening of Soil Samples

Soil samples obtained from the borings were screened in the field for evidence of contamination using 1) visual examination; 2) sheen screening; and/or 3) photo-ionization detector (PID). The results of headspace and sheen screening are included in the boring logs and in Table 1 for soil samples tested by chemical analysis.

Visual screening consists of inspecting the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons, such as motor oil or hydraulic oil, or when hydrocarbon concentrations are high. Sheen screening and headspace vapor screening are more sensitive methods that have been effective in detecting contamination at concentrations less than regulatory cleanup guidelines. Sheen screening

involves placing soil in a pan of water and observing the water surface for signs of sheen. Sheen classifications are as follows:

No Sheen (NS)	No visible sheen on water surface.
Slight Sheen (SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly.
Moderate Sheen (MS)	Light to heavy sheen, may have some color/iridescence; spread is irregular to flowing; few remaining areas of no sheen on water surface.
Heavy Sheen (HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening involves placing a soil sample in a plastic sample bag. Air is captured in the bag and the bag is shaken to expose the soil to the air trapped in the bag. The probe of a PID is inserted in the bag and the instrument measures the concentration of combustible vapor in the air removed from the sample headspace. The PID measures concentrations in ppm (parts per million) and is calibrated to isobutylene. The PID is designed to quantify combustible gas and organic vapor concentrations up to 2,500 ppm with a lower threshold of significance of 1 ppm in this application. Field screening results are site-specific and vary with soil type, soil moisture content, temperature and type of contaminant.

Drill cuttings and decontamination water generated during drilling activities were temporarily stored at the Site in labeled 55-gallon drums pending removal for offsite disposal at a licensed waste disposal facility.

Depth to Groundwater Measurements

The depth to groundwater was measured in the monitoring wells using an electric water level indicator. The depth to groundwater was measured relative to the top of the well casings. Water level measurement equipment was washed in a Liqui-Nox® solution, followed by a distilled water rinse prior to use in the well.

Groundwater Sample Collection and Handling

Groundwater samples were obtained from monitoring wells MW-1s through MW-7s and MW-4d from March 17 to March 21, 2014. Groundwater samples were obtained from temporary casing in soil borings SB-15 through SB-24 from March 25 to March 27, 2014. MW-1s through MW-7s and MW-4d from March 17 to March 21, 2014. Groundwater samples were obtained using a peristaltic pump, with the exception of well MW-6s, which required the use of a bladder pump. A Horiba U-22 water quality measuring system with flow-through cell was used to monitor the following water quality parameters during purging: temperature, pH, specific conductance, dissolved oxygen, redox potential, and turbidity. Groundwater samples were obtained once ambient groundwater conditions were reached. Groundwater conditions were considered ambient once the measured parameters varied by less than 10 percent on three consecutive measurements taken approximately 3 minutes apart, or until three well volumes of water were purged. The field measurements are documented in GeoEngineers field report and are available upon request.

Groundwater samples obtained were transferred to laboratory-prepared sample containers. Sample containers were filled to minimize headspace. The samples were placed in a cooler with ice pending transport to the analytical laboratory. Groundwater samples collected for laboratory analysis of dissolved nickel were collected in the field as unfiltered samples and submitted to the analytical laboratory for filtering prior to analysis. Chain-of-custody procedures were followed in transporting the samples to the laboratory.


APPENDIX C
Analytical Laboratory Reports

Table of Contents: ARI Job YC80

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

	Page From:	Page To:
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Chain of Custody Documentation	<u>2</u>	<u>5</u>
Case Narrative, Data Qualifiers, Control Limits	<u>6</u>	<u>10</u>
Metals Analysis		
Report and Summary QC Forms	<u>11</u>	<u>35</u>
General Chemistry Analysis		
Report and Summary QC Forms	<u>36</u>	<u>41</u>
Metals Raw Data		
Preparation Bench Sheets and Notes	<u>42</u>	<u>45</u>
Run Logs, Calibrations, and Raw Data	<u>46</u>	<u>115</u>
General Chemistry Raw Data		
Analyst Notes and Raw Data	<u>116</u>	<u>121</u>

Signature 

March-21-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

March 24, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YC80

Dear Ian:

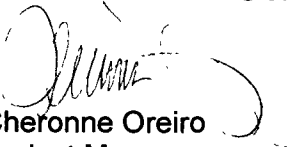
Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YC80

Enclosures

Chain of Custody Documentation

ARI Job ID: YC80

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 4280 Turn-around Requested: _____
 ARI Client Company: GeoEngineers Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No Containers
MW65-14031#	3/13	1730	LD	3
Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered				

Date: 3/13/14
 Page: 1 of 1
 No. of Coolers: 1 Cooler Temps: 2.8

Analysis Requested				Notes/Comments
Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C		
X	X	X		
Relinquished by (Signature)	Received by (Signature)			
Printed Name	Printed Name			
Company	Company			
Date & Time	Date & Time			

Comments/Special Instructions:
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by: Paul Robinette Signature: [Signature]
 Printed Name: Paul Robinette
 Company: GeoEngineers
 Date & Time: 3/14 955

Received by: A. Volgardson Signature: [Signature]
 Printed Name: A. Volgardson
 Company: ARI
 Date & Time: 3/14/14 955

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client Geoengineers

Project Name: Aladden Plating

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: XC80

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
 Time 955 2.8

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 9087795

Cooler Accepted by: AV Date: 3/14/14 Time: 955

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA
 Was Sample Split by ARI NA YES Date/Time 3/14/14 1005 Equipment: Hand Pour Split by: AV

Samples Logged by: AV Date: 3/14/14 Time: 1011

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

Split volume for hex Chrome from unfiltered D. metals.

By: AV Date: 3/14/14

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



ARI Job No: YC80
PC: Cheronne
VTSR: 03/14/14

Inquiry Number: NONE
Analysis Requested: 03/14/14
Contact: Leque, Garrett
Client: GeoEngineers
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #: 0504-095-00
Project: Aladdan Plating
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET DOC FLT FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY	
14-4321 YC80A	MW6s-140314						TOT DIS															
14-4322 YC80B	MW6s-140314						DIS											L2	MS-2	4ml	03/14/14	
14-4323 YC80C	MW6s-140314						DIS															

Filter Bin 616
CB
3/14/14

YC80 : 56605

Checked By AV Date 3/14/14

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YC80



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YC80

Sample Receipt

One water sample was received on March 14, 2014 under ARI job YC80. The cooler temperature measured by IR thermometer following ARI SOP was 2.8°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

As requested, the total metals analysis was cancelled on March 19, 2014.

Dissolved Metals by SW6010C

The sample and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters (Hexavalent Chromium)

The sample and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blank was clean at the reporting limit. The SRM percent recovery was within control limits.

The matrix spike and replicate RPD were within control limits.

Sample ID Cross Reference Report



ARI Job No: YC80
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW6s-140314	YC80A	14-4321	Water	03/13/14 17:30	03/14/14 09:55
2. MW6s-140314	YC80B	14-4322	Water	03/13/14 17:30	03/14/14 09:55
3. MW6s-140314	YC80C	14-4323	Water	03/13/14 17:30	03/14/14 09:55



Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	LCS RPD
Met Diss 6010C (EPA 6010C) in Water							
Preservation: pH<2; HNO ₃ , Cool <6°C							
Container: HDPE NM, 500 mL							
Amount Required: 500 mL				Hold Time: 180 days			
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120
Sodium-I	1.14	50.0 mg/L		20	75 - 125	20	80 - 120
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120



Spike Recovery Control Limits for Conventional Wet Chemistry		
Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YC80

Cover Page
INORGANIC ANALYSIS DATA PACKAGE



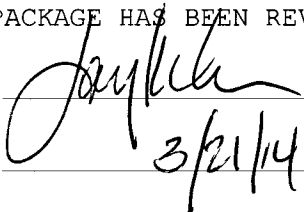
CLIENT: GeoEngineers
 PROJECT: Aladdan Plating
 SDG: YC80

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW6s-140314	YC80B	14-4322	
MW6s-140314D	YC80BDUP	14-4322	
MW6s-140314S	YC80BSPK	14-4322	
PBW	YC80MB2	14-4322	
LCSW	YC80MB2SPK	14-4322	
MW6s-140314	YC80C	14-4323	
MW6s-140314D	YC80CDUP	14-4323	
MW6s-140314S	YC80CSPK	14-4323	
PBW	YC80MB3	14-4323	
LCSW	YC80MB3SPK	14-4323	

Were ICP interelement corrections applied ? Yes/No YES
 Were ICP background corrections applied ? Yes/No YES
 If yes - were raw data generated before
 application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn
 Date: 3/21/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: MW6s-140314

SAMPLE

Lab Sample ID: YC80B

LIMS ID: 14-4322

Matrix: Water

Data Release Authorized: 

Reported: 03/21/14

QC Report No: YC80-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/13/14

Date Received: 03/14/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/17/14	6010C	03/20/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

**Sample ID: MW6s-140314
SAMPLE**

Page 1 of 1

Lab Sample ID: YC80C


QC Report No: YC80-GeoEngineers

LIMS ID: 14-4323

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: 03/13/14

Reported: 03/21/14

Date Received: 03/14/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/17/14	6010C	03/20/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/17/14	6010C	03/20/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW6s-140314
MATRIX SPIKE

Lab Sample ID: YC80B
LIMS ID: 14-4322
Matrix: Water
Data Release Authorized
Reported: 03/21/14



QC Report No: YC80-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/13/14
Date Received: 03/14/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Nickel	6010C	0.01 U	0.50	0.500	100%	

Reported in mg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: MW6s-140314
MATRIX SPIKE

Lab Sample ID: YC80C

LIMS ID: 14-4323

Matrix: Water

Data Release Authorized: 

Reported: 03/21/14

QC Report No: YC80-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/13/14

Date Received: 03/14/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.509	0.500	102%	
Lead	6010C	0.02 U	2.02	2.00	101%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
 Page 1 of 1

Sample ID: MW6s-140314
DUPLICATE

Lab Sample ID: YC80B
 LIMS ID: 14-4322
 Matrix: Water
 Data Release Authorized:
 Reported: 03/21/14



QC Report No: YC80-GeoEngineers
 Project: Aladden Plating
 0504-095-00
 Date Sampled: 03/13/14
 Date Received: 03/14/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met
 L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: MW6s-140314

DUPLICATE

Lab Sample ID: YC80C

LIMS ID: 14-4323

Matrix: Water

Data Release Authorized: 

Reported: 03/21/14

QC Report No: YC80-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/13/14

Date Received: 03/14/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Sample ID: LAB CONTROL

Page 1 of 1

Lab Sample ID: YC80LCS


QC Report No: YC80-GeoEngineers

LIMS ID: 14-4322

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 03/21/14

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Nickel	6010C	0.51	0.50	102%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YC80LCS

LIMS ID: 14-4323

Matrix: Water

Data Release Authorized: 

Reported: 03/21/14

QC Report No: YC80-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.528	0.500	106%	
Lead	6010C	2.07	2.00	104%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YC80MB


QC Report No: YC80-GeoEngineers

LIMS ID: 14-4322

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 03/21/14

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/17/14	6010C	03/20/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YC80MB


QC Report No: YC80-GeoEngineers

LIMS ID: 14-4323

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 03/21/14

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/17/14	6010C	03/20/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/17/14	6010C	03/20/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit



Calibration Verification

CLIENT: GeoEngineers
PROJECT: Aladdan Plating
SDG: YC80

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP032071	1000.0	1031.38	103.1	1000.0	1051.90	105.2	1025.11	102.5	1032.72	103.3	1035.20	103.5	1029.73	103.0
Lead	PB	ICP	IP032071	2000.0	1994.60	99.7	2000.0	2028.68	101.4	1978.78	98.9	1998.40	99.9	1996.19	99.8	1986.02	99.3
Nickel	NI	ICP	IP032071	1000.0	1007.08	100.7	1000.0	1028.26	102.8	1008.63	100.9	1022.73	102.3	1029.17	102.9	1019.31	101.9

Control Limits: Mercury 80-120; Other Metals 90-110

YC80 : 88826

Calibration Verification

CLIENT: GeoEngineers
 PROJECT: Aladdan Plating
 SDG: YC80



UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP032071	1000.0	1041.22	104.1										
Lead	PB	ICP	IP032071	2000.0	2005.81	100.3										
Nickel	NI	ICP	IP032071	1000.0	1033.52	103.4										

Control Limits: Mercury 80-120; Other Metals 90-110

1000 . 00024

CRDL Standard

CLIENT: GeoEngineers
PROJECT: Aladdan Plating
SDG: YC80



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP032071	5.0		5.21	104.2	5.73	114.6								
Lead	PB	ICP	IP032071	20.0		19.95	99.8	18.70	93.5								
Nickel	NI	ICP	IP032071	10.0		9.36	93.6	9.69	96.9								

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladdan Plating

SDG: YC80



UNITS:ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	ICB	CCB1	CCB2	CCB3	CCB4	CCB5	C
Chromium	CR	ICP	IP032071	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP032071	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP032071	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

YC80 . 00020

Calibration Blanks



CLIENT: GeoEngineers
PROJECT: Aladdan Plating
SDG: YC80

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP032071	10.0	5.0	5.0						U
Lead	PB	ICP	IP032071	3.0	20.0	20.0						U
Nickel	NI	ICP	IP032071	40.0	10.0	10.0						U

YC80 - 00027

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladdan Plating

RUNID: IP032071

SDG: YC80

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA IV	ICSAB IV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	199518.7	199530.6	99.8	194226.3	193493.8	96.7			
Antimony	1000	1000	-1.7	1028.5	102.9	-4.8	1003.2	100.3			
Arsenic	1000	1000	29.1	1044.8	104.5	28.5	1011.2	101.1			
Barium	1000	1000	0.5	1009.2	100.9	1.1	1021.0	102.1			
Beryllium	1000	1000	0.1	946.5	94.7	0.1	907.3	90.7			
Boron			-7.2	-7.8		-13.2	-8.8				
Cadmium	1000	1000	1.3	1043.5	104.4	1.3	1006.4	100.6			
Calcium	100000	100000	100393.5	100443.6	100.4	98722.7	98269.6	98.3			
Chromium	1000	1000	-0.2	1010.8	101.1	0.9	995.9	99.6			
Cobalt	1000	1000	3.1	968.4	96.8	2.7	952.4	95.2			
Copper	1000	1000	-0.4	1023.2	102.3	0.0	998.0	99.8			
Iron	200000	200000	192313.9	193701.4	96.9	183310.3	184627.6	92.3			
Lead	1000	1000	15.9	985.1	98.5	12.7	958.5	95.9			
Magnesium	100000	100000	102622.4	98417.2	98.4	99623.1	96477.3	96.5			
Manganese	1000	1000	-0.6	936.7	93.7	-0.5	897.0	89.7			
Molybdenum			4.6	4.9		4.6	4.7				
Nickel	1000	1000	1.4	956.2	95.6	0.7	953.0	95.3			
Potassium			15.2	0.7		6.4	6.4				
Selenium	1000	1000	35.6	1032.8	103.3	29.2	1005.3	100.5			
Silicon			-18.2	-18.5		-16.6	-14.6				
Silver	1000	1000	-1.0	1045.8	104.6	-0.8	1036.5	103.7			
Sodium			-2.6	-1.1		0.3	-0.9				
Strontium			5.4	5.4		5.2	5.2				
Thallium	1000	1000	22.1	983.3	98.3	22.1	968.5	96.9			
Tin			-6.9	-6.4		-8.8	-8.3				
Titanium			4.7	4.8		4.6	4.7				
Vanadium	1000	1000	-2.5	953.1	95.3	-3.8	937.7	93.8			
Zinc	1000	1000	-2.7	935.6	93.6	-2.3	929.7	93.0			

FORM IV

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladdan Plating

SDG: YC80

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interlement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladdan Plating

SDG: YC80

IEC DATE: 3/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1504760	0.000000	-1.1418810	1.4701580	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1186830
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0105370	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	0.0956050	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.0428390
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.0031370	0.000000	-0.1731660	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572290	0.000000	0.000000
Lead	220.35	-0.3197610	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	-0.0574840
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.6154620	-1.2018020	0.000000	0.9787120
Manganese	257.61	0.0085510	0.000000	0.000000	0.000000	0.0051490	0.000000	0.000000	0.000000	0.000000	-0.0059760
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0154460	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.8483140	0.000000	-0.6009380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0065610	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.0801700	0.000000	0.000000	0.000000	0.000000	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1855780	0.000000	0.000000	0.000000	0.000000	-0.1258020
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.1006900	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0674860
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.0126620	0.000000	0.000000	-0.2680380	0.000000	0.000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladdan Plating

IEC DATE: 3/19/2014

SDG: YC80

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.000000	0.000000	0.000000	2.0154950	0.000000	14.6504130	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.7865220	0.000000	-3.6308690	0.000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.000000	0.000000	0.000000	-35.7069030	0.000000	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.1263190	0.000000	0.000000	0.000000	0.000000	0.2049710	0.000000
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0109650	0.000000	0.2471980	0.000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	0.000000	0.000000	-0.9924980	0.000000	0.000000	0.000000	0.000000	0.0519140	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.0714330	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.3711990	0.000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.000000	0.000000	1.7865010	0.000000	0.000000	0.000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.000000	0.000000	0.000000	0.1968290	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	8.0715790	0.000000
Lead	220.35	0.000000	0.000000	0.000000	0.1183620	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.0068080	0.000000	0.000000	0.000000	-0.2132560	0.000000	0.000000	0.000000	-0.0238460	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	-0.5233870	0.000000	0.4243640	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.6221340	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2593400	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	-1.6229180	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.0356520	-0.5555490	-0.1890930	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.000000	0.000000	0.000000	0.5783020	0.000000	0.000000	0.000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.000000	-0.0717780	0.000000	0.000000	0.000000	0.000000	0.000000

ICP 0001 000001

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladdan Plating

ARI PREP CODE: DMN

SDG: YC80

PREPDATE: 3/17/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW6s-140314	YC80B	0.000	50.0	50.0
MW6s-140314D	YC80BDUP	0.000	50.0	50.0
MW6s-140314S	YC80BSPK	0.000	50.0	50.0
PBW	YC80MB2	0.000	50.0	50.0
LCSW	YC80MB2SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladdan Plating

ARI PREP CODE: WMN

SDG: YC80

PREPDATE: 3/17/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW6s-140314	YC80C	0.000	50.0	50.0
MW6s-140314D	YC80CDUP	0.000	50.0	50.0
MW6s-140314S	YC80CSPK	0.000	50.0	50.0
PBW	YC80MB3	0.000	50.0	50.0
LCSW	YC80MB3SPK	0.000	50.0	50.0

Analysis Run Log

CLIENT: GeoEngineers
PROJECT: Aladdan Plating
SDG: YC80
INSTRUMENT ID: OPTIMA ICP 2
RUNID: IP032071
METHOD: ICP
START DATE: 3/20/2014
END DATE: 3/20/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN									
S0		1.00	08392																																							
S2		1.00	08433											X											X																	
S3		1.00	08452											X											X																	
S4		1.00	08475																																							
S5		1.00	08500																																							
ICV	ICV	1.00	08545											X										X																		
ICB	ICB	1.00	08584											X										X																		
CRI	CRII	1.00	09025											X										X																		
ICSA	ICSAI	1.00	09071											X										X																		
ICSAB	ICSABI	1.00	09112											X										X																		
CCV	CCV1	1.00	09161											X										X																		
CCB	CCB1	1.00	09200											X										X																		
ZZZZZZ	YC77MB1	1.00	09242											X										X																		
ZZZZZZ	YC77A-L	5.00	09283																																							
ZZZZZZ	YC77A	1.00	09325																																							
ZZZZZZ	YC77ADUP	1.00	09370																																							
ZZZZZZ	YC77ASPK	1.00	09412																																							
ZZZZZZ	YC77F-L	5.00	09453																																							
ZZZZZZ	YC77F	1.00	09495																																							
ZZZZZZ	YC77FDUP	1.00	09540																																							
ZZZZZZ	YC77FSPK	1.00	09582																																							
ZZZZZZ	YC77MB1SPK	1.00	10024																																							
CCV	CCV2	1.00	10064											X										X																		
CCB	CCB2	1.00	10103											X										X																		
ZZZZZZ	YC77MB2	1.00	10144																																							
ZZZZZZ	YC57A-L	10.00	10190																																							
ZZZZZZ	YC57A	2.00	10230																																							
ZZZZZZ	YC57ADUP	2.00	10270																																							
ZZZZZZ	YC57ASPK	2.00	10304																																							
ZZZZZZ	YC57B	2.00	10343																																							
ZZZZZZ	YC57C	2.00	10381																																							
ZZZZZZ	YC57D	2.00	10422																																							
ZZZZZZ	YC57REF1	2.00	10460																																							
ZZZZZZ	YC77MB2SPK	1.00	10495																																							
CCV	CCV3	1.00	10535											X										X																		

Analysis Run Log

CLIENT: GeoEngineers
 PROJECT: Aladdan Plating
 INSTRUMENT ID: OPTIMA ICP 2
 START DATE: 3/20/2014
 SDG: YC80
 RUNID: IP032071
 METHOD: ICP
 END DATE: 3/20/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
CCB	CCB3	1.00	10574											X										X												
ZZZZZZ	YC57MB1	2.00	11015																																	
ZZZZZZ	YC57E	2.00	11060																																	
ZZZZZZ	YC57F	2.00	11100																																	
ZZZZZZ	YC57G	2.00	11141																																	
ZZZZZZ	YC57H	2.00	11182																																	
ZZZZZZ	YC57I	2.00	11221																																	
ZZZZZZ	YC57J	2.00	11261																																	
ZZZZZZ	YC57K	2.00	11300																																	
ZZZZZZ	YC57L	2.00	11341																																	
ZZZZZZ	YC57MB1SPK	2.00	11383																																	
CCV	CCV4	1.00	11423											X										X												
CCB	CCB4	1.00	11462											X										X												
ZZZZZZ	YC57G	2.00	11503																																	
CRI	CRIF	1.00	11551											X										X												
ICSA	ICSAF	1.00	11592											X										X												
ICSAB	ICSABF	1.00	12034											X										X												
CCV	CCV5	1.00	12083											X										X												
CCB	CCB5	1.00	12121											X										X												
PBW	YC80MB2	1.00	12163																																	
PBW	YC80MB3	1.00	12205																																	
MW6S-140314D	YC80CDUP	1.00	12250																																	
MW6S-140314	YC80C	1.00	12291																																	
MW6S-140314S	YC80CSPK	1.00	12333																																	
MW6S-140314D	YC80BDUP	1.00	12373																																	
MW6S-140314	YC80B	1.00	12414																																	
MW6S-140314S	YC80BSPK	1.00	12460																																	
LCSW	YC80MB2SPK	1.00	12500																																	
LCSW	YC80MB3SPK	1.00	12540																																	
CCV	CCV6	1.00	12580																																	
CCB	CCB6	1.00	13014																																	

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YC80

SAMPLE RESULTS-CONVENTIONALS
YC80-GeoEngineers



Matrix: Water
Data Release Authorized: *AD*
Reported: 03/24/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/13/14
Date Received: 03/14/14


Client ID: MW6s-140314
ARI ID: 14-4321 YC80A

Analyte	Date Batch	Method	Units	RL	Sample
Hexavalent Chromium	03/14/14 031414#1	SW7196A	mg/L	0.010	< 0.010 U

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
YC80-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 03/24/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/13/14
Date Received: 03/14/14

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
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ARI ID: YC80A Client ID: MW6s-140314

Hexavalent Chromium	SW7196A	03/14/14	mg/L	< 0.010	0.066	0.063	104.8%
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REPLICATE RESULTS-CONVENTIONALS
YC80-GeoEngineers



Matrix: Water
Data Release Authorized: *W*
Reported: 03/24/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/13/14
Date Received: 03/14/14

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: YC80A Client ID: MW6s-140314						
Hexavalent Chromium	SW7196A	03/14/14	mg/L	< 0.010	< 0.010	NA

METHOD BLANK RESULTS-CONVENTIONALS
YC80-GeoEngineers




Matrix: Water
Data Release Authorized: *(Signature)*
Reported: 03/24/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Hexavalent Chromium	SW7196A	03/14/14	mg/L	< 0.010 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
YC80-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 03/24/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Hexavalent Chromium ERA #160412	SW7196A	03/14/14	mg/L	0.624	0.630	99.0%

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YC80

SPIKING LOG

Analyst: LS

Date: 3-17-11

Final Volume 500

Final Volume (Hg): _____

Sample ID YLS0 *Asst. Analyst*

Prepcode:	ICP Routine	ICP No GFA	GFA
Spike Solution:			
Standard No.: 655			
Vol Added (mL): 50			
Ag	50		2.0
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50	50	
Pb	200		10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25	
Al		500
As	25	
Ba	25	
Be	25	
Ca		500
Cd	25	
Co	25	
Cr	25	
Cu	25	
Fe		500
K		500
Mg		500
Mn	25	
Mo		
Na		500
Ni	25	
Pb	25	
Sb		25
Se	80	
Tl	25	
U	25	
V	25	
Zn	80	

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

10000 - 005040



Digestion Log

Analyst: CB Date: 3-17-14 Time: 0805

Matrix: WATER Block ID: #1 Block Temp: 90°C Thermometer: mp7b

ARI Sample ID	Btl #	pH<2	Prep Code: <u>TWC</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
7677 A	7	✓	50.0	50.0			
" A20	7	✓					
" A50K	7	✓					
" MB1	-	-					
" MB150K	-	-					
7680 A	1	✓					
" A20	1	✓					
" A50K	1	✓					
" MB1	-	-					
7686 MB150K	-	-					
7694 C	3	✓					
" MB1	-	-					
" MB150K	-	-	50.0	50.0			
			CB				
			3-17-14				

Chemical/Reagent ID: HNO3 60052
5061F

ACL: 1157

Tube lot #: 1309271



Digestion Log

Analyst: CB Date: 3-17-14 Time: 0820
Matrix: WATER Block ID: - Block Temp: - Thermometer: -

ARI Sample ID	Btl #	pH<2	Prep Code: <i>wmv</i>		Prep Code: <i>omv</i>		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
Y077 F	1	↓	-	-			<div style="display: flex; align-items: center; justify-content: center;"> <div style="border-left: 1px dashed black; border-right: 1px dashed black; height: 100%;"></div> <div style="text-align: center; margin: 0 10px;"> <p>Filter in 196</p> <p>↓</p> </div> </div>
" F0-p	1	↓	-	-			
" F50K	1	↓	-	-			
Y080 C	1	↓	-	-		(B)	
" C0-w		↓	-	-		3-17-14	
" C50K	1	↓	-	-			
" B	1	-					
" B0-w	1	-					
" B50K	1	-		(B)			
" MB2	-	-		3-17-14			
" MB250K	-	-					
			(B)	3-17-14			

Chemical/Reagent ID: HNO3: MP2542

Tube lot #:
1309277

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YC80

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 3-2014

<u>IZ</u>	Analyst <u>A 321</u>	Peer <u>EA 321/14</u>	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	—	—	



IEC Date: 3-19-14

Analysis Date: 3-20-14

Analyst: A

LR Date: 1-374

Page: 1 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1184
		2			C1169
		3			C1170
		4			C1171
		∇ 5			C1172
		ICV			B2567
		ICB			
		CRI			C1072
		ICSA			C532
		ICSAB			C533
		CCV1			
		CCB1			
		YC77 MBI	TWL		
		A-L		5	✓
		A			
		ADup			✓
		A spl			✓ Na, Fe str
		F-L	WMW	5	✓
		F			
		F Dup			✓
		F spl			✓ B1845 0.08 mL ICP spl
		∇ MBI spl	TWL		
		CCV2			
		CCB2			



IEC Date:

Analysis Date: 3-2014

Analyst: TA

LR Date:

Page: 2 of 5

All corrections made by analyst unless otherwise noted.

3-2014

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YC77 MBZ	WML		
		YC57 AL	SWC	10	✓
		A		2	
		ADp			✓
		Aspk			✓
		B			
		C			
		D			
		REF1			✓
		YC77 MBZspl	WML		✓ 81845 0.08 mL ICP spl
		CCB3			
		CCB3			
		YC57 MB1	SWC	2	
		E			
		F			
✓		G			miss ² misse tube
		H			
		I			
		J			
		K			
		L			
		MB1spl			✓
		CCv4			
		CCv4			



IEC Date: Analysis Date: 3-2014 Analyst: KA
LR Date: Page: 3 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		Y057 G	Swc	2	
		CR1			
		ICSA			
		ICSAB			
		CCRS			
		CCBS			
		Y080 MBZ	Dmw		
		MB3	Wmw		
		cDup	↓		✓
		c	↓		
		Csplc	↓		✓ B1845 0.08mL ICP splc
		B Dup	Dmw		✓
		B	↓		
		B splc	↓		✓ B1845 0.8mL ICP splc
		MB2 splc	↓		✓
		MB3 splc	Wmw		✓ ↓
		CCRB			
		CCBC			
		Y076 MB3	Swc	2	
		Y094 MBZ	↓	↓	
		M.B1	TWC		
		C	↓		
		D	Swc	2	
		Y076 A	↓	5	

~~AA 3-21-14~~
At 3-21-14

Nebulizer Parameters: Hg ReAlign

Analyte Back Pressure Flow
All 209.0 kPa 0.75 L/min

3/20/2014 8:06:56 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.000 Slit adjustment: 0

Analysis Begun

Start Time: 3/20/2014 8:12:42 AM Plasma On Time: 3/20/2014 7:22:03 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: I2140320
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: ~~IE073012A.iec~~ IEL010314 B.iec MSF File:
Method Description: 12Axial Elements M 3-20-14

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists elements from Ag to Zn and ScA/ScR with their respective calibration and processing details.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 3/20/2014 8:12:48 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1
Analyte Back Pressure Flow
All 209.0 kPa 0.75 L/min

Handwritten signature and date: M 3-20-14

=====
Analysis Begun

Start Time: 3/20/2014 8:39:23 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 3/20/2014 7:22:03 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0320.sif

Batch ID:

Results Data Set: I2140320

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 3/20/2014 8:39:24 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2336110.9	12727.06	0.54%	100.0	%
ScR 361.383	285044.2	1318.45	0.46%	100.0	%
Ag 328.068†	1110.4	39.36	3.54%	[0.00]	mg/L
Al 308.215†	79.9	3.13	3.92%	[0.00]	mg/L
As 188.979†	-9.3	2.51	26.96%	[0.00]	mg/L
B 249.677†	-39.1	5.02	12.85%	[0.00]	mg/L
Ba 233.527†	-14.3	2.72	19.00%	[0.00]	mg/L
Be 313.042†	681.6	2.53	0.37%	[0.00]	mg/L
Ca 317.933†	63.7	8.24	12.93%	[0.00]	mg/L
Cd 228.802†	194.6	3.08	1.58%	[0.00]	mg/L
Co 228.616†	-131.5	3.19	2.43%	[0.00]	mg/L
Cr 267.716†	-53.8	6.66	12.38%	[0.00]	mg/L
Cu 324.752†	3322.7	38.10	1.15%	[0.00]	mg/L
Fe 273.955†	-39.3	0.44	1.13%	[0.00]	mg/L
K 766.490†	307.9	35.31	11.47%	[0.00]	mg/L
Mg 279.077†	151.3	4.35	2.88%	[0.00]	mg/L
Mn 257.610†	-87.9	5.29	6.02%	[0.00]	mg/L
Mo 202.031†	78.1	2.22	2.85%	[0.00]	mg/L
Na 589.592†	-497.5	35.91	7.22%	[0.00]	mg/L
Na 330.237†	31.5	6.27	19.90%	[0.00]	mg/L
Ni 231.604†	22.8	1.90	8.34%	[0.00]	mg/L
Pb 220.353†	-44.6	6.97	15.62%	[0.00]	mg/L
Sb 206.836†	7.1	2.56	36.00%	[0.00]	mg/L
Se 196.026†	-52.7	3.74	7.09%	[0.00]	mg/L
Si 288.158†	23.8	7.80	32.79%	[0.00]	mg/L
Sn 189.927†	-17.6	5.64	32.07%	[0.00]	mg/L
Sr 421.552†	57.3	18.75	32.71%	[0.00]	mg/L
Ti 334.903†	116.3	26.82	23.05%	[0.00]	mg/L
Tl 190.801†	-28.8	2.47	8.58%	[0.00]	mg/L
V 292.402†	127.4	9.80	7.69%	[0.00]	mg/L
Zn 206.200†	-20.8	3.64	17.54%	[0.00]	mg/L

=====
Sequence No.: 2

Autosampler Location: 2

Sample ID: STD2

Date Collected: 3/20/2014 8:43:38 AM

Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected

Calib

Analyte	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2374868.4	7958.78	0.34%	101.7 %
ScR 361.383	288012.3	2220.44	0.77%	101.0 %
Ba 233.527†	53868.9	249.75	0.46%	[10] mg/L
Cd 228.802†	214208.2	1325.55	0.62%	[10] mg/L
Co 228.616†	320437.5	1151.79	0.36%	[10] mg/L
Cr 267.716†	66915.3	105.09	0.16%	[10] mg/L
Cu 324.752†	2321030.0	6795.33	0.29%	[10] mg/L
Mn 257.610†	345301.7	427.55	0.12%	[10] mg/L
V 292.402†	1442703.2	9024.92	0.63%	[10] mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 3/20/2014 8:45:23 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected		RSD	Calib	
	Intensity	Std.Dev.		Conc. Units	Units
ScA 357.253	2341810.4	26014.97	1.11%	100.2	%
ScR 361.383	281511.6	1565.19	0.56%	98.76	%
Ag 328.068†	215610.5	483.45	0.22%	[1.0]	mg/L
As 188.979†	13322.8	147.05	1.10%	[10]	mg/L
B 249.677†	52352.1	410.90	0.78%	[10]	mg/L
Be 313.042†	2639075.0	44255.07	1.68%	[5.0]	mg/L
Na 589.592†	615248.4	4742.53	0.77%	[50]	mg/L
Ni 231.604†	32114.7	224.82	0.70%	[10]	mg/L
Pb 220.353†	79949.0	840.28	1.05%	[10]	mg/L
Se 196.026†	15528.2	166.81	1.07%	[10]	mg/L
Sr 421.552†	3881903.0	40961.90	1.06%	[5]	mg/L
Tl 190.801†	16139.6	195.39	1.21%	[10]	mg/L
Zn 206.200†	37953.6	202.90	0.53%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 3/20/2014 8:47:55 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected		RSD	Calib	
	Intensity	Std.Dev.		Conc. Units	Units
ScA 357.253	2351036.8	21737.97	0.92%	100.6	%
ScR 361.383	283681.5	2405.00	0.85%	99.52	%
Mo 202.031†	175929.1	901.70	0.51%	[10]	mg/L
Sb 206.836†	25972.9	165.19	0.64%	[10]	mg/L
Si 288.158†	10821.2	58.09	0.54%	[10]	mg/L
Sn 189.927†	45130.2	172.13	0.38%	[10]	mg/L
Ti 334.903†	213460.8	709.57	0.33%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 3/20/2014 8:50:09 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2200801.8	2067.48	0.09%	94.21	%
ScR 361.383	281186.4	882.84	0.31%	98.65	%
Al 308.215†	27151.9	79.36	0.29%	[30]	mg/L
Ca 317.933†	266204.2	1140.05	0.43%	[30]	mg/L
Fe 273.955†	92388.6	575.31	0.62%	[100]	mg/L
K 766.490†	205686.3	781.33	0.38%	[100]	mg/L
Mg 279.077†	25952.8	101.79	0.39%	[30]	mg/L
Na 330.237†	2420.5	31.40	1.30%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	215600	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	905.1	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1332	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5235	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	5387	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	527800	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	8873	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	21420	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	32040	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	6692	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	232100	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	923.9	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2057	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	865.1	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	34530	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	17590	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	12300	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	24.20	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3211	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	7995	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	2597	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1553	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1082	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	4513	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	776400	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	21350	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	1614	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	144300	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3795	0.00000	1.000000	

=====
Analysis Begun

Start Time: 3/20/2014 8:54:53 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 3/20/2014 7:22:03 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0320.sif

Batch ID:

Results Data Set: I2140320

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: CV

Analyst: ALA

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 3/20/2014 8:54:54 AM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2327835.6	99.65	%	1.044			1.05%
ScR 361.383	280496.1	98.40	%	1.354			1.38%
Ag 328.068†	219930.1	1.020	mg/L	0.0057	1.020 mg/L	0.0057	0.55%
Al 308.215†	1855.8	2.018	mg/L	0.0228	2.018 mg/L	0.0228	1.13%
As 188.979†	2662.0	2.030	mg/L	0.0157	2.030 mg/L	0.0157	0.77%
B 249.677†	5240.0	0.9999	mg/L	0.01215	0.9999 mg/L	0.01215	1.21%
Ba 233.527†	5503.8	1.021	mg/L	0.0118	1.021 mg/L	0.0118	1.16%
Be 313.042†	511032.0	0.9679	mg/L	0.00829	0.9679 mg/L	0.00829	0.86%
Ca 317.933†	18337.3	2.067	mg/L	0.0226	2.067 mg/L	0.0226	1.09%
Cd 228.802†	22562.7	1.044	mg/L	0.0087	1.044 mg/L	0.0087	0.84%
Co 228.616†	32342.9	1.007	mg/L	0.0089	1.007 mg/L	0.0089	0.88%
Cr 267.716†	6904.5	1.031	mg/L	0.0116	1.031 mg/L	0.0116	1.12%
Cu 324.752†	233988.4	1.008	mg/L	0.0030	1.008 mg/L	0.0030	0.29%
Fe 273.955†	1863.6	2.011	mg/L	0.0221	2.011 mg/L	0.0221	1.10%
K 766.490†	40280.6	19.58	mg/L	0.047	19.58 mg/L	0.047	0.24%
Mg 279.077†	1710.3	1.983	mg/L	0.0150	1.983 mg/L	0.0150	0.76%
Mn 257.610†	33354.3	0.9664	mg/L	0.00482	0.9664 mg/L	0.00482	0.50%
Mo 202.031†	17496.4	0.9945	mg/L	0.00754	0.9945 mg/L	0.00754	0.76%
Na 589.592†	611151.1	49.67	mg/L	0.205	49.67 mg/L	0.205	0.41%
Na 330.237†	1248.1	51.55	mg/L	0.804	51.55 mg/L	0.804	1.56%
Ni 231.604†	3233.5	1.007	mg/L	0.0121	1.007 mg/L	0.0121	1.20%
Pb 220.353†	15934.9	1.995	mg/L	0.0144	1.995 mg/L	0.0144	0.72%
Sb 206.836†	5450.9	2.097	mg/L	0.0210	2.097 mg/L	0.0210	1.00%
Se 196.026†	3105.3	1.999	mg/L	0.0220	1.999 mg/L	0.0220	1.10%
Si 288.158†	2215.7	2.052	mg/L	0.0384	2.052 mg/L	0.0384	1.87%
Sn 189.927†	4494.6	0.9977	mg/L	0.00849	0.9977 mg/L	0.00849	0.85%
Sr 421.552†	764775.9	0.9851	mg/L	0.00392	0.9851 mg/L	0.00392	0.40%
Ti 334.903†	21300.2	0.9965	mg/L	0.00536	0.9965 mg/L	0.00536	0.54%
Tl 190.801†	3339.4	2.061	mg/L	0.0232	2.061 mg/L	0.0232	1.13%
V 292.402†	141261.0	0.9834	mg/L	0.00495	0.9834 mg/L	0.00495	0.50%
Zn 206.200†	3750.6	0.9887	mg/L	0.01190	0.9887 mg/L	0.01190	1.20%

Sequence No.: 2
 Sample ID: CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/20/2014 8:58:41 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2368094.7	101.4	%	0.67				0.66%
ScR 361.383	288808.6	101.3	%	0.34				0.33%
Ag 328.068†	38.2	0.00018	mg/L	0.000039	0.00018	mg/L	0.000039	21.96%
Al 308.215†	-6.1	-0.00672	mg/L	0.003355	-0.00672	mg/L	0.003355	49.94%
As 188.979†	1.0	0.00074	mg/L	0.002047	0.00074	mg/L	0.002047	278.31%
B 249.677†	16.9	0.00323	mg/L	0.000770	0.00323	mg/L	0.000770	23.81%
Ba 233.527†	2.0	0.00036	mg/L	0.000759	0.00036	mg/L	0.000759	208.34%
Be 313.042†	-11.5	-0.00002	mg/L	0.000009	-0.00002	mg/L	0.000009	43.63%
Ca 317.933†	-9.4	-0.00105	mg/L	0.000183	-0.00105	mg/L	0.000183	17.37%
Cd 228.802†	2.7	0.00012	mg/L	0.000094	0.00012	mg/L	0.000094	75.59%
Co 228.616†	2.0	0.00006	mg/L	0.000104	0.00006	mg/L	0.000104	165.31%
Cr 267.716†	5.3	0.00079	mg/L	0.000733	0.00079	mg/L	0.000733	93.22%
Cu 324.752†	60.8	0.00026	mg/L	0.000189	0.00026	mg/L	0.000189	72.07%
Fe 273.955†	-2.0	-0.00214	mg/L	0.005918	-0.00214	mg/L	0.005918	276.15%
K 766.490†	14.9	0.00723	mg/L	0.012277	0.00723	mg/L	0.012277	169.92%
Mg 279.077†	-7.1	-0.00820	mg/L	0.006338	-0.00820	mg/L	0.006338	77.33%
Mn 257.610†	1.5	0.00004	mg/L	0.000256	0.00004	mg/L	0.000256	577.07%
Mo 202.031†	13.5	0.00077	mg/L	0.000096	0.00077	mg/L	0.000096	12.53%
Na 589.592†	4.0	0.00032	mg/L	0.001388	0.00032	mg/L	0.001388	431.52%
Na 330.237†	-2.0	-0.08285	mg/L	0.325641	-0.08285	mg/L	0.325641	393.03%
Ni 231.604†	1.0	0.00033	mg/L	0.001225	0.00033	mg/L	0.001225	376.30%
Pb 220.353†	4.2	0.00053	mg/L	0.000701	0.00053	mg/L	0.000701	132.54%
Sb 206.836†	17.1	0.00658	mg/L	0.001740	0.00658	mg/L	0.001740	26.45%
Se 196.026†	-1.1	-0.00074	mg/L	0.001867	-0.00074	mg/L	0.001867	252.59%
Si 288.158†	4.5	0.00413	mg/L	0.005243	0.00413	mg/L	0.005243	126.90%
Sn 189.927†	0.5	0.00012	mg/L	0.000233	0.00012	mg/L	0.000233	196.55%
Sr 421.552†	21.5	0.00003	mg/L	0.000028	0.00003	mg/L	0.000028	102.08%
Ti 334.903†	-3.0	-0.00014	mg/L	0.000657	-0.00014	mg/L	0.000657	471.84%
Tl 190.801†	-3.6	-0.00220	mg/L	0.000886	-0.00220	mg/L	0.000886	40.22%
V 292.402†	-23.1	-0.00016	mg/L	0.000083	-0.00016	mg/L	0.000083	53.25%
Zn 206.200†	3.3	0.00088	mg/L	0.000371	0.00088	mg/L	0.000371	42.22%

Sequence No.: 3
 Sample ID: CRI
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 301
 Date Collected: 3/20/2014 9:02:56 AM
 Data Type: Original

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
 All 209.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2343928.3	100.3 %	0.30			0.30%
ScR 361.383	284288.9	99.74 %	0.165			0.17%
Ag 328.068†	628.9	0.00292 mg/L	0.000221	0.00292 mg/L	0.000221	7.59%
Al 308.215†	41.6	0.04582 mg/L	0.010664	0.04582 mg/L	0.010664	23.27%
As 188.979†	65.8	0.04953 mg/L	0.002071	0.04953 mg/L	0.002071	4.18%
B 249.677†	116.6	0.02227 mg/L	0.000769	0.02227 mg/L	0.000769	3.45%
Ba 233.527†	21.4	0.00397 mg/L	0.000399	0.00397 mg/L	0.000399	10.06%
Be 313.042†	454.7	0.00086 mg/L	0.000023	0.00086 mg/L	0.000023	2.63%
Ca 317.933†	426.4	0.04805 mg/L	0.000519	0.04805 mg/L	0.000519	1.08%
Cd 228.802†	51.8	0.00217 mg/L	0.000128	0.00217 mg/L	0.000128	5.87%
Co 228.616†	100.7	0.00313 mg/L	0.000114	0.00313 mg/L	0.000114	3.64%
Cr 267.716†	34.9	0.00521 mg/L	0.000297	0.00521 mg/L	0.000297	5.70%
Cu 324.752†	542.4	0.00234 mg/L	0.000138	0.00234 mg/L	0.000138	5.89%
Fe 273.955†	45.3	0.04904 mg/L	0.002479	0.04904 mg/L	0.002479	5.06%
K 766.490†	1012.8	0.4924 mg/L	0.01887	0.4924 mg/L	0.01887	3.83%
Mg 279.077†	44.4	0.05127 mg/L	0.006406	0.05127 mg/L	0.006406	12.49%
Mn 257.610†	32.5	0.00094 mg/L	0.000086	0.00094 mg/L	0.000086	9.10%
Mo 202.031†	89.7	0.00510 mg/L	0.000137	0.00510 mg/L	0.000137	2.70%
Na 589.592†	6067.9	0.4931 mg/L	0.00381	0.4931 mg/L	0.00381	0.77%
Na 330.237†	2.5	0.1027 mg/L	0.20043	0.1027 mg/L	0.20043	195.13%
Ni 231.604†	30.0	0.00936 mg/L	0.001460	0.00936 mg/L	0.001460	15.61%
Pb 220.353†	159.3	0.01995 mg/L	0.000897	0.01995 mg/L	0.000897	4.50%
Sb 206.836†	137.7	0.05305 mg/L	0.003305	0.05305 mg/L	0.003305	6.23%
Se 196.026†	73.4	0.04724 mg/L	0.002155	0.04724 mg/L	0.002155	4.56%
Si 288.158†	69.8	0.06448 mg/L	0.004550	0.06448 mg/L	0.004550	7.06%
Sn 189.927†	44.6	0.00992 mg/L	0.000859	0.00992 mg/L	0.000859	8.66%
Sr 421.552†	741.6	0.00096 mg/L	0.000012	0.00096 mg/L	0.000012	1.25%
Ti 334.903†	93.7	0.00438 mg/L	0.000852	0.00438 mg/L	0.000852	19.47%
Tl 190.801†	79.8	0.04944 mg/L	0.000997	0.04944 mg/L	0.000997	2.02%
V 292.402†	406.8	0.00284 mg/L	0.000157	0.00284 mg/L	0.000157	5.55%
Zn 206.200†	37.3	0.00985 mg/L	0.000517	0.00985 mg/L	0.000517	5.24%

Sequence No.: 4
 Sample ID: ICSA
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 3/20/2014 9:07:12 AM
 Data Type: Original

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2275276.0	97.40	%	0.383			0.39%
ScR 361.383	280621.1	98.45	%	0.512			0.52%
Ag 328.068†	-348.1	-0.00095	mg/L	0.000106	-0.00095 mg/L	0.000106	11.07%
Al 308.215†	180577.3	199.5	mg/L	0.65	199.5 mg/L	0.65	0.33%
As 188.979†	58.3	0.02913	mg/L	0.002085	0.02913 mg/L	0.002085	7.16%
B 249.677†	-37.8	-0.00723	mg/L	0.003300	-0.00723 mg/L	0.003300	45.66%
Ba 233.527†	125.8	0.00052	mg/L	0.000753	0.00052 mg/L	0.000753	145.27%
Be 313.042†	31.7	0.00006	mg/L	0.000011	0.00006 mg/L	0.000011	19.88%
Ca 317.933†	890839.1	100.4	mg/L	0.10	100.4 mg/L	0.10	0.10%
Cd 228.802†	33.3	0.00133	mg/L	0.000255	0.00133 mg/L	0.000255	19.15%
Co 228.616†	99.2	0.00307	mg/L	0.000153	0.00307 mg/L	0.000153	5.00%
Cr 267.716†	-0.5	-0.00024	mg/L	0.000271	-0.00024 mg/L	0.000271	111.45%
Cu 324.752†	-2119.2	-0.00036	mg/L	0.000204	-0.00036 mg/L	0.000204	56.73%
Fe 273.955†	177676.2	192.3	mg/L	1.03	192.3 mg/L	1.03	0.53%
K 766.490†	31.3	0.01524	mg/L	0.017586	0.01524 mg/L	0.017586	115.42%
Mg 279.077†	88940.6	102.6	mg/L	1.32	102.6 mg/L	1.32	1.28%
Mn 257.610†	39.9	-0.00063	mg/L	0.000352	-0.00063 mg/L	0.000352	55.82%
Mo 202.031†	108.3	0.00460	mg/L	0.000246	0.00460 mg/L	0.000246	5.35%
Na 589.592†	-32.6	-0.00265	mg/L	0.003005	-0.00265 mg/L	0.003005	113.41%
Na 330.237†	-39.0	-1.609	mg/L	0.2252	-1.609 mg/L	0.2252	14.00%
Ni 231.604†	4.5	0.00140	mg/L	0.000454	0.00140 mg/L	0.000454	32.55%
Pb 220.353†	-471.3	0.01592	mg/L	0.001270	0.01592 mg/L	0.001270	7.98%
Sb 206.836†	-4.0	-0.00168	mg/L	0.001432	-0.00168 mg/L	0.001432	85.18%
Se 196.026†	55.4	0.03565	mg/L	0.004897	0.03565 mg/L	0.004897	13.74%
Si 288.158†	-19.7	-0.01817	mg/L	0.003566	-0.01817 mg/L	0.003566	19.62%
Sn 189.927†	-115.1	-0.00686	mg/L	0.001647	-0.00686 mg/L	0.001647	23.99%
Sr 421.552†	4217.1	0.00543	mg/L	0.000049	0.00543 mg/L	0.000049	0.91%
Ti 334.903†	316.5	0.00471	mg/L	0.000290	0.00471 mg/L	0.000290	6.14%
Tl 190.801†	9.7	0.02210	mg/L	0.006813	0.02210 mg/L	0.006813	30.84%
V 292.402†	1514.2	-0.00249	mg/L	0.000416	-0.00249 mg/L	0.000416	16.70%
Zn 206.200†	-5.5	-0.00272	mg/L	0.000431	-0.00272 mg/L	0.000431	15.82%

Sequence No.: 5
 Sample ID: ICSAB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 3/20/2014 9:11:27 AM
 Data Type: Original

Nebulizer Parameters: ICSAB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected			Std.Dev.	Sample		RSD
	Intensity	Conc.	Calib. Units		Conc.	Units	
ScA 357.253	2284873.0	97.81	%	0.117			0.12%
ScR 361.383	281470.9	98.75	%	0.784			0.79%
Ag 328.068†	225290.6	1.046	mg/L	0.0065	1.046	mg/L	0.63%
Al 308.215†	180600.7	199.5	mg/L	0.13	199.5	mg/L	0.07%
As 188.979†	1411.9	1.045	mg/L	0.0050	1.045	mg/L	0.48%
B 249.677†	-30.0	-0.00778	mg/L	0.000437	-0.00778	mg/L	5.62%
Ba 233.527†	5561.2	1.009	mg/L	0.0132	1.009	mg/L	1.31%
Be 313.042†	499685.9	0.9465	mg/L	0.00247	0.9465	mg/L	0.26%
Ca 317.933†	891283.9	100.4	mg/L	0.25	100.4	mg/L	0.25%
Cd 228.802†	22453.2	1.043	mg/L	0.0018	1.043	mg/L	0.17%
Co 228.616†	31040.0	0.9684	mg/L	0.00092	0.9684	mg/L	0.09%
Cr 267.716†	6765.2	1.011	mg/L	0.0089	1.011	mg/L	0.88%
Cu 324.752†	235397.1	1.023	mg/L	0.0024	1.023	mg/L	0.24%
Fe 273.955†	178963.9	193.7	mg/L	0.91	193.7	mg/L	0.47%
K 766.490†	1.4	0.00066	mg/L	0.006276	0.00066	mg/L	954.26%
Mg 279.077†	85301.5	98.42	mg/L	0.204	98.42	mg/L	0.21%
Mn 257.610†	32396.0	0.9367	mg/L	0.00456	0.9367	mg/L	0.49%
Mo 202.031†	114.4	0.00495	mg/L	0.000285	0.00495	mg/L	5.77%
Na 589.592†	-13.3	-0.00108	mg/L	0.000477	-0.00108	mg/L	44.16%
Na 330.237†	-36.6	-1.780	mg/L	0.2665	-1.780	mg/L	14.97%
Ni 231.604†	3070.2	0.9562	mg/L	0.01046	0.9562	mg/L	1.09%
Pb 220.353†	7271.1	0.9851	mg/L	0.00095	0.9851	mg/L	0.10%
Sb 206.836†	2696.9	1.029	mg/L	0.0008	1.029	mg/L	0.07%
Se 196.026†	1605.5	1.033	mg/L	0.0024	1.033	mg/L	0.23%
Si 288.158†	-25.0	-0.01848	mg/L	0.002046	-0.01848	mg/L	11.07%
Sn 189.927†	-115.6	-0.00637	mg/L	0.001249	-0.00637	mg/L	19.60%
Sr 421.552†	4171.0	0.00537	mg/L	0.000006	0.00537	mg/L	0.12%
Ti 334.903†	322.7	0.00480	mg/L	0.000393	0.00480	mg/L	8.19%
Tl 190.801†	1576.1	0.9833	mg/L	0.00287	0.9833	mg/L	0.29%
V 292.402†	138764.2	0.9531	mg/L	0.00267	0.9531	mg/L	0.28%
Zn 206.200†	3554.6	0.9356	mg/L	0.00820	0.9356	mg/L	0.88%

Sequence No.: 6
 Sample ID: CV\
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/20/2014 9:16:16 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2309735.1	98.87	%	0.499			0.50%
ScR 361.383	278819.5	97.82	%	0.416			0.43%
Ag 328.068†	222644.6	1.033	mg/L	0.0017	1.033	mg/L	0.16%
Al 308.215†	1887.7	2.053	mg/L	0.0029	2.053	mg/L	0.14%
As 188.979†	2707.6	2.064	mg/L	0.0081	2.064	mg/L	0.39%
B 249.677†	5307.1	1.013	mg/L	0.0017	1.013	mg/L	0.17%
Ba 233.527†	5626.5	1.044	mg/L	0.0026	1.044	mg/L	0.25%
Be 313.042†	511641.4	0.9691	mg/L	0.00196	0.9691	mg/L	0.20%
Ca 317.933†	18687.5	2.106	mg/L	0.0091	2.106	mg/L	0.43%
Cd 228.802†	22827.0	1.056	mg/L	0.0042	1.056	mg/L	0.40%
Co 228.616†	32931.1	1.026	mg/L	0.0058	1.026	mg/L	0.56%
Cr 267.716†	7041.8	1.052	mg/L	0.0042	1.052	mg/L	0.39%
Cu 324.752†	236165.1	1.017	mg/L	0.0026	1.017	mg/L	0.25%
Fe 273.955†	1889.8	2.039	mg/L	0.0184	2.039	mg/L	0.90%
K 766.490†	41326.0	20.09	mg/L	0.079	20.09	mg/L	0.40%
Mg 279.077†	1749.9	2.029	mg/L	0.0141	2.029	mg/L	0.70%
Mn 257.610†	33591.4	0.9732	mg/L	0.00419	0.9732	mg/L	0.43%
Mo 202.031†	17773.7	1.010	mg/L	0.0032	1.010	mg/L	0.32%
Na 589.592†	622597.1	50.60	mg/L	0.068	50.60	mg/L	0.14%
Na 330.237†	1257.4	51.92	mg/L	0.254	51.92	mg/L	0.49%
Ni 231.604†	3301.5	1.028	mg/L	0.0005	1.028	mg/L	0.05%
Pb 220.353†	16207.0	2.029	mg/L	0.0071	2.029	mg/L	0.35%
Sb 206.836†	5548.8	2.135	mg/L	0.0101	2.135	mg/L	0.47%
Se 196.026†	3153.0	2.029	mg/L	0.0024	2.029	mg/L	0.12%
Si 288.158†	2238.7	2.074	mg/L	0.0049	2.074	mg/L	0.23%
Sn 189.927†	4562.3	1.013	mg/L	0.0007	1.013	mg/L	0.07%
Sr 421.552†	774918.5	0.9981	mg/L	0.00052	0.9981	mg/L	0.05%
Ti 334.903†	21459.3	1.004	mg/L	0.0004	1.004	mg/L	0.04%
Tl 190.801†	3396.6	2.096	mg/L	0.0107	2.096	mg/L	0.51%
V 292.402†	142601.7	0.9927	mg/L	0.00197	0.9927	mg/L	0.20%
Zn 206.200†	3832.6	1.010	mg/L	0.0035	1.010	mg/L	0.34%

Sequence No.: 7
 Sample ID: CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/20/2014 9:20:05 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2358291.4	100.9	%	0.20				0.20%
ScR 361.383	285860.2	100.3	%	0.41				0.41%
Ag 328.068†	5.5	0.00003	mg/L	0.000246	0.00003	mg/L	0.000246	970.85%
Al 308.215†	-7.3	-0.00803	mg/L	0.006355	-0.00803	mg/L	0.006355	79.17%
As 188.979†	0.7	0.00054	mg/L	0.000718	0.00054	mg/L	0.000718	132.38%
B 249.677†	13.7	0.00262	mg/L	0.001050	0.00262	mg/L	0.001050	40.16%
Ba 233.527†	-0.8	-0.00015	mg/L	0.000379	-0.00015	mg/L	0.000379	246.76%
Be 313.042†	23.4	0.00004	mg/L	0.000020	0.00004	mg/L	0.000020	45.97%
Ca 317.933†	-9.6	-0.00109	mg/L	0.001212	-0.00109	mg/L	0.001212	111.49%
Cd 228.802†	2.0	0.00009	mg/L	0.000139	0.00009	mg/L	0.000139	157.62%
Co 228.616†	2.9	0.00009	mg/L	0.000044	0.00009	mg/L	0.000044	49.10%
Cr 267.716†	2.9	0.00044	mg/L	0.000491	0.00044	mg/L	0.000491	111.65%
Cu 324.752†	106.7	0.00046	mg/L	0.000130	0.00046	mg/L	0.000130	28.20%
Fe 273.955†	-1.3	-0.00139	mg/L	0.001126	-0.00139	mg/L	0.001126	80.75%
K 766.490†	0.7	0.00033	mg/L	0.006121	0.00033	mg/L	0.006121	>999.9%
Mg 279.077†	0.3	0.00040	mg/L	0.006975	0.00040	mg/L	0.006975	>999.9%
Mn 257.610†	-1.9	-0.00005	mg/L	0.000120	-0.00005	mg/L	0.000120	218.34%
Mo 202.031†	12.0	0.00068	mg/L	0.000239	0.00068	mg/L	0.000239	34.87%
Na 589.592†	-55.5	-0.00451	mg/L	0.000886	-0.00451	mg/L	0.000886	19.65%
Na 330.237†	-5.9	-0.2437	mg/L	0.18023	-0.2437	mg/L	0.18023	73.95%
Ni 231.604†	-3.2	-0.00098	mg/L	0.000580	-0.00098	mg/L	0.000580	59.09%
Pb 220.353†	-3.5	-0.00043	mg/L	0.000612	-0.00043	mg/L	0.000612	140.66%
Sb 206.836†	10.8	0.00417	mg/L	0.000799	0.00417	mg/L	0.000799	19.16%
Se 196.026†	-3.8	-0.00245	mg/L	0.002601	-0.00245	mg/L	0.002601	106.16%
Si 288.158†	0.5	0.00042	mg/L	0.003950	0.00042	mg/L	0.003950	932.61%
Sn 189.927†	1.4	0.00031	mg/L	0.000782	0.00031	mg/L	0.000782	251.52%
Sr 421.552†	-16.0	-0.00002	mg/L	0.000032	-0.00002	mg/L	0.000032	156.72%
Ti 334.903†	3.2	0.00015	mg/L	0.000314	0.00015	mg/L	0.000314	213.31%
Tl 190.801†	2.7	0.00169	mg/L	0.001560	0.00169	mg/L	0.001560	92.49%
V 292.402†	-16.8	-0.00011	mg/L	0.000048	-0.00011	mg/L	0.000048	42.15%
Zn 206.200†	2.4	0.00062	mg/L	0.000385	0.00062	mg/L	0.000385	62.00%

Sequence No.: 8
 Sample ID: YC77 MB1 TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 304
 Date Collected: 3/20/2014 9:24:20 AM
 Data Type: Original

Nebulizer Parameters: YC77 MB1 TWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC77 MB1 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2373857.8	101.6	%	0.61				0.60%
ScR 361.383	286850.8	100.6	%	0.50				0.50%
Ag 328.068†	-47.2	-0.00022	mg/L	0.000105	-0.00022	mg/L	0.000105	47.92%
Al 308.215†	-4.4	-0.00488	mg/L	0.001807	-0.00488	mg/L	0.001807	37.03%
As 188.979†	2.9	0.00212	mg/L	0.001559	0.00212	mg/L	0.001559	73.71%
B 249.677†	17.3	0.00331	mg/L	0.000272	0.00331	mg/L	0.000272	8.23%
Ba 233.527†	2.7	0.00050	mg/L	0.000772	0.00050	mg/L	0.000772	154.34%
Be 313.042†	8.9	0.00002	mg/L	0.000007	0.00002	mg/L	0.000007	40.65%
Ca 317.933†	48.1	0.00542	mg/L	0.000053	0.00542	mg/L	0.000053	0.98%
Cd 228.802†	3.5	0.00015	mg/L	0.000149	0.00015	mg/L	0.000149	97.78%
Co 228.616†	4.3	0.00013	mg/L	0.000243	0.00013	mg/L	0.000243	180.09%
Cr 267.716†	-0.2	-0.00002	mg/L	0.000595	-0.00002	mg/L	0.000595	>999.9%
Cu 324.752†	104.9	0.00045	mg/L	0.000142	0.00045	mg/L	0.000142	31.44%
Fe 273.955†	2.7	0.00297	mg/L	0.002461	0.00297	mg/L	0.002461	82.80%
K 766.490†	26.5	0.01288	mg/L	0.009762	0.01288	mg/L	0.009762	75.76%
Mg 279.077†	-4.3	-0.00500	mg/L	0.005445	-0.00500	mg/L	0.005445	108.91%
Mn 257.610†	2.1	0.00006	mg/L	0.000106	0.00006	mg/L	0.000106	174.49%
Mo 202.031†	4.8	0.00027	mg/L	0.000211	0.00027	mg/L	0.000211	78.16%
Na 589.592†	-24.2	-0.00197	mg/L	0.002361	-0.00197	mg/L	0.002361	119.98%
Na 330.237†	-1.3	-0.05462	mg/L	0.220558	-0.05462	mg/L	0.220558	403.78%
Ni 231.604†	-0.0	-0.00001	mg/L	0.000533	-0.00001	mg/L	0.000533	>999.9%
Pb 220.353†	-1.4	-0.00018	mg/L	0.000615	-0.00018	mg/L	0.000615	350.58%
Sb 206.836†	4.7	0.00182	mg/L	0.001605	0.00182	mg/L	0.001605	88.19%
Se 196.026†	-3.4	-0.00220	mg/L	0.002309	-0.00220	mg/L	0.002309	105.15%
Si 288.158†	9.6	0.00889	mg/L	0.002805	0.00889	mg/L	0.002805	31.54%
Sn 189.927†	1.1	0.00025	mg/L	0.000889	0.00025	mg/L	0.000889	350.39%
Sr 421.552†	-8.4	-0.00001	mg/L	0.000014	-0.00001	mg/L	0.000014	124.73%
Ti 334.903†	-24.7	-0.00116	mg/L	0.001355	-0.00116	mg/L	0.001355	116.98%
Tl 190.801†	0.9	0.00059	mg/L	0.004154	0.00059	mg/L	0.004154	708.75%
V 292.402†	-29.6	-0.00020	mg/L	0.000190	-0.00020	mg/L	0.000190	93.03%
Zn 206.200†	6.1	0.00162	mg/L	0.000483	0.00162	mg/L	0.000483	29.82%

Sequence No.: 9
 Sample ID: YC77 A-L TWC
 Analyst: ALA
 Dilution: 5.000000X

Autosampler Location: 305
 Date Collected: 3/20/2014 9:28:36 AM
 Data Type: Original

Nebulizer Parameters: YC77 A-L TWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC77 A-L TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2349120.8	100.6	%	0.32				0.32%
ScR 361.383	283912.1	99.60	%	0.353				0.35%
Ag 328.068†	-21.3	-0.00005	mg/L	0.000091	-0.00027	mg/L	0.000457	168.80%
Al 308.215†	67.5	0.07393	mg/L	0.007423	0.3696	mg/L	0.03711	10.04%
As 188.979†	14.0	0.01210	mg/L	0.002964	0.06051	mg/L	0.014821	24.49%
B 249.677†	417.2	0.07969	mg/L	0.000118	0.3985	mg/L	0.00059	0.15%
Ba 233.527†	13.3	0.00196	mg/L	0.000271	0.00980	mg/L	0.001354	13.81%
Be 313.042†	0.3	-0.00001	mg/L	0.000007	-0.00004	mg/L	0.000036	94.12%
Ca 317.933†	49835.9	5.616	mg/L	0.0485	28.08	mg/L	0.243	0.86%
Cd 228.802†	5.9	0.00022	mg/L	0.000196	0.00109	mg/L	0.000978	89.44%
Co 228.616†	16.5	0.00039	mg/L	0.000120	0.00196	mg/L	0.000599	30.59%
Cr 267.716†	54.1	0.00784	mg/L	0.000570	0.03919	mg/L	0.002848	7.27%
Cu 324.752†	477.9	0.00220	mg/L	0.000218	0.01101	mg/L	0.001091	9.91%
Fe 273.955†	3859.6	4.177	mg/L	0.0521	20.89	mg/L	0.260	1.25%
K 766.490†	5988.0	2.911	mg/L	0.0085	14.56	mg/L	0.043	0.29%
Mg 279.077†	4304.8	4.972	mg/L	0.0549	24.86	mg/L	0.274	1.10%
Mn 257.610†	2606.4	0.07544	mg/L	0.000397	0.3772	mg/L	0.00199	0.53%
Mo 202.031†	22.1	0.00117	mg/L	0.000105	0.00586	mg/L	0.000525	8.97%
Na 589.592†	404886.1	32.90	mg/L	0.337	164.5	mg/L	1.69	1.03%
Na 330.237†	805.5	33.30	mg/L	0.706	166.5	mg/L	3.53	2.12%
Ni 231.604†	0.8	0.00024	mg/L	0.000773	0.00118	mg/L	0.003864	326.87%
Pb 220.353†	-3.4	-0.00015	mg/L	0.000856	-0.00076	mg/L	0.004279	566.50%
Sb 206.836†	4.3	0.00168	mg/L	0.002482	0.00840	mg/L	0.012409	147.78%
Se 196.026†	2.7	0.00171	mg/L	0.004297	0.00854	mg/L	0.021483	251.59%
Si 288.158†	1403.5	1.297	mg/L	0.0122	6.485	mg/L	0.0610	0.94%
Sn 189.927†	-11.5	-0.00149	mg/L	0.000710	-0.00745	mg/L	0.003551	47.69%
Sr 421.552†	21082.1	0.02715	mg/L	0.000136	0.1358	mg/L	0.00068	0.50%
Ti 334.903†	1468.9	0.06824	mg/L	0.000904	0.3412	mg/L	0.00452	1.32%
Tl 190.801†	3.7	0.00223	mg/L	0.000634	0.01117	mg/L	0.003171	28.38%
V 292.402†	4344.2	0.02984	mg/L	0.000115	0.1492	mg/L	0.00057	0.39%
Zn 206.200†	3.4	0.00107	mg/L	0.000279	0.00533	mg/L	0.001397	26.21%

Sequence No.: 10
 Sample ID: YC77 A TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 306
 Date Collected: 3/20/2014 9:32:50 AM
 Data Type: Original

Nebulizer Parameters: YC77 A TWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC77 A TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2306788.8	98.74	%	0.857				0.87%
ScR 361.383	276370.6	96.96	%	0.875				0.90%
Ag 328.068†	-104.8	-0.00027	mg/L	0.000163	-0.00027	mg/L	0.000163	60.56%
Al 308.215†	331.3	0.3631	mg/L	0.00397	0.3631	mg/L	0.00397	1.09%
As 188.979†	65.1	0.05709	mg/L	0.002960	0.05709	mg/L	0.002960	5.19%
B 249.677†	2029.7	0.3877	mg/L	0.00305	0.3877	mg/L	0.00305	0.79%
Ba 233.527†	47.8	0.00635	mg/L	0.000352	0.00635	mg/L	0.000352	5.54%
Be 313.042†	98.7	0.00015	mg/L	0.000029	0.00015	mg/L	0.000029	19.82%
Ca 317.933†	240313.3	27.08	mg/L	0.126	27.08	mg/L	0.126	0.46%
Cd 228.802†	15.1	0.00045	mg/L	0.000118	0.00045	mg/L	0.000118	26.38%
Co 228.616†	71.1	0.00160	mg/L	0.000133	0.00160	mg/L	0.000133	8.29%
Cr 267.716†	188.3	0.02690	mg/L	0.000500	0.02690	mg/L	0.000500	1.86%
Cu 324.752†	1694.2	0.00802	mg/L	0.000269	0.00802	mg/L	0.000269	3.35%
Fe 273.955†	19427.5	21.03	mg/L	0.191	21.03	mg/L	0.191	0.91%
K 766.490†	30466.9	14.81	mg/L	0.057	14.81	mg/L	0.057	0.38%
Mg 279.077†	21815.2	25.20	mg/L	0.061	25.20	mg/L	0.061	0.24%
Mn 257.610†	12551.1	0.3633	mg/L	0.00200	0.3633	mg/L	0.00200	0.55%
Mo 202.031†	71.1	0.00362	mg/L	0.000447	0.00362	mg/L	0.000447	12.35%
Na 589.592†	2033247.7	165.2	mg/L	0.48	165.2	mg/L	0.48	0.29%
Na 330.237†	4029.6	166.6	mg/L	0.95	166.6	mg/L	0.95	0.57%
Ni 231.604†	5.8	0.00180	mg/L	0.001634	0.00180	mg/L	0.001634	90.89%
Pb 220.353†	-14.1	-0.00039	mg/L	0.000867	-0.00039	mg/L	0.000867	222.77%
Sb 206.836†	13.5	0.00556	mg/L	0.001555	0.00556	mg/L	0.001555	27.96%
Se 196.026†	12.2	0.00778	mg/L	0.002339	0.00778	mg/L	0.002339	30.06%
Si 288.158†	7042.7	6.508	mg/L	0.0404	6.508	mg/L	0.0404	0.62%
Sn 189.927†	-47.6	-0.00546	mg/L	0.000474	-0.00546	mg/L	0.000474	8.68%
Sr 421.552†	106751.9	0.1375	mg/L	0.00057	0.1375	mg/L	0.00057	0.41%
Ti 334.903†	7391.2	0.3435	mg/L	0.00104	0.3435	mg/L	0.00104	0.30%
Tl 190.801†	17.1	0.01052	mg/L	0.000278	0.01052	mg/L	0.000278	2.65%
V 292.402†	21803.6	0.1497	mg/L	0.00045	0.1497	mg/L	0.00045	0.30%
Zn 206.200†	7.0	0.00272	mg/L	0.000476	0.00272	mg/L	0.000476	17.47%

Sequence No.: 11
 Sample ID: YC77 ADUP TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 307
 Date Collected: 3/20/2014 9:37:06 AM
 Data Type: Original

 Nebulizer Parameters: YC77 ADUP TWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

 Mean Data: YC77 ADUP TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2313681.1	99.04	%	0.611				0.62%
ScR 361.383	283431.5	99.43	%	0.328				0.33%
Ag 328.068†	-87.6	-0.00019	mg/L	0.000194	-0.00019	mg/L	0.000194	103.99%
Al 308.215†	334.6	0.3667	mg/L	0.00916	0.3667	mg/L	0.00916	2.50%
As 188.979†	66.0	0.05779	mg/L	0.002086	0.05779	mg/L	0.002086	3.61%
B 249.677†	2066.6	0.3948	mg/L	0.00616	0.3948	mg/L	0.00616	1.56%
Ba 233.527†	48.0	0.00634	mg/L	0.000327	0.00634	mg/L	0.000327	5.16%
Be 313.042†	114.3	0.00017	mg/L	0.000040	0.00017	mg/L	0.000040	22.79%
Ca 317.933†	242102.5	27.28	mg/L	0.229	27.28	mg/L	0.229	0.84%
Cd 228.802†	16.5	0.00051	mg/L	0.000066	0.00051	mg/L	0.000066	12.99%
Co 228.616†	67.6	0.00149	mg/L	0.000268	0.00149	mg/L	0.000268	18.05%
Cr 267.716†	199.7	0.02859	mg/L	0.000567	0.02859	mg/L	0.000567	1.98%
Cu 324.752†	1738.4	0.00823	mg/L	0.000375	0.00823	mg/L	0.000375	4.56%
Fe 273.955†	19807.3	21.44	mg/L	0.156	21.44	mg/L	0.156	0.73%
K 766.490†	30490.0	14.82	mg/L	0.120	14.82	mg/L	0.120	0.81%
Mg 279.077†	22015.5	25.43	mg/L	0.273	25.43	mg/L	0.273	1.07%
Mn 257.610†	12777.8	0.3699	mg/L	0.00219	0.3699	mg/L	0.00219	0.59%
Mo 202.031†	77.0	0.00395	mg/L	0.000097	0.00395	mg/L	0.000097	2.45%
Na 589.592†	2042894.4	166.0	mg/L	0.60	166.0	mg/L	0.60	0.36%
Na 330.237†	4051.9	167.5	mg/L	1.62	167.5	mg/L	1.62	0.97%
Ni 231.604†	3.1	0.00096	mg/L	0.000994	0.00096	mg/L	0.000994	103.60%
Pb 220.353†	-18.8	-0.00096	mg/L	0.000874	-0.00096	mg/L	0.000874	90.97%
Sb 206.836†	7.3	0.00320	mg/L	0.000838	0.00320	mg/L	0.000838	26.22%
Se 196.026†	18.8	0.01201	mg/L	0.004048	0.01201	mg/L	0.004048	33.71%
Si 288.158†	21510.6	19.88	mg/L	0.189	19.88	mg/L	0.189	0.95%
Sn 189.927†	-47.8	-0.00546	mg/L	0.000541	-0.00546	mg/L	0.000541	9.90%
Sr 421.552†	107832.0	0.1389	mg/L	0.00049	0.1389	mg/L	0.00049	0.36%
Ti 334.903†	7443.1	0.3459	mg/L	0.00391	0.3459	mg/L	0.00391	1.13%
Tl 190.801†	20.5	0.01262	mg/L	0.002974	0.01262	mg/L	0.002974	23.57%
V 292.402†	22285.6	0.1530	mg/L	0.00090	0.1530	mg/L	0.00090	0.59%
Zn 206.200†	-2.8	0.00263	mg/L	0.000504	0.00263	mg/L	0.000504	19.17%

Sequence No.: 12
 Sample ID: YC77 ASPK TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 308
 Date Collected: 3/20/2014 9:41:22 AM
 Data Type: Original

Nebulizer Parameters: YC77 ASPK TWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC77 ASPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2322519.6	99.42	%	0.871			0.88%
ScR 361.383	286195.4	100.4	%	0.38			0.38%
Ag 328.068†	115784.1	0.5374	mg/L	0.00476	0.5374 mg/L	0.00476	0.89%
Al 308.215†	2124.7	2.337	mg/L	0.0112	2.337 mg/L	0.0112	0.48%
As 188.979†	2851.3	2.147	mg/L	0.0261	2.147 mg/L	0.0261	1.22%
B 249.677†	2065.9	0.3936	mg/L	0.00170	0.3936 mg/L	0.00170	0.43%
Ba 233.527†	11055.1	2.049	mg/L	0.0074	2.049 mg/L	0.0074	0.36%
Be 313.042†	246953.9	0.4677	mg/L	0.00145	0.4677 mg/L	0.00145	0.31%
Ca 317.933†	335722.8	37.83	mg/L	0.080	37.83 mg/L	0.080	0.21%
Cd 228.802†	11267.4	0.5154	mg/L	0.00633	0.5154 mg/L	0.00633	1.23%
Co 228.616†	15684.4	0.4886	mg/L	0.00601	0.4886 mg/L	0.00601	1.23%
Cr 267.716†	3557.9	0.5295	mg/L	0.00061	0.5295 mg/L	0.00061	0.12%
Cu 324.752†	120476.1	0.5199	mg/L	0.00603	0.5199 mg/L	0.00603	1.16%
Fe 273.955†	21648.6	23.43	mg/L	0.072	23.43 mg/L	0.072	0.31%
K 766.490†	50855.4	24.72	mg/L	0.037	24.72 mg/L	0.037	0.15%
Mg 279.077†	31301.7	36.16	mg/L	0.065	36.16 mg/L	0.065	0.18%
Mn 257.610†	28616.9	0.8289	mg/L	0.00546	0.8289 mg/L	0.00546	0.66%
Mo 202.031†	90.8	0.00458	mg/L	0.000227	0.00458 mg/L	0.000227	4.96%
Na 589.592†	2143391.0	174.2	mg/L	0.22	174.2 mg/L	0.22	0.12%
Na 330.237†	4329.1	178.8	mg/L	0.27	178.8 mg/L	0.27	0.15%
Ni 231.604†	1572.3	0.4888	mg/L	0.00192	0.4888 mg/L	0.00192	0.39%
Pb 220.353†	15454.3	1.935	mg/L	0.0256	1.935 mg/L	0.0256	1.32%
Sb 206.836†	26.4	0.00581	mg/L	0.000786	0.00581 mg/L	0.000786	13.53%
Se 196.026†	3241.4	2.087	mg/L	0.0264	2.087 mg/L	0.0264	1.27%
Si 288.158†	10434.1	9.645	mg/L	0.0182	9.645 mg/L	0.0182	0.19%
Sn 189.927†	-59.8	-0.00609	mg/L	0.000977	-0.00609 mg/L	0.000977	16.04%
Sr 421.552†	480938.4	0.6195	mg/L	0.00202	0.6195 mg/L	0.00202	0.33%
Ti 334.903†	7570.1	0.3507	mg/L	0.00091	0.3507 mg/L	0.00091	0.26%
Tl 190.801†	3253.7	2.010	mg/L	0.0215	2.010 mg/L	0.0215	1.07%
V 292.402†	94253.6	0.6538	mg/L	0.00759	0.6538 mg/L	0.00759	1.16%
Zn 206.200†	1826.2	0.4828	mg/L	0.00084	0.4828 mg/L	0.00084	0.17%

Sequence No.: 13
 Sample ID: YC77 F-L WMN
 Analyst: ALA
 Dilution: 5.000000X

Autosampler Location: 309
 Date Collected: 3/20/2014 9:45:39 AM
 Data Type: Original

Nebulizer Parameters: YC77 F-L WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC77 F-L WMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2374729.9	101.7 %	0.57			0.56%
ScR 361.383	291407.4	102.2 %	0.84			0.82%
Ag 328.068†	-22.5	-0.00006 mg/L	0.000098	-0.00032 mg/L	0.000490	153.00%
Al 308.215†	35.6	0.03890 mg/L	0.002236	0.1945 mg/L	0.01118	5.75%
As 188.979†	17.3	0.01313 mg/L	0.001097	0.06565 mg/L	0.005483	8.35%
B 249.677†	424.8	0.08115 mg/L	0.000744	0.4058 mg/L	0.00372	0.92%
Ba 233.527†	10.3	0.00144 mg/L	0.000492	0.00720 mg/L	0.002458	34.15%
Be 313.042†	-12.0	-0.00003 mg/L	0.000028	-0.00014 mg/L	0.000142	99.24%
Ca 317.933†	46205.9	5.207 mg/L	0.0221	26.04 mg/L	0.110	0.42%
Cd 228.802†	3.4	0.00009 mg/L	0.000044	0.00046 mg/L	0.000221	47.70%
Co 228.616†	14.3	0.00040 mg/L	0.000099	0.00199 mg/L	0.000493	24.73%
Cr 267.716†	36.2	0.00516 mg/L	0.000283	0.02582 mg/L	0.001414	5.48%
Cu 324.752†	111.5	0.00062 mg/L	0.000194	0.00310 mg/L	0.000971	31.32%
Fe 273.955†	3596.0	3.892 mg/L	0.0431	19.46 mg/L	0.216	1.11%
K 766.490†	5778.3	2.809 mg/L	0.0302	14.05 mg/L	0.151	1.08%
Mg 279.077†	4156.6	4.801 mg/L	0.0233	24.01 mg/L	0.116	0.48%
Mn 257.610†	2407.2	0.06968 mg/L	0.000648	0.3484 mg/L	0.00324	0.93%
Mo 202.031†	19.0	0.00100 mg/L	0.000213	0.00500 mg/L	0.001066	21.32%
Na 589.592†	390995.2	31.78 mg/L	0.128	158.9 mg/L	0.64	0.40%
Na 330.237†	778.4	32.17 mg/L	0.614	160.8 mg/L	3.07	1.91%
Ni 231.604†	3.5	0.00109 mg/L	0.001006	0.00547 mg/L	0.005029	91.86%
Pb 220.353†	-8.4	-0.00081 mg/L	0.000554	-0.00404 mg/L	0.002770	68.58%
Sb 206.836†	2.3	0.00091 mg/L	0.001324	0.00453 mg/L	0.006619	146.00%
Se 196.026†	3.1	0.00197 mg/L	0.001459	0.00986 mg/L	0.007295	73.96%
Si 288.158†	5596.1	5.171 mg/L	0.0370	25.86 mg/L	0.185	0.71%
Sn 189.927†	-11.1	-0.00149 mg/L	0.000696	-0.00743 mg/L	0.003479	46.84%
Sr 421.552†	20114.0	0.02591 mg/L	0.000216	0.1295 mg/L	0.00108	0.83%
Ti 334.903†	550.1	0.02524 mg/L	0.000387	0.1262 mg/L	0.00193	1.53%
Tl 190.801†	8.5	0.00527 mg/L	0.002261	0.02635 mg/L	0.011306	42.90%
V 292.402†	3319.1	0.02276 mg/L	0.000284	0.1138 mg/L	0.00142	1.25%
Zn 206.200†	0.7	0.00108 mg/L	0.000224	0.00538 mg/L	0.001120	20.83%

Sequence No.: 14
 Sample ID: YC77 F WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 310
 Date Collected: 3/20/2014 9:49:53 AM
 Data Type: Original

 Nebulizer Parameters: YC77 F WMN

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC77 F WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2414856.0	103.4	%	0.56				0.54%
ScR 361.383	289017.6	101.4	%	1.08				1.06%
Ag 328.068†	-131.6	-0.00040	mg/L	0.000115	-0.00040	mg/L	0.000115	28.50%
Al 308.215†	217.0	0.2377	mg/L	0.00673	0.2377	mg/L	0.00673	2.83%
As 188.979†	79.3	0.06044	mg/L	0.001451	0.06044	mg/L	0.001451	2.40%
B 249.677†	2114.0	0.4038	mg/L	0.00752	0.4038	mg/L	0.00752	1.86%
Ba 233.527†	44.0	0.00573	mg/L	0.000807	0.00573	mg/L	0.000807	14.08%
Be 313.042†	87.9	0.00014	mg/L	0.000054	0.00014	mg/L	0.000054	39.89%
Ca 317.933†	240249.9	27.08	mg/L	0.168	27.08	mg/L	0.168	0.62%
Cd 228.802†	9.4	0.00012	mg/L	0.000324	0.00012	mg/L	0.000324	260.93%
Co 228.616†	67.3	0.00185	mg/L	0.000037	0.00185	mg/L	0.000037	2.02%
Cr 267.716†	118.0	0.01637	mg/L	0.001054	0.01637	mg/L	0.001054	6.44%
Cu 324.752†	151.5	0.00137	mg/L	0.000189	0.00137	mg/L	0.000189	13.78%
Fe 273.955†	18719.4	20.26	mg/L	0.255	20.26	mg/L	0.255	1.26%
K 766.490†	30902.4	15.02	mg/L	0.157	15.02	mg/L	0.157	1.04%
Mg 279.077†	21958.0	25.36	mg/L	0.396	25.36	mg/L	0.396	1.56%
Mn 257.610†	12486.6	0.3614	mg/L	0.00391	0.3614	mg/L	0.00391	1.08%
Mo 202.031†	66.9	0.00338	mg/L	0.000080	0.00338	mg/L	0.000080	2.37%
Na 589.592†	2062301.8	167.6	mg/L	0.43	167.6	mg/L	0.43	0.25%
Na 330.237†	4059.5	167.8	mg/L	1.27	167.8	mg/L	1.27	0.76%
Ni 231.604†	0.8	0.00025	mg/L	0.001223	0.00025	mg/L	0.001223	493.39%
Pb 220.353†	-17.8	-0.00095	mg/L	0.000257	-0.00095	mg/L	0.000257	26.88%
Sb 206.836†	-1.4	-0.00028	mg/L	0.003649	-0.00028	mg/L	0.003649	>999.9%
Se 196.026†	23.6	0.01512	mg/L	0.003528	0.01512	mg/L	0.003528	23.34%
Si 288.158†	29931.8	27.66	mg/L	0.286	27.66	mg/L	0.286	1.03%
Sn 189.927†	-40.7	-0.00397	mg/L	0.000736	-0.00397	mg/L	0.000736	18.53%
Sr 421.552†	106250.1	0.1369	mg/L	0.00016	0.1369	mg/L	0.00016	0.11%
Ti 334.903†	3005.4	0.1381	mg/L	0.00267	0.1381	mg/L	0.00267	1.93%
Tl 190.801†	23.4	0.01441	mg/L	0.005012	0.01441	mg/L	0.005012	34.79%
V 292.402†	17215.5	0.1180	mg/L	0.00028	0.1180	mg/L	0.00028	0.23%
Zn 206.200†	-15.3	0.00079	mg/L	0.000923	0.00079	mg/L	0.000923	116.17%

Sequence No.: 15
 Sample ID: YC77 FDUP WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 311
 Date Collected: 3/20/2014 9:54:09 AM
 Data Type: Original

Nebulizer Parameters: YC77 FDUP WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC77 FDUP WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2406128.4	103.0	%	0.40			0.39%
ScR 361.383	290984.0	102.1	%	0.87			0.85%
Ag 328.068†	-113.8	-0.00032	mg/L	0.000074	-0.00032	mg/L	23.25%
Al 308.215†	220.5	0.2415	mg/L	0.00372	0.2415	mg/L	1.54%
As 188.979†	80.9	0.06181	mg/L	0.004386	0.06181	mg/L	7.10%
B 249.677†	2136.2	0.4080	mg/L	0.00394	0.4080	mg/L	0.97%
Ba 233.527†	42.1	0.00535	mg/L	0.000388	0.00535	mg/L	7.25%
Be 313.042†	103.8	0.00017	mg/L	0.000038	0.00017	mg/L	23.24%
Ca 317.933†	242066.2	27.28	mg/L	0.024	27.28	mg/L	0.09%
Cd 228.802†	13.2	0.00030	mg/L	0.000098	0.00030	mg/L	32.82%
Co 228.616†	61.0	0.00164	mg/L	0.000196	0.00164	mg/L	11.94%
Cr 267.716†	118.2	0.01637	mg/L	0.000447	0.01637	mg/L	2.73%
Cu 324.752†	219.3	0.00168	mg/L	0.000054	0.00168	mg/L	3.22%
Fe 273.955†	18983.5	20.55	mg/L	0.281	20.55	mg/L	1.37%
K 766.490†	30866.2	15.01	mg/L	0.124	15.01	mg/L	0.83%
Mg 279.077†	22235.5	25.68	mg/L	0.278	25.68	mg/L	1.08%
Mn 257.610†	12566.2	0.3637	mg/L	0.00451	0.3637	mg/L	1.24%
Mo 202.031†	69.1	0.00351	mg/L	0.000251	0.00351	mg/L	7.15%
Na 589.592†	2056052.9	167.1	mg/L	0.95	167.1	mg/L	0.57%
Na 330.237†	4069.5	168.2	mg/L	1.11	168.2	mg/L	0.66%
Ni 231.604†	4.1	0.00126	mg/L	0.002110	0.00126	mg/L	167.10%
Pb 220.353†	-9.9	0.00005	mg/L	0.001467	0.00005	mg/L	>999.9%
Sb 206.836†	1.7	0.00093	mg/L	0.000391	0.00093	mg/L	41.96%
Se 196.026†	24.1	0.01547	mg/L	0.001357	0.01547	mg/L	8.77%
Si 288.158†	30079.4	27.80	mg/L	0.217	27.80	mg/L	0.78%
Sn 189.927†	-36.0	-0.00289	mg/L	0.000834	-0.00289	mg/L	28.84%
Sr 421.552†	106188.0	0.1368	mg/L	0.00089	0.1368	mg/L	0.65%
Ti 334.903†	3121.9	0.1435	mg/L	0.00146	0.1435	mg/L	1.02%
Tl 190.801†	26.4	0.01632	mg/L	0.001942	0.01632	mg/L	11.90%
V 292.402†	17423.9	0.1194	mg/L	0.00018	0.1194	mg/L	0.15%
Zn 206.200†	-15.1	0.00086	mg/L	0.000603	0.00086	mg/L	70.33%

Sequence No.: 16
 Sample ID: YC77 FSPK WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 312
 Date Collected: 3/20/2014 9:58:25 AM
 Data Type: Original

 Nebulizer Parameters: YC77 FSPK WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

 Mean Data: YC77 FSPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2427993.8	103.9	%	0.22				0.21%
ScR 361.383	301538.1	105.8	%	0.59				0.56%
Ag 328.068†	101658.2	0.4719	mg/L	0.00171	0.4719	mg/L	0.00171	0.36%
Al 308.215†	2009.1	2.210	mg/L	0.0123	2.210	mg/L	0.0123	0.56%
As 188.979†	3035.2	2.278	mg/L	0.0039	2.278	mg/L	0.0039	0.17%
B 249.677†	2059.3	0.3923	mg/L	0.00415	0.3923	mg/L	0.00415	1.06%
Ba 233.527†	11135.8	2.065	mg/L	0.0176	2.065	mg/L	0.0176	0.85%
Be 313.042†	235268.4	0.4456	mg/L	0.00291	0.4456	mg/L	0.00291	0.65%
Ca 317.933†	330133.9	37.20	mg/L	0.132	37.20	mg/L	0.132	0.35%
Cd 228.802†	11665.2	0.5332	mg/L	0.00089	0.5332	mg/L	0.00089	0.17%
Co 228.616†	16018.5	0.4993	mg/L	0.00112	0.4993	mg/L	0.00112	0.22%
Cr 267.716†	3511.2	0.5225	mg/L	0.00507	0.5225	mg/L	0.00507	0.97%
Cu 324.752†	119764.2	0.5168	mg/L	0.00051	0.5168	mg/L	0.00051	0.10%
Fe 273.955†	20140.3	21.80	mg/L	0.212	21.80	mg/L	0.212	0.97%
K 766.490†	49934.8	24.28	mg/L	0.075	24.28	mg/L	0.075	0.31%
Mg 279.077†	30903.2	35.70	mg/L	0.342	35.70	mg/L	0.342	0.96%
Mn 257.610†	28040.7	0.8122	mg/L	0.00276	0.8122	mg/L	0.00276	0.34%
Mo 202.031†	81.2	0.00404	mg/L	0.000147	0.00404	mg/L	0.000147	3.64%
Na 589.592†	2082605.8	169.2	mg/L	1.16	169.2	mg/L	1.16	0.69%
Na 330.237†	4196.6	173.3	mg/L	1.13	173.3	mg/L	1.13	0.65%
Ni 231.604†	1587.3	0.4934	mg/L	0.00530	0.4934	mg/L	0.00530	1.07%
Pb 220.353†	15907.7	1.992	mg/L	0.0037	1.992	mg/L	0.0037	0.18%
Sb 206.836†	11.1	-0.00024	mg/L	0.001752	-0.00024	mg/L	0.001752	719.20%
Se 196.026†	3825.4	2.463	mg/L	0.0049	2.463	mg/L	0.0049	0.20%
Si 288.158†	29069.9	26.87	mg/L	0.219	26.87	mg/L	0.219	0.81%
Sn 189.927†	-51.5	-0.00441	mg/L	0.000799	-0.00441	mg/L	0.000799	18.12%
Sr 421.552†	476625.4	0.6139	mg/L	0.00409	0.6139	mg/L	0.00409	0.67%
Ti 334.903†	3622.4	0.1658	mg/L	0.00218	0.1658	mg/L	0.00218	1.32%
Tl 190.801†	3341.8	2.065	mg/L	0.0049	2.065	mg/L	0.0049	0.24%
V 292.402†	89968.7	0.6243	mg/L	0.00117	0.6243	mg/L	0.00117	0.19%
Zn 206.200†	1877.3	0.4994	mg/L	0.00543	0.4994	mg/L	0.00543	1.09%

Sequence No.: 17
 Sample ID: YC77 MB1SPK TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 313
 Date Collected: 3/20/2014 10:02:42 AM
 Data Type: Original

 Nebulizer Parameters: YC77 MB1SPK TWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

 Mean Data: YC77 MB1SPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2383250.9	102.0	%	0.27				0.27%
ScR 361.383	291914.1	102.4	%	0.27				0.26%
Ag 328.068†	114616.6	0.5318	mg/L	0.00142	0.5318	mg/L	0.00142	0.27%
Al 308.215†	1802.1	1.984	mg/L	0.0094	1.984	mg/L	0.0094	0.48%
As 188.979†	2721.2	2.041	mg/L	0.0084	2.041	mg/L	0.0084	0.41%
B 249.677†	19.9	0.00276	mg/L	0.001079	0.00276	mg/L	0.001079	39.07%
Ba 233.527†	11194.5	2.078	mg/L	0.0146	2.078	mg/L	0.0146	0.71%
Be 313.042†	244630.3	0.4634	mg/L	0.00145	0.4634	mg/L	0.00145	0.31%
Ca 317.933†	87140.5	9.820	mg/L	0.0170	9.820	mg/L	0.0170	0.17%
Cd 228.802†	11019.0	0.5043	mg/L	0.00247	0.5043	mg/L	0.00247	0.49%
Co 228.616†	15870.5	0.4950	mg/L	0.00156	0.4950	mg/L	0.00156	0.32%
Cr 267.716†	3423.6	0.5107	mg/L	0.00246	0.5107	mg/L	0.00246	0.48%
Cu 324.752†	113591.6	0.4895	mg/L	0.00186	0.4895	mg/L	0.00186	0.38%
Fe 273.955†	1811.3	1.957	mg/L	0.0131	1.957	mg/L	0.0131	0.67%
K 766.490†	20215.7	9.828	mg/L	0.0385	9.828	mg/L	0.0385	0.39%
Mg 279.077†	8854.7	10.24	mg/L	0.068	10.24	mg/L	0.068	0.67%
Mn 257.610†	16193.2	0.4693	mg/L	0.00250	0.4693	mg/L	0.00250	0.53%
Mo 202.031†	25.3	0.00129	mg/L	0.000085	0.00129	mg/L	0.000085	6.56%
Na 589.592†	122120.2	9.924	mg/L	0.0238	9.924	mg/L	0.0238	0.24%
Na 330.237†	248.2	10.12	mg/L	0.186	10.12	mg/L	0.186	1.84%
Ni 231.604†	1603.2	0.4983	mg/L	0.00357	0.4983	mg/L	0.00357	0.72%
Pb 220.353†	15718.5	1.967	mg/L	0.0087	1.967	mg/L	0.0087	0.44%
Sb 206.836†	13.4	0.00027	mg/L	0.001518	0.00027	mg/L	0.001518	552.64%
Se 196.026†	3118.5	2.008	mg/L	0.0093	2.008	mg/L	0.0093	0.46%
Si 288.158†	38.5	0.03784	mg/L	0.008615	0.03784	mg/L	0.008615	22.77%
Sn 189.927†	-19.5	-0.00241	mg/L	0.000375	-0.00241	mg/L	0.000375	15.53%
Sr 421.552†	374975.9	0.4830	mg/L	0.00116	0.4830	mg/L	0.00116	0.24%
Ti 334.903†	48.8	0.00120	mg/L	0.000810	0.00120	mg/L	0.000810	67.61%
Tl 190.801†	3283.8	2.029	mg/L	0.0023	2.029	mg/L	0.0023	0.12%
V 292.402†	71821.0	0.4999	mg/L	0.00153	0.4999	mg/L	0.00153	0.31%
Zn 206.200†	1844.0	0.4860	mg/L	0.00286	0.4860	mg/L	0.00286	0.59%

Sequence No.: 18
 Sample ID: CV 2
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/20/2014 10:06:42 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2393019.4	102.4 %	0.48			0.47%
ScR 361.383	289723.5	101.6 %	0.65			0.64%
Ag 328.068†	218192.1	1.012 mg/L	0.0030	1.012 mg/L	0.0030	0.30%
Al 308.215†	1829.6	1.990 mg/L	0.0208	1.990 mg/L	0.0208	1.04%
As 188.979†	2645.5	2.017 mg/L	0.0046	2.017 mg/L	0.0046	0.23%
B 249.677†	5187.0	0.9898 mg/L	0.00985	0.9898 mg/L	0.00985	1.00%
Ba 233.527†	5556.8	1.031 mg/L	0.0071	1.031 mg/L	0.0071	0.69%
Be 313.042†	494202.3	0.9361 mg/L	0.00129	0.9361 mg/L	0.00129	0.14%
Ca 317.933†	18193.6	2.050 mg/L	0.0198	2.050 mg/L	0.0198	0.97%
Cd 228.802†	22098.7	1.022 mg/L	0.0019	1.022 mg/L	0.0019	0.18%
Co 228.616†	32300.4	1.006 mg/L	0.0015	1.006 mg/L	0.0015	0.15%
Cr 267.716†	6862.5	1.025 mg/L	0.0103	1.025 mg/L	0.0103	1.01%
Cu 324.752†	230798.3	0.9941 mg/L	0.00103	0.9941 mg/L	0.00103	0.10%
Fe 273.955†	1813.7	1.957 mg/L	0.0190	1.957 mg/L	0.0190	0.97%
K 766.490†	40229.5	19.56 mg/L	0.076	19.56 mg/L	0.076	0.39%
Mg 279.077†	1693.6	1.964 mg/L	0.0237	1.964 mg/L	0.0237	1.21%
Mn 257.610†	32342.3	0.9371 mg/L	0.00308	0.9371 mg/L	0.00308	0.33%
Mo 202.031†	17275.4	0.9819 mg/L	0.00288	0.9819 mg/L	0.00288	0.29%
Na 589.592†	609301.2	49.52 mg/L	0.160	49.52 mg/L	0.160	0.32%
Na 330.237†	1217.9	50.29 mg/L	0.444	50.29 mg/L	0.444	0.88%
Ni 231.604†	3238.5	1.009 mg/L	0.0108	1.009 mg/L	0.0108	1.07%
Pb 220.353†	15808.5	1.979 mg/L	0.0047	1.979 mg/L	0.0047	0.24%
Sb 206.836†	5379.5	2.069 mg/L	0.0009	2.069 mg/L	0.0009	0.04%
Se 196.026†	3088.8	1.988 mg/L	0.0034	1.988 mg/L	0.0034	0.17%
Si 288.158†	2204.1	2.041 mg/L	0.0145	2.041 mg/L	0.0145	0.71%
Sn 189.927†	4409.0	0.9787 mg/L	0.00180	0.9787 mg/L	0.00180	0.18%
Sr 421.552†	756265.9	0.9741 mg/L	0.00108	0.9741 mg/L	0.00108	0.11%
Ti 334.903†	20866.5	0.9762 mg/L	0.00245	0.9762 mg/L	0.00245	0.25%
Tl 190.801†	3345.1	2.064 mg/L	0.0061	2.064 mg/L	0.0061	0.29%
V 292.402†	140173.0	0.9758 mg/L	0.00441	0.9758 mg/L	0.00441	0.45%
Zn 206.200†	3739.5	0.9858 mg/L	0.00861	0.9858 mg/L	0.00861	0.87%

Sequence No.: 19
 Sample ID: CB ✓
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/20/2014 10:10:31 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2392051.5	102.4	%	0.37				0.36%
ScR 361.383	289669.6	101.6	%	0.39				0.39%
Ag 328.068†	-24.7	-0.00011	mg/L	0.000121	-0.00011	mg/L	0.000121	105.79%
Al 308.215†	-4.2	-0.00469	mg/L	0.003334	-0.00469	mg/L	0.003334	71.03%
As 188.979†	2.7	0.00197	mg/L	0.001085	0.00197	mg/L	0.001085	55.04%
B 249.677†	12.1	0.00232	mg/L	0.000650	0.00232	mg/L	0.000650	28.03%
Ba 233.527†	-0.2	-0.00003	mg/L	0.000571	-0.00003	mg/L	0.000571	>999.9%
Be 313.042†	33.1	0.00006	mg/L	0.000019	0.00006	mg/L	0.000019	29.84%
Ca 317.933†	-2.3	-0.00026	mg/L	0.000427	-0.00026	mg/L	0.000427	166.05%
Cd 228.802†	3.9	0.00017	mg/L	0.000132	0.00017	mg/L	0.000132	77.01%
Co 228.616†	1.2	0.00004	mg/L	0.000090	0.00004	mg/L	0.000090	239.72%
Cr 267.716†	0.9	0.00013	mg/L	0.000635	0.00013	mg/L	0.000635	471.43%
Cu 324.752†	130.7	0.00056	mg/L	0.000028	0.00056	mg/L	0.000028	4.97%
Fe 273.955†	-0.5	-0.00057	mg/L	0.002059	-0.00057	mg/L	0.002059	361.48%
K 766.490†	22.2	0.01080	mg/L	0.010953	0.01080	mg/L	0.010953	101.38%
Mg 279.077†	-0.0	-0.00002	mg/L	0.004436	-0.00002	mg/L	0.004436	>999.9%
Mn 257.610†	1.5	0.00004	mg/L	0.000156	0.00004	mg/L	0.000156	360.85%
Mo 202.031†	13.6	0.00077	mg/L	0.000257	0.00077	mg/L	0.000257	33.37%
Na 589.592†	196.1	0.01594	mg/L	0.001311	0.01594	mg/L	0.001311	8.23%
Na 330.237†	-8.6	-0.3566	mg/L	0.13682	-0.3566	mg/L	0.13682	38.37%
Ni 231.604†	0.8	0.00026	mg/L	0.000401	0.00026	mg/L	0.000401	152.90%
Pb 220.353†	0.3	0.00003	mg/L	0.001727	0.00003	mg/L	0.001727	>999.9%
Sb 206.836†	13.1	0.00504	mg/L	0.000731	0.00504	mg/L	0.000731	14.50%
Se 196.026†	-4.9	-0.00316	mg/L	0.002515	-0.00316	mg/L	0.002515	79.47%
Si 288.158†	-0.3	-0.00024	mg/L	0.003199	-0.00024	mg/L	0.003199	>999.9%
Sn 189.927†	3.3	0.00074	mg/L	0.000381	0.00074	mg/L	0.000381	51.57%
Sr 421.552†	27.4	0.00004	mg/L	0.000044	0.00004	mg/L	0.000044	123.79%
Ti 334.903†	-15.2	-0.00071	mg/L	0.000135	-0.00071	mg/L	0.000135	19.01%
Tl 190.801†	3.0	0.00183	mg/L	0.000991	0.00183	mg/L	0.000991	54.07%
V 292.402†	-26.1	-0.00018	mg/L	0.000135	-0.00018	mg/L	0.000135	75.16%
Zn 206.200†	0.0	0.00001	mg/L	0.000448	0.00001	mg/L	0.000448	>999.9%

Sequence No.: 20
 Sample ID: YC77 MB2 WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 314
 Date Collected: 3/20/2014 10:14:46 AM
 Data Type: Original

 Nebulizer Parameters: YC77 MB2 WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC77 MB2 WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2458174.5	105.2	%	0.40				0.38%
ScR 361.383	301556.1	105.8	%	1.39				1.31%
Ag 328.068†	-25.9	-0.00012	mg/L	0.000093	-0.00012	mg/L	0.000093	77.00%
Al 308.215†	-7.2	-0.00798	mg/L	0.004861	-0.00798	mg/L	0.004861	60.93%
As 188.979†	5.3	0.00394	mg/L	0.001431	0.00394	mg/L	0.001431	36.36%
B 249.677†	4.9	0.00092	mg/L	0.000409	0.00092	mg/L	0.000409	44.22%
Ba 233.527†	0.5	0.00008	mg/L	0.000768	0.00008	mg/L	0.000768	908.27%
Be 313.042†	-14.6	-0.00003	mg/L	0.000019	-0.00003	mg/L	0.000019	69.97%
Ca 317.933†	17.1	0.00193	mg/L	0.000890	0.00193	mg/L	0.000890	46.03%
Cd 228.802†	3.6	0.00015	mg/L	0.000114	0.00015	mg/L	0.000114	76.64%
Co 228.616†	17.1	0.00054	mg/L	0.000179	0.00054	mg/L	0.000179	33.42%
Cr 267.716†	2.0	0.00030	mg/L	0.000825	0.00030	mg/L	0.000825	277.20%
Cu 324.752†	88.4	0.00038	mg/L	0.000157	0.00038	mg/L	0.000157	41.16%
Fe 273.955†	0.3	0.00029	mg/L	0.000339	0.00029	mg/L	0.000339	118.45%
K 766.490†	37.4	0.01817	mg/L	0.019093	0.01817	mg/L	0.019093	105.07%
Mg 279.077†	-7.4	-0.00859	mg/L	0.003574	-0.00859	mg/L	0.003574	41.62%
Mn 257.610†	2.0	0.00006	mg/L	0.000044	0.00006	mg/L	0.000044	77.13%
Mo 202.031†	-8.5	-0.00049	mg/L	0.000169	-0.00049	mg/L	0.000169	34.85%
Na 589.592†	302.1	0.02455	mg/L	0.001410	0.02455	mg/L	0.001410	5.75%
Na 330.237†	-11.7	-0.4847	mg/L	0.30847	-0.4847	mg/L	0.30847	63.64%
Ni 231.604†	-1.5	-0.00048	mg/L	0.001281	-0.00048	mg/L	0.001281	269.50%
Pb 220.353†	-2.2	-0.00028	mg/L	0.000241	-0.00028	mg/L	0.000241	87.23%
Sb 206.836†	-9.7	-0.00375	mg/L	0.000936	-0.00375	mg/L	0.000936	24.94%
Se 196.026†	11.5	0.00739	mg/L	0.001399	0.00739	mg/L	0.001399	18.93%
Si 288.158†	-3.3	-0.00309	mg/L	0.006129	-0.00309	mg/L	0.006129	198.04%
Sn 189.927†	-0.3	-0.00006	mg/L	0.000641	-0.00006	mg/L	0.000641	>999.9%
Sr 421.552†	6.0	0.00001	mg/L	0.000014	0.00001	mg/L	0.000014	182.13%
Ti 334.903†	-17.6	-0.00082	mg/L	0.000553	-0.00082	mg/L	0.000553	67.22%
Tl 190.801†	5.5	0.00343	mg/L	0.000659	0.00343	mg/L	0.000659	19.22%
V 292.402†	-27.7	-0.00019	mg/L	0.000170	-0.00019	mg/L	0.000170	89.20%
Zn 206.200†	3.8	0.00099	mg/L	0.000600	0.00099	mg/L	0.000600	60.49%

Sequence No.: 21
 Sample ID: YC57 A-L SWC
 Analyst: ALA
 Dilution: 10.000000X

Autosampler Location: 315
 Date Collected: 3/20/2014 10:19:02 AM
 Data Type: Original

 Nebulizer Parameters: YC57 A-L SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 A-L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2430131.6	104.0	%	1.19			1.14%
ScR 361.383	294482.7	103.3	%	0.56			0.54%
Ag 328.068†	-56.3	-0.00021	mg/L	0.000226	-0.00206 mg/L	0.002260	109.71%
Al 308.215†	18028.2	19.92	mg/L	0.016	199.2 mg/L	0.16	0.08%
As 188.979†	-31.0	0.01272	mg/L	0.002066	0.1272 mg/L	0.02066	16.23%
B 249.677†	58.6	0.01118	mg/L	0.001004	0.1118 mg/L	0.01004	8.98%
Ba 233.527†	424.8	0.07572	mg/L	0.001088	0.7572 mg/L	0.01088	1.44%
Be 313.042†	168.8	0.00029	mg/L	0.000031	0.00293 mg/L	0.000310	10.56%
Ca 317.933†	52846.5	5.956	mg/L	0.0138	59.56 mg/L	0.138	0.23%
Cd 228.802†	11.0	0.00065	mg/L	0.000195	0.00650 mg/L	0.001951	30.01%
Co 228.616†	384.3	0.01014	mg/L	0.000152	0.1014 mg/L	0.00152	1.50%
Cr 267.716†	189.9	0.02895	mg/L	0.000876	0.2895 mg/L	0.00876	3.02%
Cu 324.752†	7807.7	0.03472	mg/L	0.000292	0.3472 mg/L	0.00292	0.84%
Fe 273.955†	24287.6	26.29	mg/L	0.073	262.9 mg/L	0.73	0.28%
K 766.490†	3513.7	1.708	mg/L	0.0022	17.08 mg/L	0.022	0.13%
Mg 279.077†	5672.9	6.532	mg/L	0.0147	65.32 mg/L	0.147	0.23%
Mn 257.610†	14588.9	0.4224	mg/L	0.00180	4.224 mg/L	0.0180	0.43%
Mo 202.031†	32.0	0.00173	mg/L	0.000262	0.01726 mg/L	0.002615	15.15%
Na 589.592†	45259.0	3.678	mg/L	0.0030	36.78 mg/L	0.030	0.08%
Na 330.237†	78.7	3.506	mg/L	0.1739	35.06 mg/L	1.739	4.96%
Ni 231.604†	70.1	0.02182	mg/L	0.000606	0.2182 mg/L	0.00606	2.78%
Pb 220.353†	47.3	0.01381	mg/L	0.000850	0.1381 mg/L	0.00850	6.16%
Sb 206.836†	2.4	0.00156	mg/L	0.000634	0.01559 mg/L	0.006335	40.65%
Se 196.026†	4.5	0.00283	mg/L	0.001953	0.02833 mg/L	0.019528	68.93%
Si 288.158†	465.7	0.4303	mg/L	0.00680	4.303 mg/L	0.0680	1.58%
Sn 189.927†	-14.5	-0.00192	mg/L	0.000258	-0.01917 mg/L	0.002583	13.47%
Sr 421.552†	61490.3	0.07920	mg/L	0.000070	0.7920 mg/L	0.00070	0.09%
Ti 334.903†	22064.8	1.033	mg/L	0.0016	10.33 mg/L	0.016	0.16%
Tl 190.801†	1.6	0.00355	mg/L	0.002897	0.03548 mg/L	0.028969	81.64%
V 292.402†	8933.9	0.05974	mg/L	0.000465	0.5974 mg/L	0.00465	0.78%
Zn 206.200†	275.7	0.07267	mg/L	0.001095	0.7267 mg/L	0.01095	1.51%

Sequence No.: 22
 Sample ID: YC57 A SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 316
 Date Collected: 3/20/2014 10:23:01 AM
 Data Type: Original

Nebulizer Parameters: YC57 A SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC57 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2401060.4	102.8	%	0.92				0.89%
ScR 361.383	299691.7	105.1	%	0.70				0.66%
Ag 328.068†	-255.8	-0.00091	mg/L	0.000093	-0.00181	mg/L	0.000185	10.23%
Al 308.215†	90936.5	100.5	mg/L	0.27	200.9	mg/L	0.55	0.27%
As 188.979†	-161.0	0.06063	mg/L	0.000882	0.1213	mg/L	0.00176	1.45%
B 249.677†	237.8	0.04531	mg/L	0.001304	0.09062	mg/L	0.002608	2.88%
Ba 233.527†	2111.4	0.3761	mg/L	0.00555	0.7523	mg/L	0.01110	1.48%
Be 313.042†	888.3	0.00155	mg/L	0.000019	0.00310	mg/L	0.000038	1.24%
Ca 317.933†	271140.3	30.56	mg/L	0.015	61.11	mg/L	0.029	0.05%
Cd 228.802†	45.2	0.00281	mg/L	0.000129	0.00562	mg/L	0.000259	4.60%
Co 228.616†	1885.1	0.04946	mg/L	0.000437	0.09891	mg/L	0.000874	0.88%
Cr 267.716†	847.7	0.1297	mg/L	0.00211	0.2594	mg/L	0.00422	1.63%
Cu 324.752†	39154.9	0.1742	mg/L	0.00137	0.3484	mg/L	0.00275	0.79%
Fe 273.955†	122620.0	132.7	mg/L	0.75	265.4	mg/L	1.50	0.57%
K 766.490†	17930.2	8.717	mg/L	0.0109	17.43	mg/L	0.022	0.12%
Mg 279.077†	27130.9	31.23	mg/L	0.057	62.46	mg/L	0.114	0.18%
Mn 257.610†	73141.2	2.118	mg/L	0.0113	4.236	mg/L	0.0225	0.53%
Mo 202.031†	101.8	0.00531	mg/L	0.000475	0.01063	mg/L	0.000950	8.93%
Na 589.592†	225881.6	18.36	mg/L	0.001	36.71	mg/L	0.002	0.01%
Na 330.237†	407.6	18.12	mg/L	0.230	36.24	mg/L	0.459	1.27%
Ni 231.604†	337.4	0.1051	mg/L	0.00216	0.2101	mg/L	0.00432	2.05%
Pb 220.353†	249.9	0.07104	mg/L	0.001367	0.1421	mg/L	0.00273	1.92%
Sb 206.836†	-16.3	-0.00278	mg/L	0.004173	-0.00557	mg/L	0.008346	149.89%
Se 196.026†	25.7	0.01632	mg/L	0.006199	0.03264	mg/L	0.012398	37.99%
Si 288.158†	2327.0	2.150	mg/L	0.0314	4.301	mg/L	0.0628	1.46%
Sn 189.927†	-44.9	-0.00330	mg/L	0.000337	-0.00660	mg/L	0.000674	10.21%
Sr 421.552†	305475.4	0.3935	mg/L	0.00064	0.7869	mg/L	0.00127	0.16%
Ti 334.903†	111318.8	5.212	mg/L	0.0078	10.42	mg/L	0.016	0.15%
Tl 190.801†	-6.9	0.00848	mg/L	0.004406	0.01696	mg/L	0.008811	51.96%
V 292.402†	44304.8	0.2960	mg/L	0.00207	0.5919	mg/L	0.00414	0.70%
Zn 206.200†	1366.4	0.3601	mg/L	0.00420	0.7201	mg/L	0.00840	1.17%

Sequence No.: 23
 Sample ID: YC57 ADUP SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 317
 Date Collected: 3/20/2014 10:27:01 AM
 Data Type: Original

 Nebulizer Parameters: YC57 ADUP SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

 Mean Data: YC57 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2401856.5	102.8	%	0.25			0.25%
ScR 361.383	293355.3	102.9	%	0.48			0.47%
Ag 328.068†	-264.2	-0.00093	mg/L	0.000152	-0.00187 mg/L	0.000304	16.29%
Al 308.215†	95567.5	105.6	mg/L	0.08	211.2 mg/L	0.16	0.08%
As 188.979†	-175.7	0.06037	mg/L	0.001384	0.1207 mg/L	0.00277	2.29%
B 249.677†	253.4	0.04828	mg/L	0.001885	0.09656 mg/L	0.003770	3.90%
Ba 233.527†	2244.7	0.4004	mg/L	0.00611	0.8009 mg/L	0.01222	1.53%
Be 313.042†	969.2	0.00170	mg/L	0.000027	0.00339 mg/L	0.000054	1.59%
Ca 317.933†	282726.9	31.86	mg/L	0.046	63.72 mg/L	0.092	0.14%
Cd 228.802†	45.0	0.00286	mg/L	0.000223	0.00572 mg/L	0.000447	7.81%
Co 228.616†	1940.4	0.05063	mg/L	0.000193	0.1013 mg/L	0.00039	0.38%
Cr 267.716†	901.9	0.1378	mg/L	0.00186	0.2757 mg/L	0.00371	1.35%
Cu 324.752†	39948.5	0.1777	mg/L	0.00046	0.3554 mg/L	0.00091	0.26%
Fe 273.955†	125962.9	136.3	mg/L	0.42	272.7 mg/L	0.84	0.31%
K 766.490†	18839.3	9.159	mg/L	0.0338	18.32 mg/L	0.068	0.37%
Mg 279.077†	28348.9	32.64	mg/L	0.089	65.27 mg/L	0.178	0.27%
Mn 257.610†	75195.4	2.177	mg/L	0.0055	4.354 mg/L	0.0109	0.25%
Mo 202.031†	101.2	0.00526	mg/L	0.000211	0.01052 mg/L	0.000423	4.02%
Na 589.592†	237934.0	19.34	mg/L	0.045	38.67 mg/L	0.090	0.23%
Na 330.237†	433.6	19.27	mg/L	0.223	38.54 mg/L	0.446	1.16%
Ni 231.604†	355.4	0.1106	mg/L	0.00174	0.2213 mg/L	0.00348	1.57%
Pb 220.353†	229.1	0.07029	mg/L	0.000764	0.1406 mg/L	0.00153	1.09%
Sb 206.836†	-16.9	-0.00282	mg/L	0.004098	-0.00565 mg/L	0.008196	145.06%
Se 196.026†	26.7	0.01697	mg/L	0.005137	0.03395 mg/L	0.010273	30.26%
Si 288.158†	2443.1	2.258	mg/L	0.0165	4.516 mg/L	0.0329	0.73%
Sn 189.927†	-45.7	-0.00317	mg/L	0.000682	-0.00635 mg/L	0.001364	21.49%
Sr 421.552†	319503.0	0.4115	mg/L	0.00062	0.8231 mg/L	0.00124	0.15%
Ti 334.903†	117900.1	5.520	mg/L	0.0139	11.04 mg/L	0.028	0.25%
Tl 190.801†	4.9	0.01606	mg/L	0.002061	0.03211 mg/L	0.004122	12.84%
V 292.402†	45812.0	0.3060	mg/L	0.00139	0.6121 mg/L	0.00279	0.46%
Zn 206.200†	1433.2	0.3777	mg/L	0.00228	0.7553 mg/L	0.00456	0.60%

Sequence No.: 24
 Sample ID: YC57 ASPK SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 318
 Date Collected: 3/20/2014 10:30:46 AM
 Data Type: Original

Nebulizer Parameters: YC57 ASPK SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC57 ASPK SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2361365.3	101.1	%	0.55			0.54%
ScR 361.383	292132.3	102.5	%	0.33			0.32%
Ag 328.068†	107877.2	0.5008	mg/L	0.00155	1.002	mg/L	0.31%
Al 308.215†	97258.2	107.4	mg/L	0.20	214.9	mg/L	0.19%
As 188.979†	2468.8	2.034	mg/L	0.0139	4.068	mg/L	0.69%
B 249.677†	255.9	0.04773	mg/L	0.000360	0.09547	mg/L	0.75%
Ba 233.527†	13184.9	2.431	mg/L	0.0108	4.862	mg/L	0.44%
Be 313.042†	241211.6	0.4568	mg/L	0.00249	0.9135	mg/L	0.54%
Ca 317.933†	370819.4	41.79	mg/L	0.162	83.58	mg/L	0.39%
Cd 228.802†	11150.3	0.5115	mg/L	0.00376	1.023	mg/L	0.74%
Co 228.616†	17428.1	0.5342	mg/L	0.00472	1.068	mg/L	0.88%
Cr 267.716†	4170.4	0.6254	mg/L	0.00296	1.251	mg/L	0.47%
Cu 324.752†	152170.5	0.6614	mg/L	0.00317	1.323	mg/L	0.48%
Fe 273.955†	128357.0	138.9	mg/L	0.47	277.9	mg/L	0.34%
K 766.490†	38334.9	18.64	mg/L	0.042	37.28	mg/L	0.23%
Mg 279.077†	37101.5	42.75	mg/L	0.142	85.51	mg/L	0.33%
Mn 257.610†	91343.9	2.645	mg/L	0.0118	5.290	mg/L	0.45%
Mo 202.031†	121.9	0.00628	mg/L	0.000542	0.01257	mg/L	8.63%
Na 589.592†	357682.2	29.07	mg/L	0.031	58.14	mg/L	0.11%
Na 330.237†	665.4	28.64	mg/L	0.384	57.27	mg/L	1.34%
Ni 231.604†	1888.4	0.5872	mg/L	0.00285	1.174	mg/L	0.49%
Pb 220.353†	15597.2	1.994	mg/L	0.0153	3.987	mg/L	0.77%
Sb 206.836†	9.2	0.00228	mg/L	0.001548	0.00456	mg/L	67.89%
Se 196.026†	3065.7	1.974	mg/L	0.0122	3.947	mg/L	0.62%
Si 288.158†	2692.4	2.490	mg/L	0.0063	4.981	mg/L	0.25%
Sn 189.927†	-56.7	-0.00373	mg/L	0.000761	-0.00747	mg/L	20.39%
Sr 421.552†	691647.9	0.8909	mg/L	0.00137	1.782	mg/L	0.15%
Ti 334.903†	112119.3	5.248	mg/L	0.0121	10.50	mg/L	0.23%
Tl 190.801†	3112.6	1.936	mg/L	0.0145	3.873	mg/L	0.75%
V 292.402†	111332.0	0.7623	mg/L	0.00305	1.525	mg/L	0.40%
Zn 206.200†	3227.2	0.8506	mg/L	0.00245	1.701	mg/L	0.29%

Sequence No.: 25
 Sample ID: YC57 B SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 319
 Date Collected: 3/20/2014 10:34:33 AM
 Data Type: Original

Nebulizer Parameters: YC57 B SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 B SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2396476.0	102.6	%	0.80				0.78%
ScR 361.383	296658.0	104.1	%	0.09				0.09%
Ag 328.068†	-233.5	-0.00078	mg/L	0.000133	-0.00155	mg/L	0.000266	17.13%
Al 308.215†	95901.8	105.9	mg/L	0.29	211.9	mg/L	0.59	0.28%
As 188.979†	-177.2	0.05740	mg/L	0.003057	0.1148	mg/L	0.00611	5.33%
B 249.677†	196.5	0.03740	mg/L	0.001355	0.07481	mg/L	0.002711	3.62%
Ba 233.527†	2317.8	0.4137	mg/L	0.00247	0.8274	mg/L	0.00494	0.60%
Be 313.042†	973.7	0.00170	mg/L	0.000020	0.00341	mg/L	0.000039	1.15%
Ca 317.933†	300930.0	33.91	mg/L	0.160	67.83	mg/L	0.320	0.47%
Cd 228.802†	45.2	0.00288	mg/L	0.000114	0.00577	mg/L	0.000228	3.95%
Co 228.616†	2025.4	0.05336	mg/L	0.000220	0.1067	mg/L	0.00044	0.41%
Cr 267.716†	930.0	0.1421	mg/L	0.00050	0.2841	mg/L	0.00099	0.35%
Cu 324.752†	39563.3	0.1762	mg/L	0.00041	0.3524	mg/L	0.00081	0.23%
Fe 273.955†	128422.0	139.0	mg/L	0.64	278.0	mg/L	1.29	0.46%
K 766.490†	17304.2	8.413	mg/L	0.0173	16.83	mg/L	0.035	0.21%
Mg 279.077†	29017.0	33.41	mg/L	0.064	66.81	mg/L	0.128	0.19%
Mn 257.610†	84573.0	2.449	mg/L	0.0123	4.898	mg/L	0.0245	0.50%
Mo 202.031†	109.1	0.00568	mg/L	0.000136	0.01136	mg/L	0.000273	2.40%
Na 589.592†	193363.9	15.71	mg/L	0.040	31.43	mg/L	0.080	0.25%
Na 330.237†	339.5	15.37	mg/L	0.052	30.74	mg/L	0.104	0.34%
Ni 231.604†	375.3	0.1169	mg/L	0.00120	0.2337	mg/L	0.00240	1.03%
Pb 220.353†	226.7	0.07027	mg/L	0.001370	0.1405	mg/L	0.00274	1.95%
Sb 206.836†	-10.0	-0.00023	mg/L	0.002358	-0.00047	mg/L	0.004716	>999.9%
Se 196.026†	31.1	0.01982	mg/L	0.005552	0.03964	mg/L	0.011104	28.01%
Si 288.158†	2126.3	1.965	mg/L	0.0073	3.930	mg/L	0.0147	0.37%
Sn 189.927†	-45.3	-0.00272	mg/L	0.000704	-0.00544	mg/L	0.001409	25.91%
Sr 421.552†	324663.2	0.4182	mg/L	0.00057	0.8364	mg/L	0.00114	0.14%
Ti 334.903†	116964.4	5.476	mg/L	0.0059	10.95	mg/L	0.012	0.11%
Tl 190.801†	4.8	0.01614	mg/L	0.003176	0.03229	mg/L	0.006351	19.67%
V 292.402†	46739.3	0.3124	mg/L	0.00159	0.6247	mg/L	0.00317	0.51%
Zn 206.200†	1434.3	0.3779	mg/L	0.00146	0.7558	mg/L	0.00292	0.39%

Sequence No.: 26
 Sample ID: YC57 C SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 320
 Date Collected: 3/20/2014 10:38:18 AM
 Data Type: Original

Nebulizer Parameters: YC57 C SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC57 C SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2384497.8	102.1	%	0.04				0.04%
ScR 361.383	292576.7	102.6	%	0.46				0.45%
Ag 328.068†	-214.0	-0.00066	mg/L	0.000157	-0.00132	mg/L	0.000314	23.78%
Al 308.215†	117778.9	130.1	mg/L	1.68	260.2	mg/L	3.36	1.29%
As 188.979†	-207.8	0.06738	mg/L	0.002677	0.1348	mg/L	0.00535	3.97%
B 249.677†	537.4	0.1025	mg/L	0.00069	0.2050	mg/L	0.00138	0.67%
Ba 233.527†	2511.6	0.4473	mg/L	0.00339	0.8945	mg/L	0.00679	0.76%
Be 313.042†	1100.4	0.00192	mg/L	0.000026	0.00385	mg/L	0.000053	1.37%
Ca 317.933†	321175.9	36.20	mg/L	0.232	72.39	mg/L	0.465	0.64%
Cd 228.802†	56.5	0.00353	mg/L	0.000230	0.00707	mg/L	0.000460	6.51%
Co 228.616†	2174.0	0.05632	mg/L	0.000356	0.1126	mg/L	0.00071	0.63%
Cr 267.716†	1066.4	0.1627	mg/L	0.00052	0.3253	mg/L	0.00104	0.32%
Cu 324.752†	52474.6	0.2326	mg/L	0.00131	0.4652	mg/L	0.00261	0.56%
Fe 273.955†	147155.0	159.3	mg/L	1.38	318.6	mg/L	2.77	0.87%
K 766.490†	30132.3	14.65	mg/L	0.167	29.30	mg/L	0.333	1.14%
Mg 279.077†	36306.5	41.81	mg/L	0.484	83.63	mg/L	0.967	1.16%
Mn 257.610†	66527.3	1.926	mg/L	0.0166	3.852	mg/L	0.0331	0.86%
Mo 202.031†	115.1	0.00598	mg/L	0.000123	0.01197	mg/L	0.000247	2.06%
Na 589.592†	721001.7	58.59	mg/L	0.429	117.2	mg/L	0.86	0.73%
Na 330.237†	1389.2	58.95	mg/L	0.268	117.9	mg/L	0.54	0.46%
Ni 231.604†	408.1	0.1271	mg/L	0.00106	0.2541	mg/L	0.00212	0.84%
Pb 220.353†	392.0	0.09980	mg/L	0.002042	0.1996	mg/L	0.00408	2.05%
Sb 206.836†	-16.7	-0.00217	mg/L	0.003729	-0.00435	mg/L	0.007457	171.48%
Se 196.026†	28.9	0.01833	mg/L	0.000865	0.03665	mg/L	0.001731	4.72%
Si 288.158†	2604.6	2.407	mg/L	0.0126	4.814	mg/L	0.0251	0.52%
Sn 189.927†	-40.7	-0.00109	mg/L	0.000992	-0.00218	mg/L	0.001985	90.99%
Sr 421.552†	378302.9	0.4873	mg/L	0.00278	0.9745	mg/L	0.00556	0.57%
Ti 334.903†	136898.7	6.410	mg/L	0.0283	12.82	mg/L	0.057	0.44%
Tl 190.801†	-3.8	0.01302	mg/L	0.001378	0.02603	mg/L	0.002756	10.59%
V 292.402†	52934.0	0.3534	mg/L	0.00222	0.7068	mg/L	0.00443	0.63%
Zn 206.200†	1835.2	0.4836	mg/L	0.00197	0.9672	mg/L	0.00394	0.41%

Sequence No.: 27
 Sample ID: YC57 D SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 321
 Date Collected: 3/20/2014 10:42:20 AM
 Data Type: Original

Nebulizer Parameters: YC57 D SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 D SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2397862.9		102.6 %	0.58			0.57%
ScR 361.383	293514.3		103.0 %	0.98			0.95%
Ag 328.068†	-183.4	-0.00055	mg/L	0.000304	-0.00109	mg/L	0.000607 55.48%
Al 308.215†	100138.5		110.6 mg/L	0.32	221.3	mg/L	0.64 0.29%
As 188.979†	-185.5	0.05911	mg/L	0.004562	0.1182	mg/L	0.00912 7.72%
B 249.677†	491.5	0.09377	mg/L	0.001313	0.1875	mg/L	0.00263 1.40%
Ba 233.527†	2225.1	0.3965	mg/L	0.00364	0.7929	mg/L	0.00727 0.92%
Be 313.042†	988.2	0.00173	mg/L	0.000041	0.00346	mg/L	0.000082 2.37%
Ca 317.933†	294741.1		33.22 mg/L	0.084	66.43	mg/L	0.168 0.25%
Cd 228.802†	61.1	0.00366	mg/L	0.000101	0.00731	mg/L	0.000202 2.77%
Co 228.616†	1938.6	0.05026	mg/L	0.000512	0.1005	mg/L	0.00102 1.02%
Cr 267.716†	979.6	0.1493	mg/L	0.00024	0.2986	mg/L	0.00047 0.16%
Cu 324.752†	70534.3	0.3096	mg/L	0.00076	0.6192	mg/L	0.00153 0.25%
Fe 273.955†	128724.8		139.3 mg/L	1.51	278.7	mg/L	3.03 1.09%
K 766.490†	25318.8		12.31 mg/L	0.006	24.62	mg/L	0.011 0.05%
Mg 279.077†	31469.5		36.24 mg/L	0.120	72.48	mg/L	0.240 0.33%
Mn 257.610†	62163.3		1.800 mg/L	0.0155	3.599	mg/L	0.0310 0.86%
Mo 202.031†	121.5	0.00639	mg/L	0.000109	0.01279	mg/L	0.000218 1.71%
Na 589.592†	524175.4		42.60 mg/L	0.147	85.20	mg/L	0.294 0.34%
Na 330.237†	1003.6		42.84 mg/L	0.399	85.68	mg/L	0.798 0.93%
Ni 231.604†	361.6	0.1126	mg/L	0.00138	0.2252	mg/L	0.00276 1.22%
Pb 220.353†	418.9	0.09566	mg/L	0.002206	0.1913	mg/L	0.00441 2.31%
Sb 206.836†	-7.9	0.00070	mg/L	0.002019	0.00140	mg/L	0.004038 288.48%
Se 196.026†	28.5	0.01812	mg/L	0.004349	0.03623	mg/L	0.008698 24.01%
Si 288.158†	2858.2		2.641 mg/L	0.0152	5.283	mg/L	0.0305 0.58%
Sn 189.927†	-31.5	0.00026	mg/L	0.000103	0.00052	mg/L	0.000205 39.12%
Sr 421.552†	351515.4		0.4528 mg/L	0.00104	0.9055	mg/L	0.00208 0.23%
Ti 334.903†	121653.5		5.696 mg/L	0.0184	11.39	mg/L	0.037 0.32%
Tl 190.801†	0.2	0.01342	mg/L	0.000734	0.02684	mg/L	0.001467 5.47%
V 292.402†	47511.3		0.3175 mg/L	0.00188	0.6350	mg/L	0.00376 0.59%
Zn 206.200†	1775.9		0.4680 mg/L	0.00431	0.9360	mg/L	0.00862 0.92%

Sequence No.: 28
 Sample ID: YC57 REF1 SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 322
 Date Collected: 3/20/2014 10:46:06 AM
 Data Type: Original

Nebulizer Parameters: YC57 REF1 SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC57 REF1 SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2381826.4	102.0	%	0.27			0.26%
ScR 361.383	291881.9	102.4	%	0.66			0.65%
Ag 328.068†	142634.5	0.6622	mg/L	0.00023	1.324	mg/L	0.03%
Al 308.215†	96104.4	106.2	mg/L	0.33	212.3	mg/L	0.31%
As 188.979†	2612.6	2.021	mg/L	0.0075	4.042	mg/L	0.37%
B 249.677†	5133.2	0.9774	mg/L	0.00640	1.955	mg/L	0.65%
Ba 233.527†	8695.1	1.598	mg/L	0.0126	3.196	mg/L	0.79%
Be 313.042†	500195.2	0.9474	mg/L	0.00254	1.895	mg/L	0.27%
Ca 317.933†	562033.8	63.34	mg/L	0.161	126.7	mg/L	0.25%
Cd 228.802†	14239.7	0.6557	mg/L	0.00150	1.311	mg/L	0.23%
Co 228.616†	53489.3	1.665	mg/L	0.0041	3.331	mg/L	0.25%
Cr 267.716†	8976.4	1.344	mg/L	0.0083	2.688	mg/L	0.62%
Cu 324.752†	196014.7	0.8508	mg/L	0.00162	1.702	mg/L	0.19%
Fe 273.955†	124687.5	135.0	mg/L	0.81	269.9	mg/L	0.60%
K 766.490†	62678.7	30.47	mg/L	0.100	60.95	mg/L	0.33%
Mg 279.077†	25279.8	29.10	mg/L	0.166	58.19	mg/L	0.57%
Mn 257.610†	96704.4	2.800	mg/L	0.0135	5.601	mg/L	0.48%
Mo 202.031†	6861.9	0.3891	mg/L	0.00242	0.7781	mg/L	0.62%
Na 589.592†	56261.3	4.572	mg/L	0.0200	9.144	mg/L	0.44%
Na 330.237†	77.6	3.112	mg/L	0.0409	6.224	mg/L	1.32%
Ni 231.604†	4348.2	1.354	mg/L	0.0112	2.707	mg/L	0.82%
Pb 220.353†	11074.0	1.428	mg/L	0.0079	2.857	mg/L	0.55%
Sb 206.836†	1277.7	0.4913	mg/L	0.00254	0.9827	mg/L	0.52%
Se 196.026†	1473.4	0.9474	mg/L	0.00366	1.895	mg/L	0.39%
Si 288.158†	2628.2	2.432	mg/L	0.0211	4.864	mg/L	0.87%
Sn 189.927†	6882.7	1.538	mg/L	0.0090	3.075	mg/L	0.58%
Sr 421.552†	903304.0	1.163	mg/L	0.0043	2.327	mg/L	0.37%
Ti 334.903†	42318.3	1.975	mg/L	0.0070	3.951	mg/L	0.35%
Tl 190.801†	2501.7	1.548	mg/L	0.0092	3.097	mg/L	0.59%
V 292.402†	151883.6	1.049	mg/L	0.0022	2.097	mg/L	0.21%
Zn 206.200†	8127.8	2.142	mg/L	0.0144	4.283	mg/L	0.67%

Sequence No.: 29

Sample ID: YC77 MB2SPK WMN

Analyst: ALA

Dilution: 1.000000X

Autosampler Location: 323

Date Collected: 3/20/2014 10:49:55 AM

Data Type: Original

Nebulizer Parameters: YC77 MB2SPK WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YC77 MB2SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2475598.3	106.0	%	0.28				0.27%
ScR 361.383	298078.6	104.6	%	1.13				1.08%
Ag 328.068†	113589.6	0.5270	mg/L	0.00164	0.5270	mg/L	0.00164	0.31%
Al 308.215†	1863.6	2.052	mg/L	0.0138	2.052	mg/L	0.0138	0.67%
As 188.979†	2892.0	2.169	mg/L	0.0133	2.169	mg/L	0.0133	0.61%
B 249.677†	15.1	0.00181	mg/L	0.000683	0.00181	mg/L	0.000683	37.73%
Ba 233.527†	11139.2	2.068	mg/L	0.0009	2.068	mg/L	0.0009	0.04%
Be 313.042†	232548.2	0.4405	mg/L	0.00519	0.4405	mg/L	0.00519	1.18%
Ca 317.933†	88506.0	9.974	mg/L	0.0867	9.974	mg/L	0.0867	0.87%
Cd 228.802†	11579.6	0.5298	mg/L	0.00418	0.5298	mg/L	0.00418	0.79%
Co 228.616†	16271.5	0.5075	mg/L	0.00186	0.5075	mg/L	0.00186	0.37%
Cr 267.716†	3507.7	0.5232	mg/L	0.00567	0.5232	mg/L	0.00567	1.08%
Cu 324.752†	114006.4	0.4913	mg/L	0.00181	0.4913	mg/L	0.00181	0.37%
Fe 273.955†	1832.9	1.981	mg/L	0.0250	1.981	mg/L	0.0250	1.26%
K 766.490†	20884.5	10.15	mg/L	0.023	10.15	mg/L	0.023	0.22%
Mg 279.077†	9162.7	10.59	mg/L	0.110	10.59	mg/L	0.110	1.04%
Mn 257.610†	16251.2	0.4710	mg/L	0.00376	0.4710	mg/L	0.00376	0.80%
Mo 202.031†	22.3	0.00112	mg/L	0.000389	0.00112	mg/L	0.000389	34.90%
Na 589.592†	125455.7	10.20	mg/L	0.026	10.20	mg/L	0.026	0.25%
Na 330.237†	251.2	10.23	mg/L	0.096	10.23	mg/L	0.096	0.94%
Ni 231.604†	1660.3	0.5161	mg/L	0.00760	0.5161	mg/L	0.00760	1.47%
Pb 220.353†	16281.3	2.038	mg/L	0.0047	2.038	mg/L	0.0047	0.23%
Sb 206.836†	13.7	0.00026	mg/L	0.001003	0.00026	mg/L	0.001003	390.53%
Se 196.026†	3596.5	2.316	mg/L	0.0147	2.316	mg/L	0.0147	0.63%
Si 288.158†	-9.9	-0.00678	mg/L	0.003349	-0.00678	mg/L	0.003349	49.42%
Sn 189.927†	-16.4	-0.00171	mg/L	0.000626	-0.00171	mg/L	0.000626	36.52%
Sr 421.552†	380206.0	0.4897	mg/L	0.00167	0.4897	mg/L	0.00167	0.34%
Ti 334.903†	54.4	0.00144	mg/L	0.000200	0.00144	mg/L	0.000200	13.90%
Tl 190.801†	3408.8	2.106	mg/L	0.0163	2.106	mg/L	0.0163	0.77%
V 292.402†	73090.9	0.5087	mg/L	0.00126	0.5087	mg/L	0.00126	0.25%
Zn 206.200†	1954.5	0.5151	mg/L	0.00548	0.5151	mg/L	0.00548	1.06%

Sequence No.: 30
 Sample ID: CV
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/20/2014 10:53:55 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2374243.2		101.6 %	0.57				0.56%
ScR 361.383	288862.5		101.3 %	0.34				0.33%
Ag 328.068†	222004.9		1.030 mg/L	0.0020	1.030 mg/L	0.0020		0.19%
Al 308.215†	1840.6		2.002 mg/L	0.0084	2.002 mg/L	0.0084		0.42%
As 188.979†	2664.1		2.031 mg/L	0.0266	2.031 mg/L	0.0266		1.31%
B 249.677†	5225.0		0.9970 mg/L	0.00745	0.9970 mg/L	0.00745		0.75%
Ba 233.527†	5676.8		1.053 mg/L	0.0048	1.053 mg/L	0.0048		0.45%
Be 313.042†	498933.8		0.9450 mg/L	0.00659	0.9450 mg/L	0.00659		0.70%
Ca 317.933†	18388.9		2.072 mg/L	0.0060	2.072 mg/L	0.0060		0.29%
Cd 228.802†	22214.7		1.028 mg/L	0.0117	1.028 mg/L	0.0117		1.14%
Co 228.616†	32683.4		1.018 mg/L	0.0099	1.018 mg/L	0.0099		0.98%
Cr 267.716†	6913.4		1.033 mg/L	0.0059	1.033 mg/L	0.0059		0.57%
Cu 324.752†	232609.2		1.002 mg/L	0.0011	1.002 mg/L	0.0011		0.11%
Fe 273.955†	1815.0		1.958 mg/L	0.0173	1.958 mg/L	0.0173		0.88%
K 766.490†	40684.6		19.78 mg/L	0.076	19.78 mg/L	0.076		0.38%
Mg 279.077†	1715.7		1.989 mg/L	0.0141	1.989 mg/L	0.0141		0.71%
Mn 257.610†	32385.6		0.9383 mg/L	0.00361	0.9383 mg/L	0.00361		0.38%
Mo 202.031†	17419.0		0.9901 mg/L	0.01005	0.9901 mg/L	0.01005		1.02%
Na 589.592†	614133.8		49.91 mg/L	0.125	49.91 mg/L	0.125		0.25%
Na 330.237†	1226.0		50.63 mg/L	0.307	50.63 mg/L	0.307		0.61%
Ni 231.604†	3283.8		1.023 mg/L	0.0104	1.023 mg/L	0.0104		1.02%
Pb 220.353†	15965.2		1.998 mg/L	0.0209	1.998 mg/L	0.0209		1.05%
Sb 206.836†	5433.6		2.090 mg/L	0.0208	2.090 mg/L	0.0208		1.00%
Se 196.026†	3092.4		1.990 mg/L	0.0261	1.990 mg/L	0.0261		1.31%
Si 288.158†	2189.5		2.028 mg/L	0.0095	2.028 mg/L	0.0095		0.47%
Sn 189.927†	4427.6		0.9829 mg/L	0.01198	0.9829 mg/L	0.01198		1.22%
Sr 421.552†	762221.9		0.9818 mg/L	0.00177	0.9818 mg/L	0.00177		0.18%
Ti 334.903†	21091.2		0.9867 mg/L	0.00073	0.9867 mg/L	0.00073		0.07%
Tl 190.801†	3383.9		2.088 mg/L	0.0160	2.088 mg/L	0.0160		0.77%
V 292.402†	141800.4		0.9871 mg/L	0.00183	0.9871 mg/L	0.00183		0.18%
Zn 206.200†	3800.7		1.002 mg/L	0.0036	1.002 mg/L	0.0036		0.36%

Sequence No.: 31
 Sample ID: CB-3
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/20/2014 10:57:43 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
SCA 357.253	2414419.4	103.4	%	0.22			0.21%
ScR 361.383	294423.2	103.3	%	0.72			0.70%
Ag 328.068†	-3.2	-0.00002	mg/L	0.000165	-0.00002 mg/L	0.000165	>999.9%
Al 308.215†	1.0	0.00114	mg/L	0.004499	0.00114 mg/L	0.004499	396.05%
As 188.979†	2.9	0.00220	mg/L	0.000819	0.00220 mg/L	0.000819	37.20%
B 249.677†	14.2	0.00272	mg/L	0.000986	0.00272 mg/L	0.000986	36.24%
Ba 233.527†	1.6	0.00030	mg/L	0.000277	0.00030 mg/L	0.000277	91.42%
Be 313.042†	10.6	0.00002	mg/L	0.000028	0.00002 mg/L	0.000028	137.52%
Ca 317.933†	7.8	0.00088	mg/L	0.000461	0.00088 mg/L	0.000461	52.51%
Cd 228.802†	-1.0	-0.00006	mg/L	0.000159	-0.00006 mg/L	0.000159	265.80%
Co 228.616†	1.8	0.00005	mg/L	0.000152	0.00005 mg/L	0.000152	277.23%
Cr 267.716†	6.3	0.00094	mg/L	0.000727	0.00094 mg/L	0.000727	77.55%
Cu 324.752†	227.9	0.00098	mg/L	0.000116	0.00098 mg/L	0.000116	11.78%
Fe 273.955†	5.4	0.00587	mg/L	0.000917	0.00587 mg/L	0.000917	15.62%
K 766.490†	12.5	0.00609	mg/L	0.002972	0.00609 mg/L	0.002972	48.83%
Mg 279.077†	-4.7	-0.00547	mg/L	0.004689	-0.00547 mg/L	0.004689	85.74%
Mn 257.610†	6.4	0.00019	mg/L	0.000112	0.00019 mg/L	0.000112	60.60%
Mo 202.031†	14.1	0.00080	mg/L	0.000092	0.00080 mg/L	0.000092	11.52%
Na 589.592†	37.7	0.00307	mg/L	0.001430	0.00307 mg/L	0.001430	46.64%
Na 330.237†	3.5	0.1466	mg/L	0.42405	0.1466 mg/L	0.42405	289.23%
Ni 231.604†	0.6	0.00019	mg/L	0.000877	0.00019 mg/L	0.000877	454.19%
Pb 220.353†	-10.6	-0.00132	mg/L	0.000304	-0.00132 mg/L	0.000304	22.99%
Sb 206.836†	9.8	0.00375	mg/L	0.000743	0.00375 mg/L	0.000743	19.82%
Se 196.026†	-2.8	-0.00178	mg/L	0.003303	-0.00178 mg/L	0.003303	185.82%
Si 288.158†	4.7	0.00431	mg/L	0.003743	0.00431 mg/L	0.003743	86.89%
Sn 189.927†	1.9	0.00043	mg/L	0.000814	0.00043 mg/L	0.000814	190.04%
Sr 421.552†	58.6	0.00008	mg/L	0.000034	0.00008 mg/L	0.000034	45.50%
Ti 334.903†	11.2	0.00052	mg/L	0.001069	0.00052 mg/L	0.001069	203.70%
Tl 190.801†	-2.1	-0.00130	mg/L	0.000491	-0.00130 mg/L	0.000491	37.80%
V 292.402†	-9.3	-0.00006	mg/L	0.000086	-0.00006 mg/L	0.000086	140.63%
Zn 206.200†	1.3	0.00034	mg/L	0.000622	0.00034 mg/L	0.000622	183.07%

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Analysis Begun

Start Time: 3/20/2014 11:01:51 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 3/20/2014 7:22:03 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0320.sif
Batch ID:
Results Data Set: I2140320
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1
Sample ID: YC57 MB1 SWC
Analyst: ALA
Dilution: 2:000000X
Autosampler Location: 324
Date Collected: 3/20/2014 11:01:52 AM
Data Type: Original

Nebulizer Parameters: YC57 MB1 SWC
Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: YC57 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2439941.7	104.4 %		0.32			0.30%
ScR 361.383	297077.9	104.2 %		0.43			0.41%
Ag 328.068†	-35.3	-0.00016 mg/L		0.000296	-0.00033 mg/L	0.000592	180.77%
Al 308.215†	5.3	0.00586 mg/L		0.001479	0.01171 mg/L	0.002958	25.26%
As 188.979†	2.8	0.00208 mg/L		0.003620	0.00416 mg/L	0.007241	173.88%
B 249.677†	5.0	0.00096 mg/L		0.000155	0.00193 mg/L	0.000311	16.11%
Ba 233.527†	3.9	0.00073 mg/L		0.000503	0.00146 mg/L	0.001006	69.04%
Be 313.042†	-8.4	-0.00002 mg/L		0.000039	-0.00003 mg/L	0.000077	244.63%
Ca 317.933†	68.7	0.00774 mg/L		0.000359	0.01548 mg/L	0.000718	4.63%
Cd 228.802†	5.1	0.00023 mg/L		0.000090	0.00046 mg/L	0.000179	39.29%
Co 228.616†	-1.3	-0.00004 mg/L		0.000148	-0.00008 mg/L	0.000295	361.69%
Cr 267.716†	8.2	0.00123 mg/L		0.000641	0.00247 mg/L	0.001282	51.98%
Cu 324.752†	211.0	0.00091 mg/L		0.000198	0.00182 mg/L	0.000397	21.82%
Fe 273.955†	7.0	0.00762 mg/L		0.002596	0.01525 mg/L	0.005191	34.04%
K 766.490†	7.2	0.00349 mg/L		0.026327	0.00698 mg/L	0.052653	754.04%
Mg 279.077†	-6.6	-0.00761 mg/L		0.005115	-0.01522 mg/L	0.010230	67.20%
Mn 257.610†	29.4	0.00085 mg/L		0.000164	0.00170 mg/L	0.000329	19.33%
Mo 202.031†	1.3	0.00008 mg/L		0.000313	0.00015 mg/L	0.000626	416.06%
Na 589.592†	10.1	0.00082 mg/L		0.000843	0.00165 mg/L	0.001685	102.44%
Na 330.237†	-0.9	-0.03944 mg/L		0.400108	-0.07887 mg/L	0.800215	>999.9%
Ni 231.604†	3.1	0.00097 mg/L		0.000920	0.00193 mg/L	0.001840	95.10%
Pb 220.353†	-2.1	-0.00026 mg/L		0.000486	-0.00052 mg/L	0.000972	187.09%
Sb 206.836†	-2.6	-0.00101 mg/L		0.000679	-0.00201 mg/L	0.001358	67.45%
Se 196.026†	0.8	0.00049 mg/L		0.005007	0.00098 mg/L	0.010014	>999.9%
Si 288.158†	5.7	0.00526 mg/L		0.003352	0.01052 mg/L	0.006703	63.73%
Sn 189.927†	1.8	0.00040 mg/L		0.000490	0.00080 mg/L	0.000980	122.63%
Sr 421.552†	12.5	0.00002 mg/L		0.000010	0.00003 mg/L	0.000019	59.47%
Ti 334.903†	-17.1	-0.00080 mg/L		0.000467	-0.00161 mg/L	0.000934	58.10%
Tl 190.801†	4.9	0.00302 mg/L		0.001155	0.00604 mg/L	0.002309	38.23%
V 292.402†	-17.8	-0.00012 mg/L		0.000124	-0.00024 mg/L	0.000249	105.31%
Zn 206.200†	7.5	0.00198 mg/L		0.000756	0.00397 mg/L	0.001511	38.09%

Sequence No.: 2
 Sample ID: YC57 E SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 325
 Date Collected: 3/20/2014 11:06:07 AM
 Data Type: Original

 Nebulizer Parameters: YC57 E SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 E SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2400898.3	102.8	%	0.24				0.23%
ScR 361.383	294858.0	103.4	%	0.99				0.96%
Ag 328.068†	-162.6	-0.00047	mg/L	0.000178	-0.00094	mg/L	0.000357	38.10%
Al 308.215†	99103.4	109.5	mg/L	0.58	219.0	mg/L	1.16	0.53%
As 188.979†	-155.3	0.06858	mg/L	0.004173	0.1372	mg/L	0.00835	6.09%
B 249.677†	500.9	0.09555	mg/L	0.002508	0.1911	mg/L	0.00502	2.62%
Ba 233.527†	2270.5	0.4041	mg/L	0.00486	0.8082	mg/L	0.00972	1.20%
Be 313.042†	1038.1	0.00183	mg/L	0.000056	0.00366	mg/L	0.000112	3.07%
Ca 317.933†	273051.4	30.77	mg/L	0.455	61.54	mg/L	0.911	1.48%
Cd 228.802†	65.2	0.00374	mg/L	0.000111	0.00748	mg/L	0.000221	2.96%
Co 228.616†	2009.5	0.05315	mg/L	0.000220	0.1063	mg/L	0.00044	0.41%
Cr 267.716†	957.2	0.1460	mg/L	0.00136	0.2920	mg/L	0.00271	0.93%
Cu 324.752†	48143.5	0.2135	mg/L	0.00044	0.4270	mg/L	0.00087	0.20%
Fe 273.955†	134844.5	146.0	mg/L	0.16	291.9	mg/L	0.32	0.11%
K 766.490†	25209.5	12.26	mg/L	0.114	24.51	mg/L	0.227	0.93%
Mg 279.077†	34364.7	39.58	mg/L	0.270	79.16	mg/L	0.540	0.68%
Mn 257.610†	76183.7	2.206	mg/L	0.0075	4.412	mg/L	0.0149	0.34%
Mo 202.031†	109.7	0.00576	mg/L	0.000139	0.01152	mg/L	0.000278	2.41%
Na 589.592†	796991.0	64.77	mg/L	0.582	129.5	mg/L	1.16	0.90%
Na 330.237†	1551.0	65.36	mg/L	0.641	130.7	mg/L	1.28	0.98%
Ni 231.604†	388.0	0.1208	mg/L	0.00112	0.2416	mg/L	0.00224	0.93%
Pb 220.353†	418.3	0.09572	mg/L	0.001291	0.1914	mg/L	0.00258	1.35%
Sb 206.836†	-15.6	-0.00256	mg/L	0.000945	-0.00512	mg/L	0.001889	36.89%
Se 196.026†	28.7	0.01823	mg/L	0.002514	0.03646	mg/L	0.005028	13.79%
Si 288.158†	2542.7	2.350	mg/L	0.0142	4.700	mg/L	0.0283	0.60%
Sn 189.927†	-40.8	-0.00232	mg/L	0.001445	-0.00465	mg/L	0.002889	62.18%
Sr 421.552†	333898.4	0.4301	mg/L	0.00504	0.8601	mg/L	0.01008	1.17%
Ti 334.903†	113559.1	5.317	mg/L	0.0269	10.63	mg/L	0.054	0.51%
Tl 190.801†	-1.3	0.01350	mg/L	0.003109	0.02700	mg/L	0.006218	23.03%
V 292.402†	46743.6	0.3120	mg/L	0.00116	0.6240	mg/L	0.00233	0.37%
Zn 206.200†	1717.2	0.4525	mg/L	0.00729	0.9051	mg/L	0.01459	1.61%

Sequence No.: 3
 Sample ID: YC57 F SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 326
 Date Collected: 3/20/2014 11:10:08 AM
 Data Type: Original

Nebulizer Parameters: YC57 F SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 F SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2405379.6	103.0	%	0.50			0.49%
ScR 361.383	290678.8	102.0	%	0.51			0.50%
Ag 328.068†	-80.8	-0.00007	mg/L	0.000380	-0.00014 mg/L	0.000760	531.84%
Al 308.215†	110384.8	121.9	mg/L	0.94	243.9 mg/L	1.89	0.77%
As 188.979†	-207.9	0.05701	mg/L	0.004943	0.1140 mg/L	0.00989	8.67%
B 249.677†	701.9	0.1339	mg/L	0.00124	0.2679 mg/L	0.00248	0.92%
Ba 233.527†	1820.2	0.3193	mg/L	0.00230	0.6387 mg/L	0.00460	0.72%
Be 313.042†	990.3	0.00172	mg/L	0.000019	0.00344 mg/L	0.000038	1.09%
Ca 317.933†	284584.1	32.07	mg/L	0.264	64.14 mg/L	0.528	0.82%
Cd 228.802†	71.9	0.00425	mg/L	0.000059	0.00850 mg/L	0.000118	1.39%
Co 228.616†	1965.1	0.05036	mg/L	0.000264	0.1007 mg/L	0.00053	0.52%
Cr 267.716†	1101.3	0.1679	mg/L	0.00064	0.3359 mg/L	0.00128	0.38%
Cu 324.752†	61166.8	0.2700	mg/L	0.00132	0.5399 mg/L	0.00264	0.49%
Fe 273.955†	143909.4	155.8	mg/L	1.06	311.5 mg/L	2.13	0.68%
K 766.490†	31575.2	15.35	mg/L	0.088	30.70 mg/L	0.177	0.58%
Mg 279.077†	34469.2	39.69	mg/L	0.300	79.38 mg/L	0.600	0.76%
Mn 257.610†	50962.4	1.475	mg/L	0.0070	2.951 mg/L	0.0140	0.47%
Mo 202.031†	171.1	0.00923	mg/L	0.000258	0.01846 mg/L	0.000516	2.80%
Na 589.592†	647654.0	52.63	mg/L	0.411	105.3 mg/L	0.82	0.78%
Na 330.237†	1246.6	52.96	mg/L	0.266	105.9 mg/L	0.53	0.50%
Ni 231.604†	383.6	0.1194	mg/L	0.00033	0.2389 mg/L	0.00067	0.28%
Pb 220.353†	865.1	0.1561	mg/L	0.00083	0.3123 mg/L	0.00167	0.53%
Sb 206.836†	-14.0	-0.00144	mg/L	0.001154	-0.00288 mg/L	0.002309	80.21%
Se 196.026†	24.5	0.01554	mg/L	0.001410	0.03108 mg/L	0.002821	9.08%
Si 288.158†	3290.4	3.041	mg/L	0.0190	6.082 mg/L	0.0381	0.63%
Sn 189.927†	-15.0	0.00378	mg/L	0.000296	0.00757 mg/L	0.000592	7.82%
Sr 421.552†	353589.8	0.4554	mg/L	0.00278	0.9109 mg/L	0.00555	0.61%
Ti 334.903†	130390.8	6.105	mg/L	0.0431	12.21 mg/L	0.086	0.71%
Tl 190.801†	-1.0	0.01472	mg/L	0.001856	0.02944 mg/L	0.003712	12.61%
V 292.402†	51606.9	0.3446	mg/L	0.00265	0.6891 mg/L	0.00529	0.77%
Zn 206.200†	2146.2	0.5657	mg/L	0.00163	1.131 mg/L	0.0033	0.29%

Sequence No.: 4
 Sample ID: YC57 G SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 327
 Date Collected: 3/20/2014 11:14:10 AM
 Data Type: Original

 Nebulizer Parameters: YC57 G SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

 Mean Data: YC57 G SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	6368362.1	272.6 %	15.31			5.62%
ScR 361.383	779480.3	273.5 %	24.54			8.98%
Ag 328.068†	-711.7	-0.00329 mg/L	0.000131	-0.00659 mg/L	0.000262	3.97%
Al 308.215†	541.0	0.5974 mg/L	1.07708	1.195 mg/L	2.1542	180.29%
Saturated within auto integration window (code 4)						
As 188.979†	-7.8	-0.00575 mg/L	0.001265	-0.01150 mg/L	0.002531	22.01%
B 249.677†	34.9	0.00665 mg/L	0.002149	0.01329 mg/L	0.004298	32.34%
Ba 233.527†	28.6	0.00526 mg/L	0.005735	0.01051 mg/L	0.011470	109.09%
Be 313.042†	-448.9	-0.00086 mg/L	0.000065	-0.00171 mg/L	0.000130	7.58%
Ca 317.933†	86.5	0.00975 mg/L	0.014330	0.01950 mg/L	0.028659	146.95%
Cd 228.802†	-28.6	-0.00131 mg/L	0.000381	-0.00262 mg/L	0.000762	29.10%
Co 228.616†	211.6	0.00660 mg/L	0.000827	0.01319 mg/L	0.001653	12.53%
Cr 267.716†	46.6	0.00696 mg/L	0.002625	0.01391 mg/L	0.005250	37.73%
Cu 324.752†	2124.2	0.00917 mg/L	0.008651	0.01835 mg/L	0.017302	94.30%
Fe 273.955†	415.1	0.4492 mg/L	0.66346	0.8983 mg/L	1.32692	147.71%
Saturated within auto integration window (code 4)						
K 766.490†	-153.1	-0.07441 mg/L	0.010975	-0.1488 mg/L	0.02195	14.75%
Mg 279.077†	256.0	0.2954 mg/L	0.69964	0.5909 mg/L	1.39928	236.82%
Mn 257.610†	490.5	0.01420 mg/L	0.020855	0.02841 mg/L	0.041710	146.82%
Saturated within auto integration window (code 4)						
Mo 202.031†	-34.1	-0.00194 mg/L	0.000258	-0.00388 mg/L	0.000516	13.32%
Na 589.592†	633.6	0.05150 mg/L	0.028501	0.1030 mg/L	0.05700	55.35%
Na 330.237†	-22.1	-0.9139 mg/L	0.29679	-1.828 mg/L	0.5936	32.48%
Ni 231.604†	-10.9	-0.00341 mg/L	0.002345	-0.00681 mg/L	0.004689	68.84%
Pb 220.353†	87.5	0.01117 mg/L	0.001799	0.02233 mg/L	0.003598	16.11%
Sb 206.836†	-1.1	-0.00039 mg/L	0.000995	-0.00078 mg/L	0.001990	255.98%
Se 196.026†	32.9	0.02119 mg/L	0.001549	0.04239 mg/L	0.003099	7.31%
Si 288.158†	122.4	0.1131 mg/L	0.07801	0.2262 mg/L	0.15601	68.98%
Sn 189.927†	10.0	0.00221 mg/L	0.000292	0.00443 mg/L	0.000584	13.18%
Sr 421.552†	129.9	0.00017 mg/L	0.000258	0.00033 mg/L	0.000517	154.45%
Ti 334.903†	68.1	0.00319 mg/L	0.009579	0.00638 mg/L	0.019157	300.44%
Tl 190.801†	17.4	0.01070 mg/L	0.000374	0.02140 mg/L	0.000748	3.50%
V 292.402†	3716.2	0.02576 mg/L	0.011770	0.05151 mg/L	0.023539	45.70%
Zn 206.200†	35.6	0.00940 mg/L	0.009429	0.01879 mg/L	0.018859	100.34%

Sequence No.: 5
 Sample ID: YC57 H SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 328
 Date Collected: 3/20/2014 11:18:26 AM
 Data Type: Original

Nebulizer Parameters: YC57 H SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 H SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2389648.5	102.3	%	0.76			0.74%
ScR 361.383	293117.7	102.8	%	0.91			0.89%
Ag 328.068†	-205.3	-0.00060	mg/L	0.000088	-0.00120	0.000176	14.69%
Al 308.215†	101011.7	111.6	mg/L	0.99	223.2	1.97	0.88%
As 188.979†	-182.0	0.06747	mg/L	0.006073	0.1349	0.01215	9.00%
B 249.677†	406.4	0.07749	mg/L	0.000459	0.1550	0.00092	0.59%
Ba 233.527†	2330.4	0.4148	mg/L	0.00329	0.8296	0.00657	0.79%
Be 313.042†	1019.8	0.00178	mg/L	0.000041	0.00356	0.000082	2.29%
Ca 317.933†	355659.0	40.08	mg/L	0.328	80.16	0.657	0.82%
Cd 228.802†	51.3	0.00319	mg/L	0.000260	0.00638	0.000519	8.13%
Co 228.616†	2120.6	0.05560	mg/L	0.000653	0.1112	0.00131	1.17%
Cr 267.716†	966.5	0.1475	mg/L	0.00202	0.2951	0.00405	1.37%
Cu 324.752†	42241.9	0.1881	mg/L	0.00213	0.3763	0.00425	1.13%
Fe 273.955†	137973.5	149.3	mg/L	0.65	298.7	1.31	0.44%
K 766.490†	24077.2	11.71	mg/L	0.092	23.41	0.183	0.78%
Mg 279.077†	33258.6	38.30	mg/L	0.352	76.60	0.704	0.92%
Mn 257.610†	61896.9	1.792	mg/L	0.0074	3.584	0.0147	0.41%
Mo 202.031†	116.6	0.00601	mg/L	0.000258	0.01202	0.000516	4.29%
Na 589.592†	549041.7	44.62	mg/L	0.315	89.24	0.629	0.71%
Na 330.237†	1057.1	45.11	mg/L	0.509	90.23	1.018	1.13%
Ni 231.604†	397.2	0.1237	mg/L	0.00095	0.2474	0.00190	0.77%
Pb 220.353†	233.2	0.07348	mg/L	0.001367	0.1470	0.00273	1.86%
Sb 206.836†	-11.4	-0.00046	mg/L	0.003181	-0.00092	0.006363	689.01%
Se 196.026†	28.7	0.01820	mg/L	0.004028	0.03641	0.008057	22.13%
Si 288.158†	2501.4	2.312	mg/L	0.0267	4.623	0.0535	1.16%
Sn 189.927†	-57.8	-0.00426	mg/L	0.000674	-0.00853	0.001348	15.81%
Sr 421.552†	371198.0	0.4781	mg/L	0.00391	0.9562	0.00783	0.82%
Ti 334.903†	125685.3	5.884	mg/L	0.0433	11.77	0.087	0.74%
Tl 190.801†	7.6	0.01857	mg/L	0.004607	0.03714	0.009214	24.81%
V 292.402†	50873.8	0.3400	mg/L	0.00367	0.6800	0.00735	1.08%
Zn 206.200†	1581.0	0.4165	mg/L	0.00346	0.8330	0.00692	0.83%

Sequence No.: 6
 Sample ID: YC57 I SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 329
 Date Collected: 3/20/2014 11:22:12 AM
 Data Type: Original

Nebulizer Parameters: YC57 I SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YC57 I SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2445019.4	104.7	%	0.36				0.35%
ScR 361.383	294520.3	103.3	%	0.94				0.91%
Ag 328.068†	-210.1	-0.00068	mg/L	0.000180	-0.00135	mg/L	0.000360	26.62%
Al 308.215†	96040.8	106.1	mg/L	1.85	212.2	mg/L	3.70	1.74%
As 188.979†	-175.0	0.06365	mg/L	0.002842	0.1273	mg/L	0.00568	4.47%
B 249.677†	490.7	0.09361	mg/L	0.000619	0.1872	mg/L	0.00124	0.66%
Ba 233.527†	2082.1	0.3687	mg/L	0.00079	0.7374	mg/L	0.00158	0.21%
Be 313.042†	982.9	0.00172	mg/L	0.000024	0.00344	mg/L	0.000047	1.37%
Ca 317.933†	288797.6	32.55	mg/L	0.228	65.09	mg/L	0.457	0.70%
Cd 228.802†	54.5	0.00331	mg/L	0.000020	0.00663	mg/L	0.000039	0.59%
Co 228.616†	2000.9	0.05238	mg/L	0.000380	0.1048	mg/L	0.00076	0.73%
Cr 267.716†	971.8	0.1484	mg/L	0.00112	0.2969	mg/L	0.00225	0.76%
Cu 324.752†	42425.5	0.1890	mg/L	0.00127	0.3780	mg/L	0.00253	0.67%
Fe 273.955†	138233.3	149.6	mg/L	3.26	299.2	mg/L	6.53	2.18%
K 766.490†	25266.2	12.28	mg/L	0.212	24.57	mg/L	0.423	1.72%
Mg 279.077†	33190.7	38.22	mg/L	0.684	76.44	mg/L	1.368	1.79%
Mn 257.610†	56156.6	1.626	mg/L	0.0337	3.252	mg/L	0.0673	2.07%
Mo 202.031†	114.5	0.00601	mg/L	0.000254	0.01201	mg/L	0.000508	4.23%
Na 589.592†	650400.2	52.86	mg/L	0.493	105.7	mg/L	0.99	0.93%
Na 330.237†	1253.1	53.12	mg/L	0.460	106.2	mg/L	0.92	0.86%
Ni 231.604†	394.1	0.1227	mg/L	0.00167	0.2454	mg/L	0.00335	1.36%
Pb 220.353†	454.7	0.09945	mg/L	0.001678	0.1989	mg/L	0.00336	1.69%
Sb 206.836†	-9.0	0.00021	mg/L	0.001266	0.00042	mg/L	0.002531	608.52%
Se 196.026†	26.0	0.01653	mg/L	0.006948	0.03305	mg/L	0.013896	42.04%
Si 288.158†	2706.0	2.501	mg/L	0.0295	5.001	mg/L	0.0590	1.18%
Sn 189.927†	-20.5	0.00255	mg/L	0.000465	0.00509	mg/L	0.000929	18.24%
Sr 421.552†	339314.4	0.4370	mg/L	0.00335	0.8741	mg/L	0.00671	0.77%
Ti 334.903†	119616.1	5.600	mg/L	0.0368	11.20	mg/L	0.074	0.66%
Tl 190.801†	2.6	0.01624	mg/L	0.003655	0.03247	mg/L	0.007309	22.51%
V 292.402†	47728.9	0.3183	mg/L	0.00170	0.6367	mg/L	0.00339	0.53%
Zn 206.200†	1738.5	0.4581	mg/L	0.00539	0.9163	mg/L	0.01079	1.18%

Sequence No.: 7
 Sample ID: YC57 J SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 330
 Date Collected: 3/20/2014 11:26:14 AM
 Data Type: Original

Nebulizer Parameters: YC57 J SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 J SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2396602.8	102.6 %	%	0.53			0.52%
ScR 361.383	296346.7	104.0 %	%	0.03			0.03%
Ag 328.068†	-237.3	-0.00081 mg/L	mg/L	0.000125	-0.00162 mg/L	0.000250	15.40%
Al 308.215†	94769.9	104.7 mg/L	mg/L	0.48	209.4 mg/L	0.97	0.46%
As 188.979†	-196.3	0.04985 mg/L	mg/L	0.004107	0.09971 mg/L	0.008213	8.24%
B 249.677†	432.0	0.08239 mg/L	mg/L	0.000453	0.1648 mg/L	0.00091	0.55%
Ba 233.527†	2046.7	0.3643 mg/L	mg/L	0.00192	0.7287 mg/L	0.00384	0.53%
Be 313.042†	934.8	0.00163 mg/L	mg/L	0.000014	0.00326 mg/L	0.000028	0.85%
Ca 317.933†	277831.7	31.31 mg/L	mg/L	0.127	62.62 mg/L	0.254	0.41%
Cd 228.802†	47.6	0.00306 mg/L	mg/L	0.000037	0.00613 mg/L	0.000074	1.20%
Co 228.616†	1956.2	0.05088 mg/L	mg/L	0.000317	0.1018 mg/L	0.00063	0.62%
Cr 267.716†	878.5	0.1340 mg/L	mg/L	0.00041	0.2679 mg/L	0.00081	0.30%
Cu 324.752†	40414.0	0.1794 mg/L	mg/L	0.00023	0.3588 mg/L	0.00046	0.13%
Fe 273.955†	120813.7	130.8 mg/L	mg/L	0.92	261.5 mg/L	1.84	0.70%
K 766.490†	23317.1	11.34 mg/L	mg/L	0.104	22.67 mg/L	0.209	0.92%
Mg 279.077†	30059.9	34.62 mg/L	mg/L	0.092	69.24 mg/L	0.183	0.26%
Mn 257.610†	47735.6	1.382 mg/L	mg/L	0.0102	2.764 mg/L	0.0205	0.74%
Mo 202.031†	121.7	0.00644 mg/L	mg/L	0.000355	0.01287 mg/L	0.000710	5.52%
Na 589.592†	394994.9	32.10 mg/L	mg/L	0.180	64.20 mg/L	0.360	0.56%
Na 330.237†	739.4	31.94 mg/L	mg/L	0.093	63.88 mg/L	0.186	0.29%
Ni 231.604†	354.5	0.1104 mg/L	mg/L	0.00138	0.2208 mg/L	0.00275	1.25%
Pb 220.353†	263.6	0.07400 mg/L	mg/L	0.000932	0.1480 mg/L	0.00186	1.26%
Sb 206.836†	-11.4	-0.00056 mg/L	mg/L	0.003413	-0.00111 mg/L	0.006826	614.82%
Se 196.026†	31.3	0.01990 mg/L	mg/L	0.004918	0.03980 mg/L	0.009835	24.71%
Si 288.158†	2152.7	1.989 mg/L	mg/L	0.0036	3.979 mg/L	0.0073	0.18%
Sn 189.927†	-52.5	-0.00475 mg/L	mg/L	0.000644	-0.00950 mg/L	0.001287	13.55%
Sr 421.552†	322384.0	0.4152 mg/L	mg/L	0.00236	0.8305 mg/L	0.00471	0.57%
Ti 334.903†	120798.4	5.656 mg/L	mg/L	0.0287	11.31 mg/L	0.057	0.51%
Tl 190.801†	5.1	0.01552 mg/L	mg/L	0.004591	0.03104 mg/L	0.009183	29.58%
V 292.402†	47238.5	0.3161 mg/L	mg/L	0.00083	0.6322 mg/L	0.00167	0.26%
Zn 206.200†	1429.1	0.3765 mg/L	mg/L	0.00132	0.7531 mg/L	0.00264	0.35%

Sequence No.: 8
 Sample ID: YC57 K SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 331
 Date Collected: 3/20/2014 11:30:00 AM
 Data Type: Original

Nebulizer Parameters: YC57 K SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC57 K SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2396670.0	102.6	%	0.46				0.45%
ScR 361.383	293975.7	103.1	%	0.76				0.74%
Ag 328.068†	-229.9	-0.00077	mg/L	0.000215	-0.00154	mg/L	0.000431	27.96%
Al 308.215†	101174.6	111.8	mg/L	1.14	223.5	mg/L	2.29	1.02%
As 188.979†	-199.1	0.04561	mg/L	0.000724	0.09121	mg/L	0.001449	1.59%
B 249.677†	433.1	0.08261	mg/L	0.000960	0.1652	mg/L	0.00192	1.16%
Ba 233.527†	2209.5	0.3941	mg/L	0.00354	0.7881	mg/L	0.00709	0.90%
Be 313.042†	988.1	0.00173	mg/L	0.000037	0.00346	mg/L	0.000074	2.14%
Ca 317.933†	282558.3	31.84	mg/L	0.046	63.69	mg/L	0.092	0.15%
Cd 228.802†	46.6	0.00304	mg/L	0.000093	0.00607	mg/L	0.000185	3.05%
Co 228.616†	2000.3	0.05236	mg/L	0.000211	0.1047	mg/L	0.00042	0.40%
Cr 267.716†	912.6	0.1390	mg/L	0.00119	0.2781	mg/L	0.00238	0.85%
Cu 324.752†	140186.6	0.6095	mg/L	0.00157	1.219	mg/L	0.0031	0.26%
Fe 273.955†	124701.5	135.0	mg/L	1.49	269.9	mg/L	2.98	1.10%
K 766.490†	25480.6	12.39	mg/L	0.056	24.78	mg/L	0.113	0.45%
Mg 279.077†	32161.0	37.04	mg/L	0.309	74.09	mg/L	0.618	0.83%
Mn 257.610†	51563.5	1.493	mg/L	0.0168	2.985	mg/L	0.0337	1.13%
Mo 202.031†	122.3	0.00646	mg/L	0.000303	0.01292	mg/L	0.000605	4.68%
Na 589.592†	535418.5	43.51	mg/L	0.192	87.02	mg/L	0.385	0.44%
Na 330.237†	1025.3	43.73	mg/L	0.574	87.47	mg/L	1.149	1.31%
Ni 231.604†	380.3	0.1184	mg/L	0.00012	0.2368	mg/L	0.00025	0.10%
Pb 220.353†	196.6	0.06754	mg/L	0.002159	0.1351	mg/L	0.00432	3.20%
Sb 206.836†	-9.7	0.00003	mg/L	0.000965	0.00006	mg/L	0.001931	>999.9%
Se 196.026†	16.7	0.01054	mg/L	0.008061	0.02109	mg/L	0.016123	76.46%
Si 288.158†	2217.2	2.049	mg/L	0.0119	4.098	mg/L	0.0239	0.58%
Sn 189.927†	-46.5	-0.00333	mg/L	0.000845	-0.00667	mg/L	0.001690	25.36%
Sr 421.552†	326136.8	0.4201	mg/L	0.00112	0.8401	mg/L	0.00225	0.27%
Ti 334.903†	119576.1	5.599	mg/L	0.0117	11.20	mg/L	0.023	0.21%
Tl 190.801†	5.4	0.01614	mg/L	0.002619	0.03228	mg/L	0.005239	16.23%
V 292.402†	48384.6	0.3238	mg/L	0.00005	0.6476	mg/L	0.00010	0.01%
Zn 206.200†	1459.1	0.3845	mg/L	0.00425	0.7689	mg/L	0.00851	1.11%

Sequence No.: 9
 Sample ID: YC57 L SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 332
 Date Collected: 3/20/2014 11:34:16 AM
 Data Type: Original

Nebulizer Parameters: YC57 L SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC57 L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2398007.4	102.6	%	0.33			0.32%
ScR 361.383	289163.9	101.4	%	0.81			0.80%
Ag 328.068†	-130.8	-0.00024	mg/L	0.000056	-0.00049 mg/L	0.000112	23.08%
Al 308.215†	101948.7	112.6	mg/L	1.33	225.3 mg/L	2.66	1.18%
As 188.979†	-172.1	0.06971	mg/L	0.002028	0.1394 mg/L	0.00406	2.91%
B 249.677†	556.3	0.1061	mg/L	0.00260	0.2123 mg/L	0.00521	2.45%
Ba 233.527†	2127.2	0.3763	mg/L	0.00500	0.7527 mg/L	0.01000	1.33%
Be 313.042†	1014.3	0.00177	mg/L	0.000036	0.00354 mg/L	0.000072	2.04%
Ca 317.933†	364925.4	41.13	mg/L	0.126	82.25 mg/L	0.252	0.31%
Cd 228.802†	63.8	0.00374	mg/L	0.000032	0.00747 mg/L	0.000064	0.86%
Co 228.616†	2087.6	0.05482	mg/L	0.000611	0.1096 mg/L	0.00122	1.11%
Cr 267.716†	1063.4	0.1622	mg/L	0.00123	0.3245 mg/L	0.00246	0.76%
Cu 324.752†	47228.9	0.2100	mg/L	0.00127	0.4199 mg/L	0.00254	0.60%
Fe 273.955†	143683.3	155.5	mg/L	1.60	311.0 mg/L	3.20	1.03%
K 766.490†	26712.9	12.99	mg/L	0.109	25.97 mg/L	0.219	0.84%
Mg 279.077†	33624.5	38.72	mg/L	0.479	77.43 mg/L	0.958	1.24%
Mn 257.610†	63277.5	1.832	mg/L	0.0180	3.664 mg/L	0.0359	0.98%
Mo 202.031†	131.4	0.00684	mg/L	0.000408	0.01367 mg/L	0.000815	5.96%
Na 589.592†	660081.0	53.64	mg/L	0.080	107.3 mg/L	0.16	0.15%
Na 330.237†	1278.4	54.20	mg/L	0.237	108.4 mg/L	0.47	0.44%
Ni 231.604†	400.7	0.1248	mg/L	0.00078	0.2496 mg/L	0.00155	0.62%
Pb 220.353†	493.0	0.1067	mg/L	0.00079	0.2133 mg/L	0.00159	0.74%
Sb 206.836†	-13.8	-0.00160	mg/L	0.000414	-0.00320 mg/L	0.000827	25.85%
Se 196.026†	31.2	0.01983	mg/L	0.005942	0.03967 mg/L	0.011885	29.96%
Si 288.158†	2314.3	2.139	mg/L	0.0293	4.278 mg/L	0.0587	1.37%
Sn 189.927†	-31.2	0.00181	mg/L	0.001444	0.00362 mg/L	0.002888	79.68%
Sr 421.552†	385699.6	0.4968	mg/L	0.00170	0.9936 mg/L	0.00339	0.34%
Ti 334.903†	122688.7	5.743	mg/L	0.0236	11.49 mg/L	0.047	0.41%
Tl 190.801†	0.8	0.01500	mg/L	0.003041	0.03000 mg/L	0.006082	20.27%
V 292.402†	51906.8	0.3469	mg/L	0.00273	0.6938 mg/L	0.00546	0.79%
Zn 206.200†	1805.3	0.4756	mg/L	0.00551	0.9512 mg/L	0.01102	1.16%

Sequence No.: 10
 Sample ID: YC57 MB1SPK SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 333
 Date Collected: 3/20/2014 11:38:32 AM
 Data Type: Original

 Nebulizer Parameters: YC57 MB1SPK SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC57 MB1SPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2396675.5	102.6	%	0.26				0.25%
ScR 361.383	295211.4	103.6	%	0.26				0.26%
Ag 328.068†	110079.0	0.5107	mg/L	0.00549	1.021	mg/L	0.0110	1.07%
Al 308.215†	1808.0	1.990	mg/L	0.0107	3.980	mg/L	0.0213	0.54%
As 188.979†	2757.4	2.068	mg/L	0.0149	4.136	mg/L	0.0298	0.72%
B 249.677†	10.6	0.00097	mg/L	0.001300	0.00194	mg/L	0.002599	134.26%
Ba 233.527†	11084.3	2.057	mg/L	0.0134	4.115	mg/L	0.0268	0.65%
Be 313.042†	243112.6	0.4605	mg/L	0.00086	0.9210	mg/L	0.00172	0.19%
Ca 317.933†	87415.5	9.851	mg/L	0.0060	19.70	mg/L	0.012	0.06%
Cd 228.802†	11161.5	0.5108	mg/L	0.00284	1.022	mg/L	0.0057	0.56%
Co 228.616†	16053.2	0.5007	mg/L	0.00246	1.001	mg/L	0.0049	0.49%
Cr 267.716†	3423.3	0.5107	mg/L	0.00109	1.021	mg/L	0.0022	0.21%
Cu 324.752†	108954.7	0.4695	mg/L	0.00245	0.9390	mg/L	0.00491	0.52%
Fe 273.955†	1792.7	1.937	mg/L	0.0123	3.874	mg/L	0.0246	0.63%
K 766.490†	20137.1	9.790	mg/L	0.0566	19.58	mg/L	0.113	0.58%
Mg 279.077†	8841.1	10.22	mg/L	0.033	20.44	mg/L	0.066	0.32%
Mn 257.610†	15927.2	0.4616	mg/L	0.00155	0.9231	mg/L	0.00309	0.33%
Mo 202.031†	29.1	0.00150	mg/L	0.000072	0.00301	mg/L	0.000145	4.81%
Na 589.592†	121896.5	9.906	mg/L	0.0112	19.81	mg/L	0.022	0.11%
Na 330.237†	244.9	9.977	mg/L	0.1176	19.95	mg/L	0.235	1.18%
Ni 231.604†	1617.7	0.5029	mg/L	0.00395	1.006	mg/L	0.0079	0.78%
Pb 220.353†	15932.0	1.994	mg/L	0.0120	3.988	mg/L	0.0240	0.60%
Sb 206.836†	15.2	0.00100	mg/L	0.000998	0.00200	mg/L	0.001996	99.84%
Se 196.026†	3171.3	2.042	mg/L	0.0175	4.084	mg/L	0.0350	0.86%
Si 288.158†	5.1	0.00699	mg/L	0.002927	0.01398	mg/L	0.005854	41.86%
Sn 189.927†	-22.9	-0.00318	mg/L	0.000817	-0.00636	mg/L	0.001634	25.69%
Sr 421.552†	370012.8	0.4766	mg/L	0.00040	0.9532	mg/L	0.00080	0.08%
Ti 334.903†	93.7	0.00330	mg/L	0.000226	0.00660	mg/L	0.000453	6.86%
Tl 190.801†	3329.4	2.057	mg/L	0.0115	4.115	mg/L	0.0231	0.56%
V 292.402†	72476.3	0.5044	mg/L	0.00281	1.009	mg/L	0.0056	0.56%
Zn 206.200†	1852.0	0.4881	mg/L	0.00062	0.9762	mg/L	0.00124	0.13%

Sequence No.: 11
 Sample ID: CV
 Analyst: ALA
 Dilution: 1.00000X

Autosampler Location: 7
 Date Collected: 3/20/2014 11:42:32 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2421224.7	103.6 %	0.74			0.72%
ScR 361.383	289283.6	101.5 %	0.58			0.57%
Ag 328.068†	220433.8	1.023 mg/L	0.0035	1.023 mg/L	0.0035	0.34%
Al 308.215†	1851.9	2.014 mg/L	0.0076	2.014 mg/L	0.0076	0.38%
As 188.979†	2657.3	2.026 mg/L	0.0155	2.026 mg/L	0.0155	0.76%
B 249.677†	5253.0	1.002 mg/L	0.0074	1.002 mg/L	0.0074	0.74%
Ba 233.527†	5712.1	1.060 mg/L	0.0023	1.060 mg/L	0.0023	0.22%
Be 313.042†	491535.2	0.9310 mg/L	0.00552	0.9310 mg/L	0.00552	0.59%
Ca 317.933†	18352.6	2.068 mg/L	0.0063	2.068 mg/L	0.0063	0.31%
Cd 228.802†	22142.0	1.024 mg/L	0.0088	1.024 mg/L	0.0088	0.86%
Co 228.616†	32606.8	1.016 mg/L	0.0079	1.016 mg/L	0.0079	0.78%
Cr 267.716†	6930.0	1.035 mg/L	0.0041	1.035 mg/L	0.0041	0.40%
Cu 324.752†	230953.7	0.9948 mg/L	0.00388	0.9948 mg/L	0.00388	0.39%
Fe 273.955†	1802.8	1.945 mg/L	0.0108	1.945 mg/L	0.0108	0.56%
K 766.490†	40597.3	19.74 mg/L	0.042	19.74 mg/L	0.042	0.21%
Mg 279.077†	1714.0	1.987 mg/L	0.0103	1.987 mg/L	0.0103	0.52%
Mn 257.610†	32021.6	0.9278 mg/L	0.00376	0.9278 mg/L	0.00376	0.41%
Mo 202.031†	17375.0	0.9876 mg/L	0.00778	0.9876 mg/L	0.00778	0.79%
Na 589.592†	614448.2	49.93 mg/L	0.112	49.93 mg/L	0.112	0.22%
Na 330.237†	1228.3	50.72 mg/L	0.257	50.72 mg/L	0.257	0.51%
Ni 231.604†	3304.5	1.029 mg/L	0.0083	1.029 mg/L	0.0083	0.81%
Pb 220.353†	15947.4	1.996 mg/L	0.0160	1.996 mg/L	0.0160	0.80%
Sb 206.836†	5422.0	2.086 mg/L	0.0226	2.086 mg/L	0.0226	1.08%
Se 196.026†	3092.4	1.990 mg/L	0.0180	1.990 mg/L	0.0180	0.91%
Si 288.158†	2190.8	2.029 mg/L	0.0119	2.029 mg/L	0.0119	0.59%
Sn 189.927†	4430.6	0.9835 mg/L	0.00660	0.9835 mg/L	0.00660	0.67%
Sr 421.552†	759579.3	0.9784 mg/L	0.00239	0.9784 mg/L	0.00239	0.24%
Ti 334.903†	20958.1	0.9805 mg/L	0.00290	0.9805 mg/L	0.00290	0.30%
Tl 190.801†	3378.2	2.085 mg/L	0.0178	2.085 mg/L	0.0178	0.86%
V 292.402†	140947.1	0.9812 mg/L	0.00236	0.9812 mg/L	0.00236	0.24%
Zn 206.200†	3789.0	0.9988 mg/L	0.00642	0.9988 mg/L	0.00642	0.64%

Sequence No.: 12
 Sample ID: CB 4
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/20/2014 11:46:21 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2408933.7	103.1	%	0.67			0.65%
ScR 361.383	293770.1	103.1	%	0.69			0.67%
Ag 328.068†	-17.7	-0.00008	mg/L	0.000079	-0.00008 mg/L	0.000079	96.33%
Al 308.215†	-0.8	-0.00090	mg/L	0.003718	-0.00090 mg/L	0.003718	411.38%
As 188.979†	-0.4	-0.00031	mg/L	0.002836	-0.00031 mg/L	0.002836	903.11%
B 249.677†	8.7	0.00167	mg/L	0.000138	0.00167 mg/L	0.000138	8.28%
Ba 233.527†	1.2	0.00022	mg/L	0.000838	0.00022 mg/L	0.000838	379.06%
Be 313.042†	20.4	0.00004	mg/L	0.000024	0.00004 mg/L	0.000024	61.21%
Ca 317.933†	-7.0	-0.00079	mg/L	0.001358	-0.00079 mg/L	0.001358	171.59%
Cd 228.802†	5.3	0.00025	mg/L	0.000263	0.00025 mg/L	0.000263	105.33%
Co 228.616†	-1.5	-0.00005	mg/L	0.000057	-0.00005 mg/L	0.000057	121.39%
Cr 267.716†	1.5	0.00023	mg/L	0.000593	0.00023 mg/L	0.000593	262.10%
Cu 324.752†	213.8	0.00092	mg/L	0.000174	0.00092 mg/L	0.000174	18.87%
Fe 273.955†	-0.8	-0.00085	mg/L	0.001588	-0.00085 mg/L	0.001588	186.16%
K 766.490†	-15.7	-0.00765	mg/L	0.008116	-0.00765 mg/L	0.008116	106.16%
Mg 279.077†	-0.9	-0.00100	mg/L	0.007568	-0.00100 mg/L	0.007568	756.72%
Mn 257.610†	0.6	0.00002	mg/L	0.000210	0.00002 mg/L	0.000210	>999.9%
Mo 202.031†	13.7	0.00078	mg/L	0.000246	0.00078 mg/L	0.000246	31.54%
Na 589.592†	-16.2	-0.00132	mg/L	0.003822	-0.00132 mg/L	0.003822	289.60%
Na 330.237†	3.6	0.1505	mg/L	0.38790	0.1505 mg/L	0.38790	257.68%
Ni 231.604†	-2.1	-0.00065	mg/L	0.000949	-0.00065 mg/L	0.000949	145.16%
Pb 220.353†	-6.4	-0.00080	mg/L	0.000508	-0.00080 mg/L	0.000508	63.82%
Sb 206.836†	6.5	0.00250	mg/L	0.000967	0.00250 mg/L	0.000967	38.64%
Se 196.026†	-0.9	-0.00056	mg/L	0.002633	-0.00056 mg/L	0.002633	467.14%
Si 288.158†	1.4	0.00132	mg/L	0.002569	0.00132 mg/L	0.002569	194.33%
Sn 189.927†	0.5	0.00011	mg/L	0.000930	0.00011 mg/L	0.000930	855.33%
Sr 421.552†	43.6	0.00006	mg/L	0.000072	0.00006 mg/L	0.000072	127.19%
Ti 334.903†	-1.8	-0.00009	mg/L	0.000716	-0.00009 mg/L	0.000716	832.87%
Tl 190.801†	0.3	0.00016	mg/L	0.000130	0.00016 mg/L	0.000130	80.82%
V 292.402†	-17.0	-0.00012	mg/L	0.000200	-0.00012 mg/L	0.000200	171.60%
Zn 206.200†	2.5	0.00065	mg/L	0.000296	0.00065 mg/L	0.000296	45.76%

User canceled analysis.

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Analysis Begun

Start Time: 3/20/2014 11:50:29 AM Plasma On Time: 3/20/2014 7:22:03 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0320.sif
Batch ID:
Results Data Set: I2140320
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 4 Autosampler Location: 327
Sample ID: YC57 G SWC Date Collected: 3/20/2014 11:50:31 AM
Analyst: ALA Data Type: Original
Dilution: 2.000000X

Nebulizer Parameters: YC57 G SWC
Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: YC57 G SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2420215.9	103.6	%	0.01			0.01%
ScR 361.383	296385.8	104.0	%	0.62			0.59%
Ag 328.068†	-264.6	-0.00086	mg/L	0.000181	-0.00171	0.000362	21.13%
Al 308.215†	106175.5	117.3	mg/L	0.43	234.6	0.86	0.37%
As 188.979†	-226.8	0.05075	mg/L	0.000340	0.1015	0.00068	0.67%
B 249.677†	343.0	0.06539	mg/L	0.000541	0.1308	0.00108	0.83%
Ba 233.527†	2537.8	0.4532	mg/L	0.00688	0.9064	0.01375	1.52%
Be 313.042†	1044.5	0.00182	mg/L	0.000026	0.00363	0.000052	1.42%
Ca 317.933†	371481.0	41.86	mg/L	0.226	83.73	0.453	0.54%
Cd 228.802†	46.7	0.00315	mg/L	0.000130	0.00630	0.000260	4.12%
Co 228.616†	2197.7	0.05714	mg/L	0.000135	0.1143	0.00027	0.24%
Cr 267.716†	992.4	0.1514	mg/L	0.00216	0.3028	0.00431	1.42%
Cu 324.752†	40145.9	0.1790	mg/L	0.00028	0.3581	0.00057	0.16%
Fe 273.955†	138685.6	150.1	mg/L	1.47	300.2	2.94	0.98%
K 766.490†	22019.7	10.71	mg/L	0.052	21.41	0.104	0.48%
Mg 279.077†	33260.7	38.30	mg/L	0.198	76.60	0.396	0.52%
Mn 257.610†	71054.2	2.057	mg/L	0.0185	4.114	0.0371	0.90%
Mo 202.031†	113.3	0.00579	mg/L	0.000197	0.01159	0.000394	3.40%
Na 589.592†	454211.8	36.91	mg/L	0.117	73.83	0.234	0.32%
Na 330.237†	858.0	37.02	mg/L	0.542	74.03	1.083	1.46%
Ni 231.604†	400.4	0.1247	mg/L	0.00157	0.2493	0.00314	1.26%
Pb 220.353†	183.5	0.06916	mg/L	0.000273	0.1383	0.00055	0.39%
Sb 206.836†	-8.2	0.00118	mg/L	0.004310	0.00236	0.008620	365.26%
Se 196.026†	32.2	0.02047	mg/L	0.002209	0.04094	0.004419	10.79%
Si 288.158†	1946.1	1.799	mg/L	0.0269	3.597	0.0539	1.50%
Sn 189.927†	-54.9	-0.00319	mg/L	0.000833	-0.00638	0.001666	26.09%
Sr 421.552†	349770.6	0.4505	mg/L	0.00126	0.9010	0.00252	0.28%
Ti 334.903†	135987.9	6.366	mg/L	0.0157	12.73	0.031	0.25%
Tl 190.801†	5.8	0.01733	mg/L	0.003439	0.03465	0.006877	19.85%
V 292.402†	53992.9	0.3614	mg/L	0.00044	0.7227	0.00087	0.12%
Zn 206.200†	1593.2	0.4196	mg/L	0.00489	0.8392	0.00977	1.16%

User canceled analysis.

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Analysis Begun

Start Time: 3/20/2014 11:55:09 AM

Plasma On Time: 3/20/2014 7:22:03 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0320.sif

Batch ID:

Results Data Set: I2140320

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
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Sequence No.: 13

Autosampler Location: 301

Sample ID: CRI

Date Collected: 3/20/2014 11:55:10 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2418122.3	103.5 %	0.58			0.56%
ScR 361.383	295976.1	103.8 %	0.38			0.36%
Ag 328.068†	625.2	0.00290 mg/L	0.000101	0.00290 mg/L	0.000101	3.50%
Al 308.215†	48.1	0.05301 mg/L	0.006155	0.05301 mg/L	0.006155	11.61%
As 188.979†	64.7	0.04873 mg/L	0.000640	0.04873 mg/L	0.000640	1.31%
B 249.677†	109.2	0.02085 mg/L	0.000702	0.02085 mg/L	0.000702	3.37%
Ba 233.527†	18.0	0.00333 mg/L	0.000586	0.00333 mg/L	0.000586	17.59%
Be 313.042†	444.6	0.00084 mg/L	0.000028	0.00084 mg/L	0.000028	3.30%
Ca 317.933†	443.8	0.05002 mg/L	0.000872	0.05002 mg/L	0.000872	1.74%
Cd 228.802†	53.5	0.00225 mg/L	0.000059	0.00225 mg/L	0.000059	2.64%
Co 228.616†	99.0	0.00308 mg/L	0.000126	0.00308 mg/L	0.000126	4.09%
Cr 267.716†	38.4	0.00573 mg/L	0.000754	0.00573 mg/L	0.000754	13.15%
Cu 324.752†	657.7	0.00283 mg/L	0.000132	0.00283 mg/L	0.000132	4.64%
Fe 273.955†	50.8	0.05497 mg/L	0.002638	0.05497 mg/L	0.002638	4.80%
K 766.490†	1012.4	0.4922 mg/L	0.00930	0.4922 mg/L	0.00930	1.89%
Mg 279.077†	42.9	0.04963 mg/L	0.004987	0.04963 mg/L	0.004987	10.05%
Mn 257.610†	35.3	0.00103 mg/L	0.000101	0.00103 mg/L	0.000101	9.79%
Mo 202.031†	88.1	0.00501 mg/L	0.000217	0.00501 mg/L	0.000217	4.33%
Na 589.592†	5987.3	0.4866 mg/L	0.00225	0.4866 mg/L	0.00225	0.46%
Na 330.237†	11.4	0.4689 mg/L	0.59094	0.4689 mg/L	0.59094	126.03%
Ni 231.604†	31.1	0.00969 mg/L	0.000251	0.00969 mg/L	0.000251	2.59%
Pb 220.353†	149.3	0.01870 mg/L	0.000851	0.01870 mg/L	0.000851	4.55%
Sb 206.836†	134.5	0.05182 mg/L	0.001524	0.05182 mg/L	0.001524	2.94%
Se 196.026†	74.0	0.04767 mg/L	0.001293	0.04767 mg/L	0.001293	2.71%
Si 288.158†	71.2	0.06585 mg/L	0.003819	0.06585 mg/L	0.003819	5.80%
Sn 189.927†	45.3	0.01008 mg/L	0.000842	0.01008 mg/L	0.000842	8.36%
Sr 421.552†	762.3	0.00098 mg/L	0.000021	0.00098 mg/L	0.000021	2.16%
Ti 334.903†	106.5	0.00498 mg/L	0.000917	0.00498 mg/L	0.000917	18.41%
Tl 190.801†	77.5	0.04802 mg/L	0.001486	0.04802 mg/L	0.001486	3.09%
V 292.402†	420.9	0.00294 mg/L	0.000092	0.00294 mg/L	0.000092	3.12%
Zn 206.200†	37.5	0.00990 mg/L	0.000661	0.00990 mg/L	0.000661	6.68%

Sequence No.: 14
 Sample ID: ICSA

Autosampler Location: 302
 Date Collected: 3/20/2014 11:59:26 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2357679.5	100.9	%	0.33				0.33%
ScR 361.383	292428.0	102.6	%	0.31				0.30%
Ag 328.068†	-319.6	-0.00083	mg/L	0.000064	-0.00083	mg/L	0.000064	7.68%
Al 308.215†	175787.3	194.2	mg/L	0.32	194.2	mg/L	0.32	0.16%
As 188.979†	57.1	0.02847	mg/L	0.002002	0.02847	mg/L	0.002002	7.03%
B 249.677†	-69.2	-0.01322	mg/L	0.001113	-0.01322	mg/L	0.001113	8.42%
Ba 233.527†	123.1	0.00109	mg/L	0.000674	0.00109	mg/L	0.000674	62.09%
Be 313.042†	31.1	0.00006	mg/L	0.000013	0.00006	mg/L	0.000013	22.35%
Ca 317.933†	876013.2	98.72	mg/L	0.231	98.72	mg/L	0.231	0.23%
Cd 228.802†	32.2	0.00128	mg/L	0.000327	0.00128	mg/L	0.000327	25.55%
Co 228.616†	88.1	0.00272	mg/L	0.000173	0.00272	mg/L	0.000173	6.37%
Cr 267.716†	8.3	0.00091	mg/L	0.000768	0.00091	mg/L	0.000768	83.93%
Cu 324.752†	-1934.1	0.00000	mg/L	0.000080	0.00000	mg/L	0.000080	>999.9%
Fe 273.955†	169357.9	183.3	mg/L	0.34	183.3	mg/L	0.34	0.19%
K 766.490†	13.1	0.00637	mg/L	0.017427	0.00637	mg/L	0.017427	273.47%
Mg 279.077†	86338.3	99.62	mg/L	0.210	99.62	mg/L	0.210	0.21%
Mn 257.610†	42.8	-0.00053	mg/L	0.000106	-0.00053	mg/L	0.000106	20.19%
Mo 202.031†	108.1	0.00462	mg/L	0.000166	0.00462	mg/L	0.000166	3.58%
Na 589.592†	3.3	0.00027	mg/L	0.000270	0.00027	mg/L	0.000270	99.57%
Na 330.237†	-44.3	-1.827	mg/L	0.1335	-1.827	mg/L	0.1335	7.31%
Ni 231.604†	2.4	0.00074	mg/L	0.000251	0.00074	mg/L	0.000251	33.82%
Pb 220.353†	-479.5	0.01268	mg/L	0.000373	0.01268	mg/L	0.000373	2.94%
Sb 206.836†	-12.0	-0.00479	mg/L	0.002899	-0.00479	mg/L	0.002899	60.50%
Se 196.026†	45.4	0.02924	mg/L	0.002619	0.02924	mg/L	0.002619	8.96%
Si 288.158†	-18.0	-0.01660	mg/L	0.002456	-0.01660	mg/L	0.002456	14.79%
Sn 189.927†	-122.4	-0.00880	mg/L	0.000942	-0.00880	mg/L	0.000942	10.71%
Sr 421.552†	4028.6	0.00519	mg/L	0.000015	0.00519	mg/L	0.000015	0.28%
Ti 334.903†	310.4	0.00460	mg/L	0.000569	0.00460	mg/L	0.000569	12.37%
Tl 190.801†	11.3	0.02208	mg/L	0.003839	0.02208	mg/L	0.003839	17.38%
V 292.402†	1232.9	-0.00383	mg/L	0.000591	-0.00383	mg/L	0.000591	15.46%
Zn 206.200†	-4.1	-0.00234	mg/L	0.000804	-0.00234	mg/L	0.000804	34.36%

Sequence No.: 15

Sample ID: ICSAB

Autosampler Location: 303

Date Collected: 3/20/2014 12:03:41 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2338971.6	100.1	%	0.43			0.43%
ScR 361.383	289292.0	101.5	%	0.50			0.49%
Ag 328.068†	223290.0	1.037	mg/L	0.0043	1.037	mg/L	0.41%
Al 308.215†	175136.7	193.5	mg/L	0.33	193.5	mg/L	0.17%
As 188.979†	1366.7	1.011	mg/L	0.0025	1.011	mg/L	0.25%
B 249.677†	-35.8	-0.00884	mg/L	0.001236	-0.00884	mg/L	13.98%
Ba 233.527†	5618.8	1.021	mg/L	0.0049	1.021	mg/L	0.48%
Be 313.042†	479029.6	0.9073	mg/L	0.00358	0.9073	mg/L	0.40%
Ca 317.933†	871992.7	98.27	mg/L	0.281	98.27	mg/L	0.29%
Cd 228.802†	21654.2	1.006	mg/L	0.0065	1.006	mg/L	0.64%
Co 228.616†	30528.5	0.9524	mg/L	0.00427	0.9524	mg/L	0.45%
Cr 267.716†	6666.5	0.9959	mg/L	0.00510	0.9959	mg/L	0.51%
Cu 324.752†	229648.3	0.9980	mg/L	0.00242	0.9980	mg/L	0.24%
Fe 273.955†	170580.7	184.6	mg/L	0.24	184.6	mg/L	0.13%
K 766.490†	13.3	0.00644	mg/L	0.019869	0.00644	mg/L	308.41%
Mg 279.077†	83615.7	96.48	mg/L	0.168	96.48	mg/L	0.17%
Mn 257.610†	31026.9	0.8970	mg/L	0.00084	0.8970	mg/L	0.09%
Mo 202.031†	110.0	0.00474	mg/L	0.000586	0.00474	mg/L	12.37%
Na 589.592†	-11.5	-0.00094	mg/L	0.001477	-0.00094	mg/L	157.51%
Na 330.237†	-30.6	-1.527	mg/L	0.1519	-1.527	mg/L	9.94%
Ni 231.604†	3060.1	0.9530	mg/L	0.00290	0.9530	mg/L	0.30%
Pb 220.353†	7078.5	0.9585	mg/L	0.00350	0.9585	mg/L	0.36%
Sb 206.836†	2630.7	1.003	mg/L	0.0037	1.003	mg/L	0.37%
Se 196.026†	1562.7	1.005	mg/L	0.0086	1.005	mg/L	0.86%
Si 288.158†	-20.6	-0.01459	mg/L	0.004916	-0.01459	mg/L	33.70%
Sn 189.927†	-122.5	-0.00832	mg/L	0.001487	-0.00832	mg/L	17.88%
Sr 421.552†	4010.6	0.00517	mg/L	0.000025	0.00517	mg/L	0.49%
Ti 334.903†	314.8	0.00466	mg/L	0.000525	0.00466	mg/L	11.28%
Tl 190.801†	1553.6	0.9685	mg/L	0.00288	0.9685	mg/L	0.30%
V 292.402†	136474.8	0.9377	mg/L	0.00272	0.9377	mg/L	0.29%
Zn 206.200†	3532.1	0.9297	mg/L	0.00221	0.9297	mg/L	0.24%

Sequence No.: 16
 Sample ID: CV

Autosampler Location: 7
 Date Collected: 3/20/2014 12:08:30 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2421395.1	103.7	%	1.04				1.01%
ScR 361.383	292436.6	102.6	%	1.41				1.38%
Ag 328.068†	219249.5	1.017	mg/L	0.0064	1.017	mg/L	0.0064	0.63%
Al 308.215†	1835.9	1.997	mg/L	0.0273	1.997	mg/L	0.0273	1.37%
As 188.979†	2646.0	2.017	mg/L	0.0222	2.017	mg/L	0.0222	1.10%
B 249.677†	5203.0	0.9928	mg/L	0.01131	0.9928	mg/L	0.01131	1.14%
Ba 233.527†	5641.4	1.047	mg/L	0.0095	1.047	mg/L	0.0095	0.91%
Be 313.042†	491965.5	0.9318	mg/L	0.00511	0.9318	mg/L	0.00511	0.55%
Ca 317.933†	18320.1	2.065	mg/L	0.0188	2.065	mg/L	0.0188	0.91%
Cd 228.802†	22029.5	1.019	mg/L	0.0076	1.019	mg/L	0.0076	0.74%
Co 228.616†	32434.7	1.010	mg/L	0.0059	1.010	mg/L	0.0059	0.58%
Cr 267.716†	6893.4	1.030	mg/L	0.0109	1.030	mg/L	0.0109	1.06%
Cu 324.752†	230074.7	0.9910	mg/L	0.00139	0.9910	mg/L	0.00139	0.14%
Fe 273.955†	1813.9	1.957	mg/L	0.0216	1.957	mg/L	0.0216	1.10%
K 766.490†	40261.0	19.57	mg/L	0.104	19.57	mg/L	0.104	0.53%
Mg 279.077†	1705.6	1.977	mg/L	0.0290	1.977	mg/L	0.0290	1.47%
Mn 257.610†	32023.5	0.9278	mg/L	0.00189	0.9278	mg/L	0.00189	0.20%
Mo 202.031†	17286.1	0.9825	mg/L	0.00785	0.9825	mg/L	0.00785	0.80%
Na 589.592†	611556.7	49.70	mg/L	0.120	49.70	mg/L	0.120	0.24%
Na 330.237†	1223.3	50.51	mg/L	0.742	50.51	mg/L	0.742	1.47%
Ni 231.604†	3272.8	1.019	mg/L	0.0155	1.019	mg/L	0.0155	1.52%
Pb 220.353†	15866.2	1.986	mg/L	0.0146	1.986	mg/L	0.0146	0.73%
Sb 206.836†	5403.0	2.079	mg/L	0.0139	2.079	mg/L	0.0139	0.67%
Se 196.026†	3071.5	1.977	mg/L	0.0122	1.977	mg/L	0.0122	0.62%
Si 288.158†	2171.7	2.011	mg/L	0.0284	2.011	mg/L	0.0284	1.41%
Sn 189.927†	4420.2	0.9812	mg/L	0.00992	0.9812	mg/L	0.00992	1.01%
Sr 421.552†	753505.1	0.9705	mg/L	0.00353	0.9705	mg/L	0.00353	0.36%
Ti 334.903†	20822.6	0.9741	mg/L	0.00246	0.9741	mg/L	0.00246	0.25%
Tl 190.801†	3358.4	2.073	mg/L	0.0106	2.073	mg/L	0.0106	0.51%
V 292.402†	140235.1	0.9763	mg/L	0.00451	0.9763	mg/L	0.00451	0.46%
Zn 206.200†	3780.4	0.9966	mg/L	0.01359	0.9966	mg/L	0.01359	1.36%

Sequence No.: 17
 Sample ID: CB

Autosampler Location: 1
 Date Collected: 3/20/2014 12:12:19 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2406702.8	103.0	%	0.45				0.44%
ScR 361.383	294737.5	103.4	%	0.66				0.64%
Ag 328.068†	3.6	0.00002	mg/L	0.000294	0.00002	mg/L	0.000294	>999.9%
Al 308.215†	-1.1	-0.00120	mg/L	0.010064	-0.00120	mg/L	0.010064	839.32%
As 188.979†	1.6	0.00122	mg/L	0.000445	0.00122	mg/L	0.000445	36.52%
B 249.677†	12.4	0.00238	mg/L	0.000535	0.00238	mg/L	0.000535	22.50%
Ba 233.527†	2.0	0.00038	mg/L	0.000546	0.00038	mg/L	0.000546	144.06%
Be 313.042†	24.3	0.00005	mg/L	0.000034	0.00005	mg/L	0.000034	73.44%
Ca 317.933†	0.3	0.00004	mg/L	0.000587	0.00004	mg/L	0.000587	>999.9%
Cd 228.802†	6.0	0.00027	mg/L	0.000192	0.00027	mg/L	0.000192	70.02%
Co 228.616†	5.4	0.00017	mg/L	0.000048	0.00017	mg/L	0.000048	28.53%
Cr 267.716†	1.3	0.00019	mg/L	0.000194	0.00019	mg/L	0.000194	103.80%
Cu 324.752†	189.5	0.00082	mg/L	0.000272	0.00082	mg/L	0.000272	33.33%
Fe 273.955†	4.5	0.00488	mg/L	0.002973	0.00488	mg/L	0.002973	60.88%
K 766.490†	-2.5	-0.00121	mg/L	0.008638	-0.00121	mg/L	0.008638	715.19%
Mg 279.077†	1.9	0.00225	mg/L	0.001574	0.00225	mg/L	0.001574	69.90%
Mn 257.610†	2.3	0.00007	mg/L	0.000154	0.00007	mg/L	0.000154	226.86%
Mo 202.031†	10.4	0.00059	mg/L	0.000336	0.00059	mg/L	0.000336	56.88%
Na 589.592†	-35.4	-0.00288	mg/L	0.003490	-0.00288	mg/L	0.003490	121.30%
Na 330.237†	-4.0	-0.1648	mg/L	0.42474	-0.1648	mg/L	0.42474	257.67%
Ni 231.604†	0.5	0.00015	mg/L	0.002369	0.00015	mg/L	0.002369	>999.9%
Pb 220.353†	-2.5	-0.00031	mg/L	0.000639	-0.00031	mg/L	0.000639	204.35%
Sb 206.836†	13.2	0.00509	mg/L	0.001096	0.00509	mg/L	0.001096	21.52%
Se 196.026†	-3.1	-0.00199	mg/L	0.002285	-0.00199	mg/L	0.002285	114.73%
Si 288.158†	1.7	0.00153	mg/L	0.002249	0.00153	mg/L	0.002249	146.70%
Sn 189.927†	2.1	0.00047	mg/L	0.000067	0.00047	mg/L	0.000067	14.29%
Sr 421.552†	56.5	0.00007	mg/L	0.000058	0.00007	mg/L	0.000058	80.09%
Ti 334.903†	2.4	0.00011	mg/L	0.000330	0.00011	mg/L	0.000330	298.82%
Tl 190.801†	1.2	0.00077	mg/L	0.001945	0.00077	mg/L	0.001945	252.09%
V 292.402†	-4.4	-0.00003	mg/L	0.000096	-0.00003	mg/L	0.000096	323.37%
Zn 206.200†	0.7	0.00018	mg/L	0.000586	0.00018	mg/L	0.000586	318.51%

Sequence No.: 18
 Sample ID: YC80 MB2 DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 334
 Date Collected: 3/20/2014 12:16:34 PM
 Data Type: Original

Nebulizer Parameters: YC80 MB2 DMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC80 MB2 DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2497989.1	106.9	%	0.53			0.50%
ScR 361.383	305438.3	107.2	%	1.81			1.69%
Ag 328.068†	8.2	0.00004	mg/L	0.000190	0.00004 mg/L	0.000190	497.74%
Al 308.215†	19.9	0.02201	mg/L	0.002637	0.02201 mg/L	0.002637	11.98%
As 188.979†	2.4	0.00174	mg/L	0.001093	0.00174 mg/L	0.001093	62.84%
B 249.677†	39.5	0.00755	mg/L	0.000389	0.00755 mg/L	0.000389	5.15%
Ba 233.527†	2.9	0.00053	mg/L	0.000496	0.00053 mg/L	0.000496	93.39%
Be 313.042†	-20.9	-0.00004	mg/L	0.000057	-0.00004 mg/L	0.000057	145.09%
Ca 317.933†	492.6	0.05551	mg/L	0.000765	0.05551 mg/L	0.000765	1.38%
Cd 228.802†	4.6	0.00021	mg/L	0.000142	0.00021 mg/L	0.000142	68.41%
Co 228.616†	17.4	0.00055	mg/L	0.000125	0.00055 mg/L	0.000125	23.02%
Cr 267.716†	3.8	0.00057	mg/L	0.000472	0.00057 mg/L	0.000472	83.14%
Cu 324.752†	61.1	0.00026	mg/L	0.000098	0.00026 mg/L	0.000098	37.00%
Fe 273.955†	6.6	0.00711	mg/L	0.002513	0.00711 mg/L	0.002513	35.35%
K 766.490†	10.5	0.00510	mg/L	0.016480	0.00510 mg/L	0.016480	323.16%
Mg 279.077†	-4.2	-0.00483	mg/L	0.008321	-0.00483 mg/L	0.008321	172.43%
Mn 257.610†	3.2	0.00009	mg/L	0.000055	0.00009 mg/L	0.000055	60.02%
Mo 202.031†	-6.9	-0.00040	mg/L	0.000354	-0.00040 mg/L	0.000354	89.55%
Na 589.592†	-15.9	-0.00129	mg/L	0.002062	-0.00129 mg/L	0.002062	159.48%
Na 330.237†	-14.9	-0.6155	mg/L	0.19707	-0.6155 mg/L	0.19707	32.02%
Ni 231.604†	-0.9	-0.00029	mg/L	0.000932	-0.00029 mg/L	0.000932	324.82%
Pb 220.353†	1.9	0.00024	mg/L	0.000415	0.00024 mg/L	0.000415	169.76%
Sb 206.836†	-9.3	-0.00360	mg/L	0.001101	-0.00360 mg/L	0.001101	30.58%
Se 196.026†	6.8	0.00439	mg/L	0.001822	0.00439 mg/L	0.001822	41.53%
Si 288.158†	0.7	0.00064	mg/L	0.002067	0.00064 mg/L	0.002067	323.53%
Sn 189.927†	0.7	0.00017	mg/L	0.000521	0.00017 mg/L	0.000521	309.73%
Sr 421.552†	243.9	0.00031	mg/L	0.000020	0.00031 mg/L	0.000020	6.46%
Ti 334.903†	-18.9	-0.00089	mg/L	0.000416	-0.00089 mg/L	0.000416	46.60%
Tl 190.801†	1.1	0.00067	mg/L	0.001690	0.00067 mg/L	0.001690	251.47%
V 292.402†	-35.6	-0.00024	mg/L	0.000166	-0.00024 mg/L	0.000166	68.14%
Zn 206.200†	1.1	0.00030	mg/L	0.000572	0.00030 mg/L	0.000572	191.14%

Sequence No.: 19
 Sample ID: YC80 MB3 WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 335
 Date Collected: 3/20/2014 12:20:50 PM
 Data Type: Original

 Nebulizer Parameters: YC80 MB3 WMN

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

 Mean Data: YC80 MB3 WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2479640.7	106.1	%	0.50				0.47%
ScR 361.383	300339.8	105.4	%	1.09				1.04%
Ag 328.068†	-34.1	-0.00016	mg/L	0.000096	-0.00016	mg/L	0.000096	60.80%
Al 308.215†	-6.4	-0.00704	mg/L	0.001542	-0.00704	mg/L	0.001542	21.91%
As 188.979†	2.4	0.00174	mg/L	0.001368	0.00174	mg/L	0.001368	78.41%
B 249.677†	5.2	0.00099	mg/L	0.001391	0.00099	mg/L	0.001391	140.01%
Ba 233.527†	-0.6	-0.00012	mg/L	0.000583	-0.00012	mg/L	0.000583	502.63%
Be 313.042†	-22.6	-0.00004	mg/L	0.000036	-0.00004	mg/L	0.000036	83.04%
Ca 317.933†	56.2	0.00634	mg/L	0.001254	0.00634	mg/L	0.001254	19.79%
Cd 228.802†	6.1	0.00027	mg/L	0.000181	0.00027	mg/L	0.000181	66.32%
Co 228.616†	13.9	0.00044	mg/L	0.000128	0.00044	mg/L	0.000128	29.27%
Cr 267.716†	3.0	0.00045	mg/L	0.000727	0.00045	mg/L	0.000727	163.31%
Cu 324.752†	137.5	0.00059	mg/L	0.000142	0.00059	mg/L	0.000142	23.99%
Fe 273.955†	3.4	0.00364	mg/L	0.002332	0.00364	mg/L	0.002332	64.00%
K 766.490†	-5.6	-0.00271	mg/L	0.018227	-0.00271	mg/L	0.018227	673.25%
Mg 279.077†	4.8	0.00552	mg/L	0.001209	0.00552	mg/L	0.001209	21.90%
Mn 257.610†	1.4	0.00004	mg/L	0.000082	0.00004	mg/L	0.000082	204.34%
Mo 202.031†	-1.1	-0.00006	mg/L	0.000084	-0.00006	mg/L	0.000084	135.46%
Na 589.592†	6.0	0.00049	mg/L	0.000950	0.00049	mg/L	0.000950	193.99%
Na 330.237†	-15.5	-0.6393	mg/L	0.09686	-0.6393	mg/L	0.09686	15.15%
Ni 231.604†	-1.5	-0.00049	mg/L	0.000511	-0.00049	mg/L	0.000511	105.27%
Pb 220.353†	0.7	0.00008	mg/L	0.000333	0.00008	mg/L	0.000333	396.44%
Sb 206.836†	-9.5	-0.00368	mg/L	0.001038	-0.00368	mg/L	0.001038	28.22%
Se 196.026†	7.5	0.00482	mg/L	0.003417	0.00482	mg/L	0.003417	70.84%
Si 288.158†	-8.3	-0.00764	mg/L	0.003107	-0.00764	mg/L	0.003107	40.65%
Sn 189.927†	-1.7	-0.00039	mg/L	0.000836	-0.00039	mg/L	0.000836	215.29%
Sr 421.552†	9.5	0.00001	mg/L	0.000020	0.00001	mg/L	0.000020	161.60%
Ti 334.903†	-14.3	-0.00067	mg/L	0.000521	-0.00067	mg/L	0.000521	77.63%
Tl 190.801†	3.6	0.00222	mg/L	0.001183	0.00222	mg/L	0.001183	53.37%
V 292.402†	-27.3	-0.00019	mg/L	0.000105	-0.00019	mg/L	0.000105	56.09%
Zn 206.200†	5.6	0.00148	mg/L	0.000546	0.00148	mg/L	0.000546	37.03%

Sequence No.: 20
 Sample ID: YC80 CDUP WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 336
 Date Collected: 3/20/2014 12:25:04 PM
 Data Type: Original

 Nebulizer Parameters: YC80 CDUP WMN

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC80 CDUP WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2462372.7	105.4	%	0.42			0.39%
ScR 361.383	303589.2	106.5	%	1.10			1.03%
Ag 328.068†	-97.1	-0.00030	mg/L	0.000083	-0.00030 mg/L	0.000083	28.11%
Al 308.215†	-3.9	-0.00445	mg/L	0.006076	-0.00445 mg/L	0.006076	136.44%
As 188.979†	28.0	0.01756	mg/L	0.002158	0.01756 mg/L	0.002158	12.29%
B 249.677†	162.9	0.03112	mg/L	0.000504	0.03112 mg/L	0.000504	1.62%
Ba 233.527†	40.1	0.00744	mg/L	0.000699	0.00744 mg/L	0.000699	9.40%
Be 313.042†	-19.5	-0.00004	mg/L	0.000037	-0.00004 mg/L	0.000037	98.85%
Ca 317.933†	208261.9	23.47	mg/L	0.014	23.47 mg/L	0.014	0.06%
Cd 228.802†	3.8	0.00007	mg/L	0.000263	0.00007 mg/L	0.000263	353.60%
Co 228.616†	39.8	0.00124	mg/L	0.000056	0.00124 mg/L	0.000056	4.53%
Cr 267.716†	19.4	0.00141	mg/L	0.000380	0.00141 mg/L	0.000380	27.08%
Cu 324.752†	567.8	0.00222	mg/L	0.000122	0.00222 mg/L	0.000122	5.51%
Fe 273.955†	4.0	0.00431	mg/L	0.001295	0.00431 mg/L	0.001295	30.01%
K 766.490†	4713.4	2.292	mg/L	0.0216	2.292 mg/L	0.0216	0.94%
Mg 279.077†	15172.0	17.54	mg/L	0.085	17.54 mg/L	0.085	0.48%
Mn 257.610†	76.7	0.00198	mg/L	0.000028	0.00198 mg/L	0.000028	1.39%
Mo 202.031†	46.7	0.00229	mg/L	0.000062	0.00229 mg/L	0.000062	2.70%
Na 589.592†	124518.7	10.12	mg/L	0.017	10.12 mg/L	0.017	0.17%
Na 330.237†	230.0	9.503	mg/L	0.3745	9.503 mg/L	0.3745	3.94%
Ni 231.604†	14.1	0.00437	mg/L	0.000890	0.00437 mg/L	0.000890	20.38%
Pb 220.353†	-13.8	-0.00173	mg/L	0.000106	-0.00173 mg/L	0.000106	6.16%
Sb 206.836†	-1.8	-0.00077	mg/L	0.001661	-0.00077 mg/L	0.001661	215.42%
Se 196.026†	21.7	0.01397	mg/L	0.001304	0.01397 mg/L	0.001304	9.33%
Si 288.158†	19012.0	17.57	mg/L	0.098	17.57 mg/L	0.098	0.56%
Sn 189.977†	-43.0	-0.00516	mg/L	0.000872	-0.00516 mg/L	0.000872	16.89%
Sr 421.552†	73723.9	0.09496	mg/L	0.000247	0.09496 mg/L	0.000247	0.26%
Ti 334.903†	56.1	0.00026	mg/L	0.000127	0.00026 mg/L	0.000127	48.56%
Tl 190.801†	24.9	0.01351	mg/L	0.001091	0.01351 mg/L	0.001091	8.07%
V 292.402†	416.5	0.00290	mg/L	0.000101	0.00290 mg/L	0.000101	3.47%
Zn 206.200†	14.4	0.00676	mg/L	0.000821	0.00676 mg/L	0.000821	12.14%

Sequence No.: 21
 Sample ID: YC80 C WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 337
 Date Collected: 3/20/2014 12:29:18 PM
 Data Type: Original

Nebulizer Parameters: YC80 C WMN

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC80 C WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2463840.3	105.5	%	0.44			0.42%
ScR 361.383	304081.8	106.7	%	0.97			0.91%
Ag 328.068†	-62.5	-0.00014	mg/L	0.000167	-0.00014 mg/L	0.000167	122.52%
Al 308.215†	0.5	0.00044	mg/L	0.003907	0.00044 mg/L	0.003907	891.42%
As 188.979†	28.5	0.01798	mg/L	0.001206	0.01798 mg/L	0.001206	6.71%
B 249.677†	164.6	0.03144	mg/L	0.000524	0.03144 mg/L	0.000524	1.67%
Ba 233.527†	38.7	0.00718	mg/L	0.000475	0.00718 mg/L	0.000475	6.61%
Be 313.042†	-17.5	-0.00003	mg/L	0.000023	-0.00003 mg/L	0.000023	68.70%
Ca 317.933†	207048.1	23.33	mg/L	0.055	23.33 mg/L	0.055	0.24%
Cd 228.802†	6.0	0.00017	mg/L	0.000244	0.00017 mg/L	0.000244	140.44%
Co 228.616†	35.7	0.00111	mg/L	0.000201	0.00111 mg/L	0.000201	18.19%
Cr 267.716†	13.8	0.00056	mg/L	0.000481	0.00056 mg/L	0.000481	86.38%
Cu 324.752†	626.0	0.00248	mg/L	0.000138	0.00248 mg/L	0.000138	5.56%
Fe 273.955†	3.7	0.00395	mg/L	0.003204	0.00395 mg/L	0.003204	81.16%
K 766.490†	4769.9	2.319	mg/L	0.0067	2.319 mg/L	0.0067	0.29%
Mg 279.077†	15167.8	17.53	mg/L	0.091	17.53 mg/L	0.091	0.52%
Mn 257.610†	79.1	0.00205	mg/L	0.000167	0.00205 mg/L	0.000167	8.14%
Mo 202.031†	48.0	0.00237	mg/L	0.000205	0.00237 mg/L	0.000205	8.66%
Na 589.592†	123960.1	10.07	mg/L	0.037	10.07 mg/L	0.037	0.37%
Na 330.237†	233.5	9.645	mg/L	0.2540	9.645 mg/L	0.2540	2.63%
Ni 231.604†	17.7	0.00550	mg/L	0.000524	0.00550 mg/L	0.000524	9.53%
Pb 220.353†	-20.8	-0.00260	mg/L	0.000928	-0.00260 mg/L	0.000928	35.67%
Sb 206.836†	0.5	0.00012	mg/L	0.000899	0.00012 mg/L	0.000899	738.53%
Se 196.026†	18.2	0.01174	mg/L	0.002241	0.01174 mg/L	0.002241	19.09%
Si 288.158†	19003.6	17.56	mg/L	0.106	17.56 mg/L	0.106	0.61%
Sn 189.927†	-42.3	-0.00504	mg/L	0.000930	-0.00504 mg/L	0.000930	18.46%
Sr 421.552†	73625.2	0.09483	mg/L	0.000248	0.09483 mg/L	0.000248	0.26%
Ti 334.903†	59.6	0.00044	mg/L	0.000417	0.00044 mg/L	0.000417	94.67%
Tl 190.801†	25.8	0.01409	mg/L	0.004057	0.01409 mg/L	0.004057	28.80%
V 292.402†	388.4	0.00270	mg/L	0.000042	0.00270 mg/L	0.000042	1.56%
Zn 206.200†	14.5	0.00680	mg/L	0.000406	0.00680 mg/L	0.000406	5.98%

Sequence No.: 22
 Sample ID: YC80 CSPK WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 338
 Date Collected: 3/20/2014 12:33:32 PM
 Data Type: Original

 Nebulizer Parameters: YC80 CSPK WMN

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC80 CSPK WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2444309.4	104.6	%	0.61			0.58%
ScR 361.383	300178.8	105.3	%	1.36			1.29%
Ag 328.068†	90363.6	0.4195	mg/L	0.00261	0.4195 mg/L	0.00261	0.62%
Al 308.215†	1796.9	1.978	mg/L	0.0280	1.978 mg/L	0.0280	1.42%
As 188.979†	2943.8	2.205	mg/L	0.0229	2.205 mg/L	0.0229	1.04%
B 249.677†	167.2	0.03087	mg/L	0.000577	0.03087 mg/L	0.000577	1.87%
Ba 233.527†	11277.1	2.093	mg/L	0.0341	2.093 mg/L	0.0341	1.63%
Be 313.042†	235781.0	0.4466	mg/L	0.00486	0.4466 mg/L	0.00486	1.09%
Ca 317.933†	296351.5	33.40	mg/L	0.168	33.40 mg/L	0.168	0.50%
Cd 228.802†	11666.2	0.5336	mg/L	0.00273	0.5336 mg/L	0.00273	0.51%
Co 228.616†	16133.4	0.5032	mg/L	0.00260	0.5032 mg/L	0.00260	0.52%
Cr 267.716†	3420.9	0.5088	mg/L	0.00585	0.5088 mg/L	0.00585	1.15%
Cu 324.752†	116073.2	0.4999	mg/L	0.00291	0.4999 mg/L	0.00291	0.58%
Fe 273.955†	1771.0	1.913	mg/L	0.0134	1.913 mg/L	0.0134	0.70%
K 766.490†	25609.7	12.45	mg/L	0.022	12.45 mg/L	0.022	0.18%
Mg 279.077†	24313.3	28.10	mg/L	0.291	28.10 mg/L	0.291	1.04%
Mn 257.610†	16694.8	0.4836	mg/L	0.00427	0.4836 mg/L	0.00427	0.88%
Mo 202.031†	61.7	0.00299	mg/L	0.000299	0.00299 mg/L	0.000299	9.99%
Na 589.592†	248764.4	20.22	mg/L	0.023	20.22 mg/L	0.023	0.11%
Na 330.237†	476.6	19.55	mg/L	0.124	19.55 mg/L	0.124	0.64%
Ni 231.604†	1615.3	0.5021	mg/L	0.00565	0.5021 mg/L	0.00565	1.12%
Pb 220.353†	16116.5	2.017	mg/L	0.0090	2.017 mg/L	0.0090	0.45%
Sb 206.836†	11.8	-0.00035	mg/L	0.001424	-0.00035 mg/L	0.001424	410.21%
Se 196.026†	3643.9	2.346	mg/L	0.0245	2.346 mg/L	0.0245	1.04%
Si 288.158†	19044.8	17.60	mg/L	0.174	17.60 mg/L	0.174	0.99%
Sn 189.927†	-57.5	-0.00646	mg/L	0.000655	-0.00646 mg/L	0.000655	10.14%
Sr 421.552†	454119.8	0.5849	mg/L	0.00058	0.5849 mg/L	0.00058	0.10%
Tl 334.903†	100.9	0.00126	mg/L	0.000179	0.00126 mg/L	0.000179	14.19%
Tl 190.801†	3409.0	2.105	mg/L	0.0242	2.105 mg/L	0.0242	1.15%
V 292.402†	73706.1	0.5129	mg/L	0.00350	0.5129 mg/L	0.00350	0.68%
Zn 206.200†	1912.6	0.5071	mg/L	0.00625	0.5071 mg/L	0.00625	1.23%

Sequence No.: 23
 Sample ID: YC80 BDUP DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 339
 Date Collected: 3/20/2014 12:37:32 PM
 Data Type: Original

 Nebulizer Parameters: YC80 BDUP DMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC80 BDUP DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2443038.0	104.6	%	0.19			0.18%
ScR 361.383	302016.9	106.0	%	1.00			0.94%
Ag 328.068†	1202.9	0.00572	mg/L	0.000910	0.00572 mg/L	0.000910	15.90%
Al 308.215†	40.0	0.04410	mg/L	0.002139	0.04410 mg/L	0.002139	4.85%
As 188.979†	28.0	0.01788	mg/L	0.001080	0.01788 mg/L	0.001080	6.04%
B 249.677†	216.9	0.04143	mg/L	0.001214	0.04143 mg/L	0.001214	2.93%
Ba 233.527†	46.6	0.00864	mg/L	0.000197	0.00864 mg/L	0.000197	2.28%
Be 313.042†	42.0	0.00008	mg/L	0.000064	0.00008 mg/L	0.000064	80.84%
Ca 317.933†	192381.2	21.68	mg/L	0.057	21.68 mg/L	0.057	0.26%
Cd 228.802†	8.3	0.00028	mg/L	0.000045	0.00028 mg/L	0.000045	15.82%
Co 228.616†	27.9	0.00087	mg/L	0.000156	0.00087 mg/L	0.000156	18.08%
Cr 267.716†	19.7	0.00156	mg/L	0.000404	0.00156 mg/L	0.000404	25.86%
Cu 324.752†	648.3	0.00259	mg/L	0.000368	0.00259 mg/L	0.000368	14.23%
Fe 273.955†	7.7	0.00833	mg/L	0.000293	0.00833 mg/L	0.000293	3.52%
K 766.490†	4507.1	2.191	mg/L	0.0169	2.191 mg/L	0.0169	0.77%
Mg 279.077†	13946.5	16.12	mg/L	0.103	16.12 mg/L	0.103	0.64%
Mn 257.610†	107.1	0.00288	mg/L	0.000193	0.00288 mg/L	0.000193	6.72%
Mo 202.031†	48.6	0.00243	mg/L	0.000059	0.00243 mg/L	0.000059	2.43%
Na 589.592†	115315.3	9.371	mg/L	0.0087	9.371 mg/L	0.0087	0.09%
Na 330.237†	212.0	8.758	mg/L	0.2845	8.758 mg/L	0.2845	3.25%
Ni 231.604†	19.1	0.00593	mg/L	0.000480	0.00593 mg/L	0.000480	8.10%
Pb 220.353†	-20.3	-0.00252	mg/L	0.000482	-0.00252 mg/L	0.000482	19.13%
Sb 206.836†	-1.9	-0.00082	mg/L	0.001308	-0.00082 mg/L	0.001308	158.91%
Se 196.026†	19.5	0.01255	mg/L	0.000477	0.01255 mg/L	0.000477	3.80%
Si 288.158†	17552.2	16.22	mg/L	0.103	16.22 mg/L	0.103	0.64%
Sn 189.927†	-39.4	-0.00471	mg/L	0.000524	-0.00471 mg/L	0.000524	11.12%
Sr 421.552†	68590.1	0.08835	mg/L	0.000320	0.08835 mg/L	0.000320	0.36%
Ti 334.903†	60.9	0.00067	mg/L	0.000198	0.00067 mg/L	0.000198	29.64%
Tl 190.801†	28.1	0.01565	mg/L	0.000886	0.01565 mg/L	0.000886	5.66%
V 292.402†	394.5	0.00275	mg/L	0.000062	0.00275 mg/L	0.000062	2.27%
Zn 206.200†	22.6	0.00871	mg/L	0.000265	0.00871 mg/L	0.000265	3.04%

Sequence No.: 24
 Sample ID: YC80 B DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 340
 Date Collected: 3/20/2014 12:41:46 PM
 Data Type: Original

 Nebulizer Parameters: YC80 B DMN

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

 Mean Data: YC80 B DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2458453.5	105.2	%	0.33			0.31%
ScR 361.383	300086.4	105.3	%	0.60			0.57%
Ag 328.068†	693.8	0.00336	mg/L	0.000767	0.00336 mg/L	0.000767	22.83%
Al 308.215†	37.1	0.04091	mg/L	0.000300	0.04091 mg/L	0.000300	0.73%
As 188.979†	26.1	0.01648	mg/L	0.005217	0.01648 mg/L	0.005217	31.66%
B 249.677†	219.2	0.04187	mg/L	0.000723	0.04187 mg/L	0.000723	1.73%
Ba 233.527†	41.2	0.00765	mg/L	0.000571	0.00765 mg/L	0.000571	7.46%
Be 313.042†	-17.9	-0.00003	mg/L	0.000021	-0.00003 mg/L	0.000021	60.35%
Ca 317.933†	191529.3	21.58	mg/L	0.112	21.58 mg/L	0.112	0.52%
Cd 228.802†	4.2	0.00010	mg/L	0.000028	0.00010 mg/L	0.000028	27.41%
Co 228.616†	26.7	0.00083	mg/L	0.000105	0.00083 mg/L	0.000105	12.74%
Cr 267.716†	7.1	-0.00031	mg/L	0.000644	-0.00031 mg/L	0.000644	209.31%
Cu 324.752†	648.1	0.00259	mg/L	0.000176	0.00259 mg/L	0.000176	6.80%
Fe 273.955†	3.6	0.00385	mg/L	0.000572	0.00385 mg/L	0.000572	14.87%
K 766.490†	4531.4	2.203	mg/L	0.0505	2.203 mg/L	0.0505	2.29%
Mg 279.077†	13832.8	15.99	mg/L	0.143	15.99 mg/L	0.143	0.89%
Mn 257.610†	97.4	0.00260	mg/L	0.000195	0.00260 mg/L	0.000195	7.50%
Mo 202.031†	44.8	0.00221	mg/L	0.000569	0.00221 mg/L	0.000569	25.73%
Na 589.592†	115616.3	9.396	mg/L	0.0229	9.396 mg/L	0.0229	0.24%
Na 330.237†	215.6	8.904	mg/L	0.1121	8.904 mg/L	0.1121	1.26%
Ni 231.604†	17.9	0.00556	mg/L	0.000436	0.00556 mg/L	0.000436	7.83%
Pb 220.353†	-18.6	-0.00232	mg/L	0.001131	-0.00232 mg/L	0.001131	48.82%
Sb 206.836†	-0.9	-0.00042	mg/L	0.001680	-0.00042 mg/L	0.001680	403.72%
Se 196.026†	17.0	0.01095	mg/L	0.004118	0.01095 mg/L	0.004118	37.61%
Si 288.158†	17537.8	16.21	mg/L	0.178	16.21 mg/L	0.178	1.10%
Sn 189.927†	-41.3	-0.00516	mg/L	0.000482	-0.00516 mg/L	0.000482	9.35%
Sr 421.552†	68652.4	0.08843	mg/L	0.000165	0.08843 mg/L	0.000165	0.19%
Ti 334.903†	64.6	0.00085	mg/L	0.000594	0.00085 mg/L	0.000594	69.66%
Tl 190.801†	25.9	0.01432	mg/L	0.000533	0.01432 mg/L	0.000533	3.72%
V 292.402†	369.6	0.00257	mg/L	0.000025	0.00257 mg/L	0.000025	0.97%
Zn 206.200†	25.8	0.00953	mg/L	0.000328	0.00953 mg/L	0.000328	3.44%

Sequence No.: 25
 Sample ID: YC80 BSPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 341
 Date Collected: 3/20/2014 12:46:00 PM
 Data Type: Original

Nebulizer Parameters: YC80 BSPK DMN
 Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC80 BSPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2451353.2	104.9 %	0.35			0.34%
ScR 361.383	299633.6	105.1 %	1.15			1.09%
Ag 328.068†	94881.9	0.4404 mg/L	0.01443	0.4404 mg/L	0.01443	3.28%
Al 308.215†	1830.3	2.015 mg/L	0.0130	2.015 mg/L	0.0130	0.64%
As 188.979†	2862.8	2.144 mg/L	0.0078	2.144 mg/L	0.0078	0.37%
B 249.677†	214.4	0.03991 mg/L	0.000874	0.03991 mg/L	0.000874	2.19%
Ba 233.527†	11316.8	2.101 mg/L	0.0308	2.101 mg/L	0.0308	1.47%
Be 313.042†	234182.6	0.4436 mg/L	0.00518	0.4436 mg/L	0.00518	1.17%
Ca 317.933†	280505.8	31.61 mg/L	0.228	31.61 mg/L	0.228	0.72%
Cd 228.802†	11326.8	0.5181 mg/L	0.00549	0.5181 mg/L	0.00549	1.06%
Co 228.616†	15811.5	0.4931 mg/L	0.00478	0.4931 mg/L	0.00478	0.97%
Cr 267.716†	3417.3	0.5083 mg/L	0.00633	0.5083 mg/L	0.00633	1.24%
Cu 324.752†	113756.1	0.4900 mg/L	0.00401	0.4900 mg/L	0.00401	0.82%
Fe 273.955†	1774.0	1.917 mg/L	0.0173	1.917 mg/L	0.0173	0.90%
K 766.490†	25171.4	12.24 mg/L	0.044	12.24 mg/L	0.044	0.36%
Mg 279.077†	23109.6	26.71 mg/L	0.305	26.71 mg/L	0.305	1.14%
Mn 257.610†	16697.5	0.4836 mg/L	0.00431	0.4836 mg/L	0.00431	0.89%
Mo 202.031†	54.8	0.00263 mg/L	0.000204	0.00263 mg/L	0.000204	7.77%
Na 589.592†	238980.6	19.42 mg/L	0.033	19.42 mg/L	0.033	0.17%
Na 330.237†	461.1	18.91 mg/L	0.424	18.91 mg/L	0.424	2.24%
Ni 231.604†	1606.7	0.4994 mg/L	0.00624	0.4994 mg/L	0.00624	1.25%
Pb 220.353†	15837.5	1.982 mg/L	0.0189	1.982 mg/L	0.0189	0.96%
Sb 206.836†	17.0	0.00164 mg/L	0.002031	0.00164 mg/L	0.002031	123.49%
Se 196.026†	3426.3	2.206 mg/L	0.0056	2.206 mg/L	0.0056	0.25%
Si 288.158†	17616.4	16.28 mg/L	0.170	16.28 mg/L	0.170	1.04%
Sn 189.927†	-53.2	-0.00585 mg/L	0.000406	-0.00585 mg/L	0.000406	6.93%
Sr 421.552†	444577.2	0.5726 mg/L	0.00026	0.5726 mg/L	0.00026	0.05%
Ti 334.903†	95.8	0.00120 mg/L	0.000361	0.00120 mg/L	0.000361	29.99%
Tl 190.801†	3357.1	2.073 mg/L	0.0029	2.073 mg/L	0.0029	0.14%
V 292.402†	72282.2	0.5031 mg/L	0.00409	0.5031 mg/L	0.00409	0.81%
Zn 206.200†	1914.9	0.5075 mg/L	0.00603	0.5075 mg/L	0.00603	1.19%

Sequence No.: 26
 Sample ID: YC80 MB2SPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 342
 Date Collected: 3/20/2014 12:50:00 PM
 Data Type: Original

 Nebulizer Parameters: YC80 MB2SPK DMN

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC80 MB2SPK DMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2473564.1		105.9 %	0.53			0.50%
ScR 361.383	299187.3		105.0 %	1.16			1.11%
Ag 328.068†	116423.1		0.5402 mg/L	0.00169	0.5402 mg/L	0.00169	0.31%
Al 308.215†	1861.4		2.049 mg/L	0.0161	2.049 mg/L	0.0161	0.78%
As 188.979†	2904.9		2.179 mg/L	0.0036	2.179 mg/L	0.0036	0.16%
B 249.677†	39.6		0.00649 mg/L	0.002125	0.00649 mg/L	0.002125	32.75%
Ba 233.527†	11120.2		2.064 mg/L	0.0107	2.064 mg/L	0.0107	0.52%
Be 313.042†	233937.6		0.4431 mg/L	0.00299	0.4431 mg/L	0.00299	0.67%
Ca 317.933†	89252.1		10.06 mg/L	0.062	10.06 mg/L	0.062	0.62%
Cd 228.802†	11614.3		0.5314 mg/L	0.00331	0.5314 mg/L	0.00331	0.62%
Co 228.616†	16306.2		0.5086 mg/L	0.00433	0.5086 mg/L	0.00433	0.85%
Cr 267.716†	3495.0		0.5213 mg/L	0.00516	0.5213 mg/L	0.00516	0.99%
Cu 324.752†	114014.4		0.4913 mg/L	0.00439	0.4913 mg/L	0.00439	0.89%
Fe 273.955†	1807.0		1.952 mg/L	0.0280	1.952 mg/L	0.0280	1.43%
K 766.490†	20956.8		10.19 mg/L	0.041	10.19 mg/L	0.041	0.40%
Mg 279.077†	9116.3		10.54 mg/L	0.101	10.54 mg/L	0.101	0.96%
Mn 257.610†	16281.1		0.4718 mg/L	0.00293	0.4718 mg/L	0.00293	0.62%
Mo 202.031†	21.4		0.00106 mg/L	0.000083	0.00106 mg/L	0.000083	7.81%
Na 589.592†	125401.5		10.19 mg/L	0.014	10.19 mg/L	0.014	0.14%
Na 330.237†	244.9		9.972 mg/L	0.1759	9.972 mg/L	0.1759	1.76%
Ni 231.604†	1650.3		0.5130 mg/L	0.00582	0.5130 mg/L	0.00582	1.13%
Pb 220.353†	16357.7		2.047 mg/L	0.0100	2.047 mg/L	0.0100	0.49%
Sb 206.836†	7.1		-0.00224 mg/L	0.000425	-0.00224 mg/L	0.000425	18.98%
Se 196.026†	3624.3		2.333 mg/L	0.0173	2.333 mg/L	0.0173	0.74%
Si 288.158†	2.0		0.00425 mg/L	0.001907	0.00425 mg/L	0.001907	44.89%
Sn 189.927†	-22.8		-0.00311 mg/L	0.000669	-0.00311 mg/L	0.000669	21.50%
Sr 421.552†	380575.1		0.4902 mg/L	0.00087	0.4902 mg/L	0.00087	0.18%
Ti 334.903†	18.2		-0.00026 mg/L	0.000334	-0.00026 mg/L	0.000334	127.74%
Tl 190.801†	3407.6		2.106 mg/L	0.0063	2.106 mg/L	0.0063	0.30%
V 292.402†	73213.6		0.5096 mg/L	0.00242	0.5096 mg/L	0.00242	0.47%
Zn 206.200†	1947.2		0.5132 mg/L	0.00573	0.5132 mg/L	0.00573	1.12%

Sequence No.: 27
 Sample ID: YC80 MB3SPK WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 343
 Date Collected: 3/20/2014 12:54:00 PM
 Data Type: Original

Nebulizer Parameters: YC80 MB3SPK WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC80 MB3SPK WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2441248.4	104.5	%	0.15			0.14%
ScR 361.383	298105.0	104.6	%	1.31			1.25%
Ag 328.068†	116302.2	0.5396	mg/L	0.00306	0.5396 mg/L	0.00306	0.57%
Al 308.215†	1855.4	2.042	mg/L	0.0206	2.042 mg/L	0.0206	1.01%
As 188.979†	2919.6	2.190	mg/L	0.0069	2.190 mg/L	0.0069	0.31%
B 249.677†	7.4	0.00031	mg/L	0.000307	0.00031 mg/L	0.000307	98.51%
Ba 233.527†	11366.5	2.110	mg/L	0.0324	2.110 mg/L	0.0324	1.54%
Be 313.042†	238943.8	0.4526	mg/L	0.00285	0.4526 mg/L	0.00285	0.63%
Ca 317.933†	90232.5	10.17	mg/L	0.058	10.17 mg/L	0.058	0.57%
Cd 228.802†	11697.1	0.5352	mg/L	0.00397	0.5352 mg/L	0.00397	0.74%
Co 228.616†	16559.8	0.5165	mg/L	0.00558	0.5165 mg/L	0.00558	1.08%
Cr 267.716†	3536.4	0.5275	mg/L	0.00667	0.5275 mg/L	0.00667	1.26%
Cu 324.752†	115702.5	0.4986	mg/L	0.00275	0.4986 mg/L	0.00275	0.55%
Fe 273.955†	1827.6	1.975	mg/L	0.0224	1.975 mg/L	0.0224	1.13%
K 766.490†	20902.3	10.16	mg/L	0.047	10.16 mg/L	0.047	0.46%
Mg 279.077†	9227.7	10.67	mg/L	0.117	10.67 mg/L	0.117	1.10%
Mn 257.610†	16370.9	0.4744	mg/L	0.00161	0.4744 mg/L	0.00161	0.34%
Mo 202.031†	23.8	0.00119	mg/L	0.000157	0.00119 mg/L	0.000157	13.16%
Na 589.592†	126463.1	10.28	mg/L	0.063	10.28 mg/L	0.063	0.61%
Na 330.237†	247.7	10.08	mg/L	0.358	10.08 mg/L	0.358	3.56%
Ni 231.604†	1686.2	0.5242	mg/L	0.00725	0.5242 mg/L	0.00725	1.38%
Pb 220.353†	16551.0	2.071	mg/L	0.0155	2.071 mg/L	0.0155	0.75%
Sb 206.836†	1.3	-0.00454	mg/L	0.001179	-0.00454 mg/L	0.001179	25.97%
Se 196.026†	3637.1	2.342	mg/L	0.0037	2.342 mg/L	0.0037	0.16%
Si 288.158†	-4.5	-0.00174	mg/L	0.005398	-0.00174 mg/L	0.005398	309.37%
Sn 189.927†	-22.2	-0.00296	mg/L	0.000624	-0.00296 mg/L	0.000624	21.08%
Sr 421.552†	383437.4	0.4939	mg/L	0.00173	0.4939 mg/L	0.00173	0.35%
Ti 334.903†	34.6	0.00049	mg/L	0.000249	0.00049 mg/L	0.000249	50.60%
Tl 190.801†	3456.9	2.136	mg/L	0.0092	2.136 mg/L	0.0092	0.43%
V 292.402†	73945.9	0.5147	mg/L	0.00441	0.5147 mg/L	0.00441	0.86%
Zn 206.200†	1981.9	0.5223	mg/L	0.00545	0.5223 mg/L	0.00545	1.04%

Sequence No.: 28
 Sample ID: CV
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/20/2014 12:58:00 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2397564.7	102.6 %	0.31			0.30%
ScR 361.383	288507.1	101.2 %	0.20			0.20%
Ag 328.068†	225106.9	1.044 mg/L	0.0042	1.044 mg/L	0.0042	0.40%
Al 308.215†	1851.6	2.014 mg/L	0.0096	2.014 mg/L	0.0096	0.48%
As 188.979†	2686.0	2.047 mg/L	0.0045	2.047 mg/L	0.0045	0.22%
B 249.677†	5275.6	1.007 mg/L	0.0008	1.007 mg/L	0.0008	0.08%
Ba 233.527†	5720.3	1.062 mg/L	0.0012	1.062 mg/L	0.0012	0.11%
Be 313.042†	495771.4	0.9390 mg/L	0.00455	0.9390 mg/L	0.00455	0.48%
Ca 317.933†	18494.3	2.084 mg/L	0.0031	2.084 mg/L	0.0031	0.15%
Cd 228.802†	22255.0	1.029 mg/L	0.0004	1.029 mg/L	0.0004	0.04%
Co 228.616†	32752.6	1.020 mg/L	0.0005	1.020 mg/L	0.0005	0.05%
Cr 267.716†	6970.3	1.041 mg/L	0.0013	1.041 mg/L	0.0013	0.13%
Cu 324.752†	231921.7	0.9990 mg/L	0.00116	0.9990 mg/L	0.00116	0.12%
Fe 273.955†	1814.3	1.957 mg/L	0.0071	1.957 mg/L	0.0071	0.36%
K 766.490†	40730.9	19.80 mg/L	0.029	19.80 mg/L	0.029	0.15%
Mg 279.077†	1724.2	1.999 mg/L	0.0036	1.999 mg/L	0.0036	0.18%
Mn 257.610†	32413.7	0.9391 mg/L	0.00411	0.9391 mg/L	0.00411	0.44%
Mo 202.031†	17427.2	0.9906 mg/L	0.00107	0.9906 mg/L	0.00107	0.11%
Na 589.592†	615648.1	50.03 mg/L	0.220	50.03 mg/L	0.220	0.44%
Na 330.237†	1237.2	51.08 mg/L	0.235	51.08 mg/L	0.235	0.46%
Ni 231.604†	3318.5	1.034 mg/L	0.0019	1.034 mg/L	0.0019	0.18%
Pb 220.353†	16024.3	2.006 mg/L	0.0021	2.006 mg/L	0.0021	0.10%
Sb 206.836†	5443.8	2.094 mg/L	0.0037	2.094 mg/L	0.0037	0.18%
Se 196.026†	3102.9	1.997 mg/L	0.0007	1.997 mg/L	0.0007	0.03%
Si 288.158†	2229.0	2.064 mg/L	0.0017	2.064 mg/L	0.0017	0.08%
Sn 189.927†	4438.4	0.9853 mg/L	0.00216	0.9853 mg/L	0.00216	0.22%
Sr 421.552†	762354.7	0.9819 mg/L	0.00173	0.9819 mg/L	0.00173	0.18%
Ti 334.903†	21060.9	0.9853 mg/L	0.00154	0.9853 mg/L	0.00154	0.16%
Tl 190.801†	3398.6	2.097 mg/L	0.0035	2.097 mg/L	0.0035	0.17%
V 292.402†	141951.9	0.9882 mg/L	0.00218	0.9882 mg/L	0.00218	0.22%
Zn 206.200†	3830.3	1.010 mg/L	0.0026	1.010 mg/L	0.0026	0.26%

Sequence No.: 29
 Sample ID: CB Q
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/20/2014 1:01:49 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2373399.2	101.6	%	0.29			0.28%
ScR 361.383	292732.9	102.7	%	0.95			0.92%
Ag 328.068†	70.4	0.00033	mg/L	0.000144	0.00033 mg/L	0.000144	44.10%
Al 308.215†	-0.5	-0.00060	mg/L	0.001153	-0.00060 mg/L	0.001153	192.00%
As 188.979†	-1.1	-0.00084	mg/L	0.002472	-0.00084 mg/L	0.002472	294.63%
B 249.677†	12.4	0.00237	mg/L	0.000523	0.00237 mg/L	0.000523	22.08%
Ba 233.527†	-0.3	-0.00006	mg/L	0.000819	-0.00006 mg/L	0.000819	>999.9%
Be 313.042†	74.2	0.00014	mg/L	0.000034	0.00014 mg/L	0.000034	23.99%
Ca 317.933†	1.6	0.00019	mg/L	0.000712	0.00019 mg/L	0.000712	383.70%
Cd 228.802†	8.8	0.00042	mg/L	0.000144	0.00042 mg/L	0.000144	34.49%
Co 228.616†	2.0	0.00006	mg/L	0.000166	0.00006 mg/L	0.000166	271.94%
Cr 267.716†	4.8	0.00072	mg/L	0.000422	0.00072 mg/L	0.000422	58.70%
Cu 324.752†	291.9	0.00126	mg/L	0.000164	0.00126 mg/L	0.000164	13.07%
Fe 273.955†	-1.7	-0.00184	mg/L	0.000616	-0.00184 mg/L	0.000616	33.53%
K 766.490†	22.5	0.01094	mg/L	0.022350	0.01094 mg/L	0.022350	204.37%
Mg 279.077†	-3.1	-0.00355	mg/L	0.007389	-0.00355 mg/L	0.007389	208.03%
Mn 257.610†	4.6	0.00013	mg/L	0.000072	0.00013 mg/L	0.000072	53.73%
Mo 202.031†	11.8	0.00067	mg/L	0.000276	0.00067 mg/L	0.000276	41.24%
Na 589.592†	15.3	0.00125	mg/L	0.003454	0.00125 mg/L	0.003454	277.22%
Na 330.237†	3.3	0.1364	mg/L	0.42279	0.1364 mg/L	0.42279	310.05%
Ni 231.604†	0.7	0.00022	mg/L	0.001773	0.00022 mg/L	0.001773	793.09%
Pb 220.353†	-0.8	-0.00011	mg/L	0.000931	-0.00011 mg/L	0.000931	884.52%
Sb 206.836†	11.0	0.00424	mg/L	0.003066	0.00424 mg/L	0.003066	72.39%
Se 196.026†	0.6	0.00036	mg/L	0.002602	0.00036 mg/L	0.002602	714.31%
Si 288.158†	6.8	0.00625	mg/L	0.004707	0.00625 mg/L	0.004707	75.34%
Sn 189.927†	0.1	0.00002	mg/L	0.000474	0.00002 mg/L	0.000474	>999.9%
Sr 421.552†	65.6	0.00008	mg/L	0.000056	0.00008 mg/L	0.000056	66.71%
Ti 334.903†	4.6	0.00021	mg/L	0.000614	0.00021 mg/L	0.000614	286.14%
Tl 190.801†	-0.5	-0.00033	mg/L	0.002966	-0.00033 mg/L	0.002966	901.89%
V 292.402†	-10.0	-0.00007	mg/L	0.000166	-0.00007 mg/L	0.000166	250.21%
Zn 206.200†	0.9	0.00023	mg/L	0.000571	0.00023 mg/L	0.000571	249.78%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YC80

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HEXAVALENT CHROMIUM BENCHSHEET						Date / Time:	3/14/14 10:30	
Diphenyl carbazide colorimetric (SW-846 7196A)						Analyst:	RR / CC	
REAGENTS				ID		pH METER		
Sulfuric Acid: _____				10317C		Meter ID: ACCUMET		
Acetone: _____						Electrode ID: 1320016P16		
Diphenylcarbazide: _____				C000185				
CALIBRATION								
Cr+6 Curve Standard		ARI ID: C000892		Date Prepared: 3/14/2014				
Stock	0.0709	g K2Cr2O7 to	500	mL =	50.1	mg/L Cr+6		
Intermediate	5	mL Stock to	50	mL =	5.01	mg/L Cr+6		
Standard Curve Data								
				final volume of prepared standards = 50 mL				
TIME:		18:27		Instrument Used:		SPEC #1		
ml	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk		Regression Data		
Intermediate		1	2	Corr Abs		Conc = (abs-intercept)/slope		
0.0	0.00	0.000		0.000	= blank abs	intercept = 0.0013		
0.1	0.01	0.008		0.008	E 0.01	slope = 0.7928		
0.5	0.05	0.041		0.041	0.05	r = 1.000		
1.0	0.10	0.081		0.081	0.10	Comment: Calibration OK!		
5.0	0.50	0.401		0.401	0.50	maxabs = 0.795		
10.0	1.00	0.795		0.795	1.00			
Calibration Verification Standard								
Source	ERA # 160412/ B001620			Stock Conc	1,000 mg/L Cr+6			
DQL Int. =	0.10	ml stock to	10	mL pH2 =	10.00 mg/L Cr+6			
DQL =	0.20	ml DQL Int. to	50	mL pH2 =	0.04 mg/L Cr+6			
CVS =	0.025	ml stock to	100	mL pH2 =	0.25 mg/L Cr+6			
Prep Check Standard								
Dilution	0.50	ml stock to	40.00	mL DI =	0.63 mg/L Cr+6			
SAMPLE DATA								
Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL								
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)								
SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data				Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm	(mg/L)		
ICB		1.000	1		0.000	-0.002	< 0.01	Blk OK
ICV		1.000	1		0.207	0.259	0.259	103.77%
Prep Blk		1.250	1		0.000	-0.002	< 0.01	Blk OK
Prep Chk		1.250	1		0.397	0.624	0.624	99.56%
DQL		1.250	1		0.027	0.040	0.040	
YC80 A2		1.250	1		0.003	0.003	< 0.01	
YC80 A2 dup		1.250	1		0.004	0.004	< 0.01	RPD NA
YC80 A2 ms		1.250	1		0.043	0.066	0.066	% Rec= 104.9
Spike at	0.050	mL stock to	40	mLsample=	0.063	mg/L		Validated
YC92 A2		1.250	1		0.001	-0.001	< 0.01	
YC92 A2 dup		1.250	1		0.001	-0.001	< 0.01	RPD NA
YC92 A2 ms		1.250	1		0.001	-0.001	< 0.01	NA
Spike at	0.050	mL stock to	40	mLsample=	0.063	mg/L		NA
YC92 B2		1.250	1	0.045	0.033	-0.021	-0.021	bkg, dilute
CCB		1.000	1		0.000	-0.002	< 0.01	Blk OK
CCV		1.000	1		0.208	0.261	0.261	104.28%
YC92 C2		1.250	1	0.080	0.055	-0.041	< 0.01	bkg, dilute
YC99 A1		1.250	1	0.015	0.019	0.004	< 0.01	
YC99 A1 dup		1.250	1	0.015	0.023	0.011	0.011	RPD NA
YC99 A1 ms		1.250	1	0.015	0.067	0.080	0.0799	% Rec= 127.5
Spike at	0.050	mL stock to	40	mLsample=	0.0627	mg/L		
YC92 A2		1.250	1		0.001	-0.001	< 0.01	
YC92 A2 ver		1.000	1		0.005	0.005	< 0.01	% Rec= 17.3
desired spike = 0.03 mg/L by adding 0.060 mL instd to 10 mL adjusted sample 0.03 mg/L interference								
YC92 B2		1.250	2	0.045	0.017	-0.046	-0.092	bkg, dilute
YC92 C2		1.250	2	0.080	0.029	-0.082	< 0.02	bkg, dilute
CCB		1.000	1		0.000	-0.002	< 0.01	Blk OK
CCV		1.000	1		0.207	0.259	0.259	103.77%

HEXAVALENT CHROMIUM BENCHSHEET

Date / Time: 03/14/14 10:30

Diphenyl carbazide colorimetric (SW-846 7196A)

Analyst: RL/ee

REAGENTS

Sulfuric Acid: 10317C
 Acetone: _____
 Diphenylcarbazide: C000185

pH METER

Meter ID: ACCUMET
 Electrode ID: 1320016P16

CALIBRATION

Cr+6 Curve Standard	ARI ID: <u>C000892</u>	Date Prepared: <u>03/14/14</u>
Stock	0.0709 g K2Cr2O7 to 500 mL =	50.1 mg/L Cr+6
Intermediate	5 mL Stock to 50 mL =	5.01 mg/L Cr+6

Standard Curve Data

final volume of prepared standards = 50 mL

TIME: 18:27 Instrument Used: SPEC 41

ml Intermediate	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk Corr Abs
		1	2	
0.0	0.00	0.000		= blank abs
0.1	0.01	0.008		
0.5	0.05	0.041		
1.0	0.10	0.081		
5.0	0.50	0.401		
10.0	1.00	0.795		

Regression Data
 Conc = (abs-intercept)/slope
 intercept = _____
 slope = _____
 r = _____
 Comment: _____
 maxabs = _____

Calibration Verification Standard

Source	<u>ERA # 160412/ B001620</u>	Stock Conc	<u>1,000</u> mg/L Cr+6
DQL Int. =	<u>0.10</u> ml stock to	10 mL pH2 =	<u>10.00</u> mg/L Cr+6
DQL =	<u>0.20</u> ml DQL Int. to	50 mL pH2 =	<u>0.04</u> mg/L Cr+6
CVS =	<u>0.025</u> ml stock to	100 mL pH2 =	<u>0.25</u> mg/L Cr+6

Prep Check Standard

Dilution	<u>0.50</u> ml stock to	<u>40.00</u> mL DI =	<u>0.63</u> mg/L Cr+6
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SAMPLE DATA

Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL

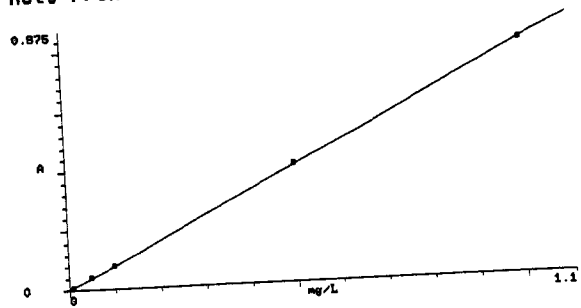
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data			Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm (mg/L)		
ICB		1.000	1		0.000		
ICV		1.000	1		0.267		
Prep Blk		1.250	1		0.020		
Prep Chk		1.250	1		0.397		
DQL		1.250	1		0.027		
VC90A2		1.250	1		0.003		
A2dp		1.250	1		0.004		
A2ms		1.250	1		0.043		
VC92A2		1.250	1	0.001	0.000		22 03/14/15
A2dp		1.250	1		0.001		
A2ms		1.250	1		0.001		
B2		1.250	1	0.045	0.003		
CCB		1.000	1		0.000		
CCV		1.000	1		0.208		
VC92C2		1.250	1	0.080	0.055		
VC99A1		1.250	1	0.015	0.019		
A.dp		1.250	1		0.023		
A.ms		1.250	1		0.067		
VC92A2 ver		1.250	1		0.005		
VC92A2		1.250	2		0.017		
C2		1.250	2		0.029		
CCB		1.250	1		0.000		
CCV		1.250	1		0.207		
		1.250	1				
CCB		1.000	1				
CCV		1.000	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
CCB		1.000	1				
CCV		1.000	1				

RL
03/14/14

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 18:27 14Mar14
 Test Name CHROME 6[Saved]
 Date Standards Measured 14Mar14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.795
 Intercept 0.000974
 Std Dev 0.002
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.041
0.100	0.081
0.500	0.401
1.000	0.795

Handwritten: 03/14/14

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C 18:33 14Mar14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On

ID#	Abs 540nm
---	---

1 0.000

2 0.207

3 0.000

4 0.397

5 0.027

6 0.003

7 0.004

8 0.043

9 0.001

10 0.001

11 0.001

12 0.033

13 0.000

14 0.208

15 0.055

16 0.019

17 0.023

18 0.067

19 0.045 *BKyd 92B*

20 0.080 *BKyd 92C*

21 0.015 *BKyd 92A*

22 0.005 *vs 42*

23 0.017

24 0.029

25 0.000

26 0.207

Table of Contents: ARI Job YD19

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

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Signature

March-24-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

March 26, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YD19

Dear Ian:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro".

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YD19

Enclosures

Chain of Custody Documentation

ARI Job ID: YD19

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: *Y019* Turn-around Requested: **Date:** *3/17/14*

ARI Client Company: **GeoEngineers** Phone: **253-383-4940**

Client Contact: **Ian Young**

Client Project Name: **Aladden Plating**

Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Sample ID	Date	Time	Matrix	No Containers
<i>MW2s-140317</i>	<i>3/17</i>	<i>935</i>	<i>W</i>	<i>3</i>
<i>MW1s-140317</i>	<i>3/17</i>	<i>1055</i>	<i>W</i>	<i>3</i>
<i>MW4d-140317</i>	<i>3/17</i>	<i>1225</i>	<i>W</i>	<i>3</i>
<i>MW4s-140317</i>	<i>3/17</i>	<i>1325</i>	<i>W</i>	<i>3</i>
<i>MW3s-140317</i>	<i>3/17</i>	<i>1420</i>	<i>W</i>	<i>3</i>

Sample ID	Analysis Requested				Notes/Comments			
	Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200.7/6010C	Chromium EPA 200.7/6010C				
<i>MW2s-140317</i>	X	X	X	X				
<i>MW1s-140317</i>	X	X	X	X				
<i>MW4d-140317</i>	X	X	X	X				
<i>MW4s-140317</i>	X	X	X	X				
<i>MW3s-140317</i>	X	X	X	X				

Comments/Special Instructions

- 1 Metals include: chromium, nickel, lead
- 2 Dissolved Nickel not field filtered

Relinquished by (Signature)	Received by (Signature)
<i>Paul Robinette</i>	<i>[Signature]</i>
Printed Name: <i>Paul Robinette</i>	Printed Name:
Company: <i>GeoE</i>	Company:
Date & Time: <i>3/17/14 1455</i>	Date & Time:

ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or pre-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: Geo Eng

Project Name: YD19^{AV} Aladden Plating

COC No(s): _____ (NA)

Delivered by Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: YD19

Tracking No. _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? YES (NO)

Were custody papers properly filled out (ink, signed, etc.) YES (NO)

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) Time: 1640 6.2

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 1455

Cooler Accepted by: _____ Date 3/17/14 Time: 1455

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other _____

Was sufficient ice used (if appropriate)? NA YES (NO)

Were all bottles sealed in individual plastic bags? YES (NO)

Did all bottles arrive in good condition (unbroken)? YES (NO)

Were all bottle labels complete and legible? YES (NO)

Did the number of containers listed on COC match with the number of containers received? YES (NO)

Did all bottle labels and tags agree with custody papers? YES (NO)

Were all bottles used correct for the requested analyses? YES (NO)

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES (NO)

Were all VOC vials free of air bubbles? NA YES (NO)

Was sufficient amount of sample sent in each bottle? YES (NO)

Date VOC Trip Blank was made at ARI NA

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 3/18/14 Time: 1700

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
 X All sample in mw-41d 2 preserved bottles marked for Total Metals no way to distinguish which bottle field filtered, only logged for D-metals was really filtered dissolved.
 By: AV Date: 3-18-14 per client request.

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



ARI Job No: YD19

PC: Cheronne
VTSR: 03/17/14

Inquiry Number: NONE
Analysis Requested: 03/18/14
Contact: Young, Ian
Client: GeoEngineers
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #: 0504-095-00
Project: Aladden Plating
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET DOC FLT FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
14-4729 YD19A	MW2s-140317						DIS *									N					
14-4730 YD19B	MW1s-140317						DIS *									N					
14-4731 YD19C	MW4d-140317						DIS *									N					
14-4732 YD19D	MW4s-140317						DIS *									N					
14-4733 YD19E	MW3s-140317						DIS *									N					
14-4734 YD19F	MW2s-140317						DIS									Y					
14-4735 YD19G	MW1s-140317						DIS									Y					
14-4736 YD19H	MW4d-140317						DIS									Y					
14-4737 YD19I	MW4s-140317						DIS									Y					
14-4738 YD19J	MW3s-140317						DIS									Y					

* Filtered and into preserved bottles by Conventional's lab.
P=Pass

Checked By AV Date 3/18/14

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YD19



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YD19

Sample Receipt

Five water samples were received on March 17, 2014 under ARI job YD19. The cooler temperature measured by IR thermometer following ARI SOP was 6.2°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

As requested, the total metals analysis was cancelled on March 19, 2014.

Dissolved Metals by SW6010C

The sample and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters (Hexavalent Chromium)

The sample and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blank was clean at the reporting limit. The SRM percent recovery was within control limits.

The matrix spike and replicate RPD were within control limits.

Sample ID Cross Reference Report



ARI Job No: YD19
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW2s-140317	YD19A	14-4729	Water	03/17/14 09:35	03/17/14 14:55
2. MW1s-140317	YD19B	14-4730	Water	03/17/14 10:55	03/17/14 14:55
3. MW4d-140317	YD19C	14-4731	Water	03/17/14 12:25	03/17/14 14:55
4. MW4s-140317	YD19D	14-4732	Water	03/17/14 13:25	03/17/14 14:55
5. MW3s-140317	YD19E	14-4733	Water	03/17/14 14:20	03/17/14 14:55
6. MW2s-140317	YD19F	14-4734	Water	03/17/14 09:35	03/17/14 14:55
7. MW1s-140317	YD19G	14-4735	Water	03/17/14 10:55	03/17/14 14:55
8. MW4d-140317	YD19H	14-4736	Water	03/17/14 13:25	03/17/14 14:55
9. MW4s-140317	YD19I	14-4737	Water	03/17/14 13:25	03/17/14 14:55
10. MW3s-140317	YD19J	14-4738	Water	03/17/14 14:20	03/17/14 14:55



Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	RPD
Met Diss 6010C (EPA 6010C) in Water							
Preservation: pH<2; HNO ₃ , Cool <6°C							
Container: HDPE NM, 500 mL							
Amount Required: 500 mL				Hold Time: 180 days			
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120 20
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120 20
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120 20
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120 20
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120 20
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120 20
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120 20
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120 20
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120 20
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120 20
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120 20



Spike Recovery Control Limits for Conventional Wet Chemistry Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
Sample Matrix:	ARI's Control Limits	
	Water	Soil / Sediment
<i>Matrix Spike Recoveries</i>	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
<i>Duplicate RPDs</i>		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YD19

Cover Page
INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YD19

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW2s-140317	YD19A	14-4729	
MW2s-140317D	YD19ADUP	14-4729	
MW2s-140317S	YD19ASPK	14-4729	
MW1s-140317	YD19B	14-4730	
PBW	YD19MB1	14-4730	
LCSW	YD19MB1SPK	14-4730	
MW4d-140317	YD19C	14-4731	
MW4s-140317	YD19D	14-4732	
MW3s-140317	YD19E	14-4733	
MW2s-140317	YD19F	14-4734	
MW2s-140317D	YD19FDUP	14-4734	
MW2s-140317S	YD19FSPK	14-4734	
MW1s-140317	YD19G	14-4735	
PBW	YD19MB2	14-4735	
LCSW	YD19MB2SPK	14-4735	
MW4d-140317	YD19H	14-4736	
MW4s-140317	YD19I	14-4737	
MW3s-140317	YD19J	14-4738	

Were ICP interelement corrections applied ? Yes/No YES
 Were ICP background corrections applied ? Yes/No YES
 If yes - were raw data generated before
 application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:
 Signature: *Eric Larsen* Name: *Eric Larsen for* Jay Kuhn
 Date: 3-24-14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW2s-140317

SAMPLE

Lab Sample ID: YD19A

LIMS ID: 14-4729

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 03/24/14

QC Report No: YD19-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/17/14

Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

**Sample ID: MW1s-140317
SAMPLE**

Page 1 of 1

Lab Sample ID: YD19B

QC Report No: YD19-GeoEngineers

LIMS ID: 14-4730

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: *EJF*

Date Sampled: 03/17/14

Reported: 03/24/14

Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Page 1 of 1

Sample ID: MW4d-140317
SAMPLE

Lab Sample ID: YD19C
LIMS ID: 14-4731
Matrix: Water
Data Release Authorized: *ef*
Reported: 03/24/14

QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-02-0	Nickel	0.01	0.26	

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW4s-140317
SAMPLE

Lab Sample ID: YD19D

LIMS ID: 14-4732

Matrix: Water

Data Release Authorized: *EF*

Reported: 03/24/14

QC Report No: YD19-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/17/14

Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-02-0	Nickel	0.01	7.69	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW3s-140317
SAMPLE

Lab Sample ID: YD19E
LIMS ID: 14-4733
Matrix: Water
Data Release Authorized: *OF*
Reported: 03/24/14

QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-02-0	Nickel	0.01	0.25	

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW2s-140317

SAMPLE

Lab Sample ID: YD19F

LIMS ID: 14-4734

Matrix: Water

Data Release Authorized: *EF*

Reported: 03/24/14

QC Report No: YD19-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/17/14

Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/20/14	6010C	03/21/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW1s-140317

SAMPLE

Lab Sample ID: YD19G

LIMS ID: 14-4735

Matrix: Water

Data Release Authorized: *af*

Reported: 03/24/14

QC Report No: YD19-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/17/14

Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/20/14	6010C	03/21/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW4d-140317
SAMPLE

Lab Sample ID: YD19H
LIMS ID: 14-4736
Matrix: Water
Data Release Authorized: *EF*
Reported: 03/24/14

QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/20/14	6010C	03/21/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW4s-140317
SAMPLE

Lab Sample ID: YD19I
LIMS ID: 14-4737
Matrix: Water
Data Release Authorized: *[Signature]*
Reported: 03/24/14

QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-47-3	Chromium	0.005	0.047	
6010C	03/20/14	6010C	03/21/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

**Sample ID: MW3s-140317
SAMPLE**

Page 1 of 1

Lab Sample ID: YD19J

QC Report No: YD19-GeoEngineers

LIMS ID: 14-4738

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: *af*

Date Sampled: 03/17/14

Reported: 03/24/14

Date Received: 03/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/20/14	6010C	03/21/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW2s-140317
MATRIX SPIKE

Lab Sample ID: YD19A

LIMS ID: 14-4729

Matrix: Water

Data Release Authorized: *CAF*

Reported: 03/24/14

QC Report No: YD19-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/17/14

Date Received: 03/17/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Nickel	6010C	0.01 U	0.51	0.500	102%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW2s-140317

DUPLICATE

Lab Sample ID: YD19A
LIMS ID: 14-4729
Matrix: Water
Data Release Authorized:
Reported: 03/24/14



QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW2s-140317
MATRIX SPIKE

Lab Sample ID: YD19F
LIMS ID: 14-4734
Matrix: Water
Data Release Authorized: *AS*
Reported: 03/24/14

QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.517	0.500	103%	
Lead	6010C	0.02 U	2.03	2.00	102%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW2s-140317
DUPLICATE

Lab Sample ID: YD19F
LIMS ID: 14-4734
Matrix: Water
Data Release Authorized:
Reported: 03/24/14

af

QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Sample ID: LAB CONTROL

Page 1 of 1

Lab Sample ID: YD19LCS

QC Report No: YD19-GeoEngineers

LIMS ID: 14-4730

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: *af*

Date Sampled: NA

Reported: 03/24/14

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Nickel	6010C	0.51	0.50	102%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YD19MB


QC Report No: YD19-GeoEngineers

LIMS ID: 14-4730

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 03/24/14

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Sample ID: LAB CONTROL

Page 1 of 1

Lab Sample ID: YD19LCS

QC Report No: YD19-GeoEngineers

LIMS ID: 14-4735

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: *AD*

Date Sampled: NA

Reported: 03/24/14

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.532	0.500	106%	
Lead	6010C	2.06	2.00	103%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YD19MB

QC Report No: YD19-GeoEngineers

LIMS ID: 14-4735

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: *af*

Date Sampled: NA

Reported: 03/24/14

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/20/14	6010C	03/21/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/20/14	6010C	03/21/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP032171	1000.0	1055.85	105.6	1000.0	1043.06	104.3	1051.51	105.2	1055.25	105.5	1052.50	105.3	1032.39	103.2
Lead	PB	ICP	IP032171	2000.0	2028.41	101.4	2000.0	1997.24	99.9	2042.73	102.1	2042.12	102.1	2004.44	100.2	1985.33	99.3
Nickel	NI	ICP	IP032171	1000.0	1026.08	102.6	1000.0	1017.94	101.8	1028.74	102.9	1040.29	104.0	1036.09	103.6	1014.41	101.4

Control Limits: Mercury 80-120; Other Metals 90-110

YD 19, 6/20/04

Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19



UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP032171	1000.0	1056.74	105.7	1060.41	106.0	1073.27	107.3						
Lead	PB	ICP	IP032171	2000.0	2013.35	100.7	2023.29	101.2	2040.10	102.0						
Nickel	NI	ICP	IP032171	1000.0	1038.93	103.9	1036.95	103.7	1050.62	105.1						

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19



UNITS:ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP032171	5.0		5.10	102.0	5.12	102.4								
Lead	PB	ICP	IP032171	20.0		19.99	100.0	20.41	102.1								
Nickel	NI	ICP	IP032171	10.0		10.41	104.1	10.74	107.4								

Control Limits: no control limits have been established by the EPA at this time.

10/10 6000 00

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19



UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	ICB C	CCB1	CCB1 C	CCB2	CCB2 C	CCB3	CCB3 C	CCB4	CCB4 C	CCB5	CCB5 C
Chromium	CR ICP	IP032171	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Lead	PB ICP	IP032171	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Nickel	NI ICP	IP032171	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

YD19 00001

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP032171	10.0	5.0	5.0	5.0	5.0				
Lead	PB	ICP	IP032171	3.0	20.0	20.0	20.0	20.0				
Nicke1	NI	ICP	IP032171	40.0	10.0	10.0	10.0	10.0				

YD19 . 000000

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP032171

SDG: YD19

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	205194.6	204369.2	102.2	197919.1	198180.6	99.1			
Antimony	1000	1000	-3.9	1011.6	101.2	-4.9	1021.7	102.2			
Arsenic	1000	1000	25.7	1031.5	103.2	26.9	1049.2	104.9			
Barium	1000	1000	0.0	1015.6	101.6	0.1	998.8	99.9			
Beryllium	1000	1000	0.1	958.3	95.8	0.1	918.4	91.8			
Boron			-10.2	-10.8		-9.4	-10.7				
Cadmium	1000	1000	1.3	1030.7	103.1	1.0	1042.2	104.2			
Calcium	100000	100000	100924.7	101628.5	101.6	98195.4	98633.0	98.6			
Chromium	1000	1000	-1.1	1020.2	102.0	-0.7	1000.7	100.1			
Cobalt	1000	1000	2.7	959.5	96.0	2.7	983.7	98.4			
Copper	1000	1000	-0.2	1018.4	101.8	-0.3	1035.0	103.5			
Iron	200000	200000	196188.8	196608.3	98.3	189318.0	190688.8	95.3			
Lead	1000	1000	17.1	975.2	97.5	14.9	992.6	99.3			
Magnesium	100000	100000	105120.6	100976.0	101.0	101936.2	98805.9	98.8			
Manganese	1000	1000	-0.9	937.3	93.7	-0.5	908.7	90.9			
Molybdenum			4.6	4.7		4.6	4.7				
Nickel	1000	1000	1.7	965.0	96.5	0.2	949.4	94.9			
Potassium			25.5	-7.2		19.6	-1.6				
Selenium	1000	1000	37.9	1033.0	103.3	38.5	1043.2	104.3			
Silicon			-19.5	-23.7		-16.1	-22.6				
Silver	1000	1000	-0.8	1032.5	103.3	-0.9	1054.5	105.5			
Sodium			4.3	4.8		7.2	6.3				
Strontium			5.4	5.3		5.2	5.2				
Thallium	1000	1000	22.6	973.7	97.4	22.5	992.8	99.3			
Tin			-8.7	-6.8		-8.1	-9.4				
Titanium			5.7	5.5		5.7	5.2				
Vanadium	1000	1000	-3.1	946.9	94.7	-3.7	967.7	96.8			
Zinc	1000	1000	-3.7	941.2	94.1	-2.8	932.9	93.3			

10110 : 050305

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA BACK- GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19

IEC DATE: 3/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1504760	0.000000	-1.1418810	1.4701580	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1186830
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0105370	0.000000	0.000000	0.000000	0.000000	-0.0428330
Cobalt	228.62	0.000000	0.000000	0.0956050	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.0031370	0.000000	-0.1731660	0.000000	0.000000	-0.0517650
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572290	0.000000	0.000000
Lead	220.35	-0.3197610	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	-0.0574840
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.6154620	-1.2018020	0.000000	0.9787120
Manganese	257.61	0.0085510	0.000000	0.000000	0.000000	0.0051490	0.000000	0.000000	0.000000	0.000000	-0.0059760
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0154460	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.8483140	0.000000	-0.6009380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0065610	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.0801700	0.000000	5.8939530	0.4135750	0.000000	-0.1258020
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1855780	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.1006900	0.000000	0.000000	0.1910190	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0674860
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.0126620	0.000000	0.000000	-0.2680380	0.000000	0.000000

11110 . 000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19

IEC DATE: 3/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.000000	0.000000	0.000000	2.0154950	0.000000	14.6504130	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.7865220	0.000000	-3.6308690	0.000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.000000	0.000000	0.000000	-35.7069030	0.000000	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.1263190	0.000000	0.000000	0.000000	0.000000	0.2049710	0.000000
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0109650	0.000000	0.2471980	0.000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	0.000000	0.000000	-0.9924980	0.000000	0.000000	0.000000	0.000000	0.0519140	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.0714330	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.3711990	0.000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.000000	0.000000	1.7865010	0.000000	0.000000	0.000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.000000	0.000000	0.000000	0.1968290	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	8.0715790	0.000000
Lead	220.35	0.000000	0.000000	0.000000	0.1183620	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.0068080	0.000000	0.000000	0.000000	-0.2132560	0.000000	0.000000	0.000000	-0.0238460	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	-0.5233870	0.000000	0.4243640	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.6221340	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2593400	0.000000
Thallium	190.80	0.000000	0.000000	-1.6229180	0.000000	0.000000	0.000000	165.0683530	0.000000	0.000000	38.8015530
Tin	189.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	3.6063050	0.000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.000000	0.000000	0.000000	-0.1890930	0.000000	0.000000	0.000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.000000	-0.0717780	0.000000	0.000000	0.000000	0.000000	0.000000

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: DMN

SDG: YD19

PREPDATE: 3/20/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW2s-140317	YD19A	0.000	50.0	50.0
MW2s-140317D	YD19ADUP	0.000	50.0	50.0
MW2s-140317S	YD19ASPK	0.000	50.0	50.0
MW1s-140317	YD19B	0.000	50.0	50.0
MW4d-140317	YD19C	0.000	50.0	50.0
MW4s-140317	YD19D	0.000	50.0	50.0
MW3s-140317	YD19E	0.000	50.0	50.0
PBW	YD19MB1	0.000	50.0	50.0
LCSW	YD19MB1SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: WMN

SDG: YD19

PREPDATE: 3/20/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW2s-140317	YD19F	0.000	50.0	50.0
MW2s-140317D	YD19FDUP	0.000	50.0	50.0
MW2s-140317S	YD19FSPK	0.000	50.0	50.0
MW1s-140317	YD19G	0.000	50.0	50.0
MW4d-140317	YD19H	0.000	50.0	50.0
MW4s-140317	YD19I	0.000	50.0	50.0
MW3s-140317	YD19J	0.000	50.0	50.0
PBW	YD19MB2	0.000	50.0	50.0
LCSW	YD19MB2SPK	0.000	50.0	50.0

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD19

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP032171 METHOD: ICP

START DATE: 3/21/2014

END DATE: 3/21/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0		1.00	08404											X																		X	
S2		1.00	08445											X																		X	
S3		1.00	08464											X																		X	
S4		1.00	08490																														
S5		1.00	08511																														
ICV		1.00	08574											X																		X	
ICB		1.00	09022											X																		X	
CRI		1.00	09064											X																		X	
ICSA		1.00	09105											X																		X	
ICSAB		1.00	09151											X																		X	
CCV		1.00	09200											X																		X	
CCB		1.00	09235											X																		X	
ZZZZZZ	YC98MB1		2.00	09280																												X	
ZZZZZZ	YC98A-L		10.00	09322																												X	
ZZZZZZ	YC98A		2.00	09362																												X	
ZZZZZZ	YC98ADUP		2.00	09400																												X	
ZZZZZZ	YC98ASPK		2.00	09435																												X	
ZZZZZZ	YC98B		2.00	09474																												X	
ZZZZZZ	YC98C		2.00	09512																												X	
ZZZZZZ	YC98D		2.00	09552																												X	
ZZZZZZ	YC98E		2.00	09591																												X	
ZZZZZZ	YC98MB1SPK		2.00	10031																												X	
CCV	CCV2		1.00	10071										X																		X	
CCB	CCB2		1.00	10112										X																		X	
ZZZZZZ	YC98MB1		2.00	10153																													X
ZZZZZZ	YC98F		2.00	10195																													X
ZZZZZZ	YC98G		2.00	10235																													X
ZZZZZZ	YC98H		2.00	10274																													X
ZZZZZZ	YC98I		2.00	10312																													X
ZZZZZZ	YC98J		2.00	10352																													X
ZZZZZZ	YC98K		2.00	10392																													X
ZZZZZZ	YC98L		2.00	10432																													X
ZZZZZZ	YD22B		2.00	10473																													X
ZZZZZZ	YD22MB1SPK		2.00	10513																													X
CCV	CCV3		1.00	10553										X																		X	

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating INSTRUMENT ID: OPTIMA ICP 2 START DATE: 3/21/2014

SDG: YD19 RUNID: IP032171 METHOD: ICP END DATE: 3/21/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN				
CCB	CCB3	1.00	10592										X											X										X			
ZZZZZZ	YD22MB1	2.00	11033																																		
ZZZZZZ	YD22A-L	10.00	11075																																		
ZZZZZZ	YD22A	2.00	11115																																		
ZZZZZZ	YD22ADUP	2.00	11155																																		
ZZZZZZ	YD22ASPK	2.00	11193																																		
ZZZZZZ	ZZZZZZ	2.00	11232																																		
ZZZZZZ	YD22C	2.00	11271																																		
ZZZZZZ	YD22D	2.00	11311																																		
ZZZZZZ	YD22E	2.00	11352																																		
ZZZZZZ	YD22F	2.00	11392																																		
CCV	CCV4	1.00	11432										X											X	X	X	X	X	X	X	X	X	X	X			
CCB	CCB4	1.00	11471										X											X	X	X	X	X	X	X	X	X	X	X			
CRI	CRIF	1.00	11512										X											X	X	X	X	X	X	X	X	X	X	X			
ICSA	ICSAF	1.00	11554										X											X	X	X	X	X	X	X	X	X	X	X			
ICSAB	ICSABF	1.00	11595										X											X	X	X	X	X	X	X	X	X	X	X			
CCV	CCV5	1.00	12044										X											X	X	X	X	X	X	X	X	X	X	X			
CCB	CCB5	1.00	12083										X											X	X	X	X	X	X	X	X	X	X	X			
ZZZZZZ	YD35MB1	2.00	12125																																		
ZZZZZZ	YD35ADUP	2.00	12170																																		
ZZZZZZ	YD35A	2.00	12210																																		
ZZZZZZ	YD35ASEPK	2.00	12250																																		
ZZZZZZ	YD35APOST	2.00	12285																																		
ZZZZZZ	YD35REF1	2.00	12324																																		
ZZZZZZ	YD35MB1SPK	2.00	12363																																		
CCV	CCV6	1.00	12403										X											X	X	X	X	X	X	X	X	X	X	X	X		
CCB	CCB6	1.00	12442										X											X	X	X	X	X	X	X	X	X	X	X	X		
PBW	YD19MB1	1.00	12484																																		
MW1s-140317	YD19B	1.00	12525																																		
MW4d-140317	YD19C	1.00	12571																																		
MW4s-140317	YD19D	1.00	13011																																		
MW3s-140317	YD19E	1.00	13052																																		
MW2s-140317D	YD19ADUP	1.00	13093																																		
MW2s-140317	YD19A	1.00	13135																																		
MW2s-140317S	YD19ASEPK	1.00	13180																																		

ANALYTICAL RESOURCES INCORPORATED

Analysis Run Log



CLIENT: GeoEngineers

PROJECT: Aladden Plating

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP032171

DIL. TIME

ARI ID

SDG: YD19

METHOD: ICP

CLIENT ID

®R AG AL AS B BA BE CA CD CO CR CU FE HG K MG MN MO NA NI PB SB SE SI SN TI TL U V ZN


CLIENT ID	ARI ID	DIL. TIME	®R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
LCSW	YD19MB1SPK	1.00 13220																																X
ZZZZZZ	YD07MB1SPD	1.00 13260																																X
CCV	CCV7	1.00 13300											X												X								X	
CCB	CCB7	1.00 13335										X												X									X	
PBW	YD19MB2	1.00 13381										X												X									X	
MW1s-140317	YD19G	1.00 13422										X											X										X	
MW4d-140317	YD19H	1.00 13464										X											X										X	
MW4s-140317	YD19I	1.00 13504										X											X										X	
MW3s-140317	YD19J	1.00 13545										X											X										X	
MW2s-140317D	YD19FDUP	1.00 13591										X											X										X	
MW2s-140317	YD19F	1.00 14032										X											X										X	
MW2s-140317S	YD19FSPK	1.00 14073										X											X										X	
LCSW	YD19MB2SPK	1.00 14113										X											X										X	
CCV	CCV8	1.00 14153										X											X										X	
CCB	CCB8	1.00 14192										X											X										X	

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: YD19

INORGANICS ANALYSIS DATA SHEET
Hexavalent Chromium by Method SW7196A



Data Release Authorized: 
Reported: 03/21/14
Date Received: 03/17/14
Page 1 of 1

QC Report No: YD19-GeoEngineers
Project: Aladden Plating
0504-095-00


Client/ ARI ID	Date Sampled	Matrix	Analysis Date & Batch	RL	Result
MW2s-140317 YD19A 14-4729	03/17/14	Water	03/17/14 031714#1	0.010	< 0.010 U
MW1s-140317 YD19B 14-4730	03/17/14	Water	03/17/14 031714#1	0.010	< 0.010 U
MW4d-140317 YD19C 14-4731	03/17/14	Water	03/17/14 031714#1	0.010	< 0.010 U
MW4s-140317 YD19D 14-4732	03/17/14	Water	03/17/14 031714#1	0.010	0.044
MW3s-140317 YD19E 14-4733	03/17/14	Water	03/17/14 031714#1	0.010	< 0.010 U

Reported in mg/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
YD19-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 03/21/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YD19A Client ID: MW2s-140317						
Hexavalent Chromium	03/17/14	mg/L	< 0.010	0.080	0.100	80.0%

REPLICATE RESULTS-CONVENTIONALS
YD19-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/21/14


A handwritten signature in black ink, appearing to be a stylized 'A' or similar character.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/17/14
Date Received: 03/17/14

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: YD19A Client ID: MW2s-140317					
Hexavalent Chromium	03/17/14	mg/L	< 0.010	< 0.010	NA

METHOD BLANK RESULTS-CONVENTIONALS
YD19-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 03/21/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	Blank
Hexavalent Chromium	03/17/14 17:15	mg/L	< 0.010 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
YD19-GeoEngineers



Matrix: Water
Data Release Authorized
Reported: 03/21/14

A handwritten signature in black ink, appearing to be 'J. K.' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date/Time	Units	SRM	True Value	Recovery
Hexavalent Chromium ERA #160412	03/17/14 17:15	mg/L	0.626	0.630	99.4%

Metals Raw Data
Preparation Bench Sheets and Notes

ARI Job ID: YD19



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: LB Date: 3-20-14 Time: 1000
Matrix: WATER Block ID: - Block Temp: - Thermometer: -

ARI Sample ID	Btl #	pH<2	Prep Code: <u>wmv</u>		Prep Code: <u>omw</u>		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
Y032 F	1	J	-	-			
" F02	1	J	-	-			
" F06	1	J	-	-			
" G	1	J	-	-			
" H	1	J	-	-			
" I	1	J	-	-			
" J	1	J	-	-			
Y019 F	1	J	-	-		CB	
" F02	1	J	-	-		3-20-14	
" F06	1	J	-	-			
" G	1	J	-	-			
" H	1	J	-	-			
" I	1	J	-	-			
" J	1	J	-	-			
" A	2	-					filter by conu
" A20	2	-					
" A06	2	-					
" B	2	-	CB				
" C	2	-	3-20-14				
" D	2	-					
" E	2	-					
" MB1	-	-					
" MB1501	-	-					
			LB 3-20-14				

Chemical/Reagent ID:

5061F

Tube lot #: 1309221



ARI Job No.: YD 19

Client ID: _____

Parameter: Dis. Metals Filter-Client Project

List problems, concerns, corrective actions and any other pertinent information

Filtered samples for dissolved metals as seen
as they arrived to the lab preserved for metals
pouring filtered samples into pre-preserved bottles

Analyst Initials: el

Date: 23/04/10

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YD19

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 3-21-11

	Analyst	Peer	Comment
<u>12</u>	<u>A 324</u>	<u>DA 324M</u>	
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	See log
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	✓	✓	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	4035
Matrix Duplicates	✓	✓	4032
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	✓	✓	CAF 4032 4035



IEC Date: 3-19-14

Analysis Date: 3-21-14

Analyst: A

LR Date: 1-3-14

Page: 1 of 6

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			
		2			
		3			
		4			
		5			
		ICV			
		ICB			
		ICR1			
		ICSA			
		IC SAB			
		CCV1			
		CCB1			
	✓	Y098 MBI	SWL	2	Cr 0.009 RR
		A-L		10	✓
		A		2	
		ADup			✓
		Aspk			✓
		B			
		C			
		D			
		E			
		MBIspek			✓
		CCV2			
		CCB2			



IEC Date: _____ Analysis Date: 3-26-14 Analyst: ST
LR Date: _____ Page: 2 of 2

All corrections made by analyst unless otherwise noted.

*3-26-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		Y098 MBI	Sec	2	
		F			
		G			
		H			
		I			
		J			
		K			
		L			
		Y022 B			
		MBISpk			✓
		CCB3			
		CCB3			
		Y022 MBI	Sec	2	
		A-L		10	✓
		A		2	
		ADp			-
		Asdk			-
222		222222 A Post			
		C			
		D			
		E			
		F			
		CCJ4			
		CCB1			



IEC Date: _____ Analysis Date: 3/21/14 Analyst: AT
LR Date: _____ Page: 3 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CR1			
		ICSA			
		ICSA B			
		CCV5			
		CCB5			
		YD35 MBI	Sec	2	
		AD up			
		A			CAF
		Aspl			Sb low % R
		A post			0.0625 ml 15464 0.0625 ml 15464
		Ref			
		MBI spl			
		CCV6			
		CCB6			
		YD19 MBI	DMN		
		B			
		C			
		D			
		E			
		AD up			
		A			
		Aspl			✓ B1845
		MBI spl			✓ 0.08 ml 15464
					✓ B1845
					✓ 0.08 ml 15464
		Y907 MBI SPD	702		



IEC Date: _____ Analysis Date: 3-21-14 Analyst: AT
LR Date: _____ Page: 4 of 4

All corrections made by analyst unless otherwise noted. #3-21-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CC17			
		CCB7			
		YD19 MBZ	WMM		
		G			
		H			
		I			
		J			
		FDup			✓
		F			
		Fspk			✓
		MBZspk			✓ 51845 0.08ml ICP spl ✓ BLE45 0.02ml ICP spl
		CCVE			
		CCBD			
		YD13 MB	TWL		
		B			
	✓	A		20	try 10x
		A A		510	
	✓	C		5	PRZ 1.0 (SEA 4)
dil		C		10	✓
		h MBspk			
		CCV			
		CCB			
		YD50 MB	SUC	2	
		YD17 MB	TWL		

Nebulizer Parameters: Hg ReAlign

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

3/21/2014 8:14:09 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.000 Slit adjustment: 0

Analysis Begun

Start Time: 3/21/2014 8:18:12 AM Plasma On Time: 3/21/2014 7:29:05 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: I2140321
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314B.iec MSF File:
Method Description: 12Axial Elements

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists various elements like Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn, ScA, ScR with their respective calibration and processing details.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 3/21/2014 8:18:20 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Handwritten signature and date: 3-21-14

=====
Analysis Begun

Start Time: 3/21/2014 8:40:44 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 3/21/2014 7:29:05 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0321.sif
Batch ID:
Results Data Set: I2140321
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 3/21/2014 8:40:45 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2436823.4	13504.11	0.55%	100.0 %
ScR 361.383	293655.4	642.35	0.22%	100.0 %
Ag 328.068†	1142.2	34.64	3.03%	[0.00] mg/L
Al 308.215†	80.0	5.64	7.06%	[0.00] mg/L
As 188.979†	-8.7	4.77	54.75%	[0.00] mg/L
B 249.677†	-34.6	2.97	8.60%	[0.00] mg/L
Ba 233.527†	-15.5	1.24	7.99%	[0.00] mg/L
Be 313.042†	661.5	23.99	3.63%	[0.00] mg/L
Ca 317.933†	55.5	2.52	4.54%	[0.00] mg/L
Cd 228.802†	201.5	3.35	1.66%	[0.00] mg/L
Co 228.616†	-130.9	3.55	2.71%	[0.00] mg/L
Cr 267.716†	-49.0	4.83	9.86%	[0.00] mg/L
Cu 324.752†	3460.0	56.95	1.65%	[0.00] mg/L
Fe 273.955†	-41.9	1.15	2.75%	[0.00] mg/L
K 766.490†	304.5	25.01	8.21%	[0.00] mg/L
Mg 279.077†	157.6	3.07	1.95%	[0.00] mg/L
Mn 257.610†	-92.4	0.31	0.33%	[0.00] mg/L
Mo 202.031†	82.5	4.46	5.41%	[0.00] mg/L
Na 589.592†	-555.4	32.47	5.85%	[0.00] mg/L
Na 330.237†	20.7	7.54	36.36%	[0.00] mg/L
Ni 231.604†	22.4	2.24	10.00%	[0.00] mg/L
Pb 220.353†	-50.3	3.73	7.41%	[0.00] mg/L
Sb 206.836†	6.3	6.27	99.45%	[0.00] mg/L
Se 196.026†	-60.1	2.51	4.17%	[0.00] mg/L
Si 288.158†	27.0	2.30	8.55%	[0.00] mg/L
Sn 189.927†	-20.0	1.74	8.70%	[0.00] mg/L
Sr 421.552†	51.8	30.49	58.87%	[0.00] mg/L
Ti 334.903†	105.6	18.52	17.54%	[0.00] mg/L
Tl 190.801†	-28.4	2.10	7.40%	[0.00] mg/L
V 292.402†	111.3	7.32	6.57%	[0.00] mg/L
Zn 206.200†	-19.1	0.55	2.87%	[0.00] mg/L

=====
Sequence No.: 2
Sample ID: STD2
Autosampler Location: 2
Date Collected: 3/21/2014 8:44:59 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: STD2
Mean Corrected Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2435160.7	8788.34	0.36%	99.93	%
ScR 361.383	297169.2	1703.17	0.57%	101.2	%
Ba 233.527†	54728.4	345.09	0.63%	[10]	mg/L
Cd 228.802†	217560.2	428.00	0.20%	[10]	mg/L
Co 228.616†	326634.6	698.72	0.21%	[10]	mg/L
Cr 267.716†	66881.0	283.93	0.42%	[10]	mg/L
Cu 324.752†	2344075.9	7187.65	0.31%	[10]	mg/L
Mn 257.610†	340517.5	1959.74	0.58%	[10]	mg/L
V 292.402†	1475944.6	5357.81	0.36%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 3/21/2014 8:46:44 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2401787.9	14086.42	0.59%	98.56	%
ScR 361.383	285973.8	1385.02	0.48%	97.38	%
Ag 328.068†	221710.5	258.91	0.12%	[1.0]	mg/L
As 188.979†	13608.4	105.97	0.78%	[10]	mg/L
B 249.677†	52619.6	163.87	0.31%	[10]	mg/L
Be 313.042†	2617489.2	8440.61	0.32%	[5.0]	mg/L
Na 589.592†	620490.7	2079.93	0.34%	[50]	mg/L
Ni 231.604†	32372.7	74.10	0.23%	[10]	mg/L
Pb 220.353†	81579.9	600.66	0.74%	[10]	mg/L
Se 196.026†	15869.9	148.96	0.94%	[10]	mg/L
Sr 421.552†	3897511.1	10437.38	0.27%	[5]	mg/L
Tl 190.801†	16547.4	117.36	0.71%	[10]	mg/L
Zn 206.200†	38501.7	58.16	0.15%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 3/21/2014 8:49:00 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2430905.5	16390.36	0.67%	99.76	%
ScR 361.383	296444.4	2645.51	0.89%	100.9	%
Mo 202.031†	179761.8	1734.05	0.96%	[10]	mg/L
Sb 206.836†	26654.8	198.29	0.74%	[10]	mg/L
Si 288.158†	10926.5	59.36	0.54%	[10]	mg/L
Sn 189.927†	46251.2	457.18	0.99%	[10]	mg/L
Ti 334.903†	214150.8	1600.93	0.75%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 3/21/2014 8:51:14 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected		RSD	Calib	
	Intensity	Std.Dev.		Conc.	Units
ScA 357.253	2278109.7	5724.88	0.25%	93.49	%
ScR 361.383	296903.4	751.99	0.25%	101.1	%
Al 308.215†	26418.8	111.28	0.42%	[30]	mg/L
Ca 317.933†	266368.4	771.32	0.29%	[30]	mg/L
Fe 273.955†	89899.8	643.32	0.72%	[100]	mg/L
K 766.490†	202860.8	386.69	0.19%	[100]	mg/L
Mg 279.077†	25535.0	107.70	0.42%	[30]	mg/L
Na 330.237†	2371.3	10.90	0.46%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	221700	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	880.6	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1361	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5262	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	5473	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	523500	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	8879	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	21760	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	32660	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	6688	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	234400	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	899.0	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2029	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	851.2	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	34050	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	17980	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	12410	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	23.71	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3237	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8158	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	2665	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1587	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1093	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	4625	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	779500	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	21420	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	1655	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	147600	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3850	0.00000	1.000000	

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Analysis Begun

Start Time: 3/21/2014 8:57:47 AM Plasma On Time: 3/21/2014 7:29:05 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0321.sif
Batch ID:
Results Data Set: I2140321
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1 Autosampler Location: 7
Sample ID: CV Date Collected: 3/21/2014 8:57:48 AM
Analyst: ALA Data Type: Original
Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2421425.4	99.37	%	0.545			0.55%
ScR 361.383	294196.8	100.2	%	0.24			0.24%
Ag 328.068†	226447.6	1.022	mg/L	0.0005	1.022 mg/L	0.0005	0.05%
Al 308.215†	1879.8	2.102	mg/L	0.0039	2.102 mg/L	0.0039	0.18%
As 188.979†	2773.0	2.070	mg/L	0.0162	2.070 mg/L	0.0162	0.78%
B 249.677†	5338.5	1.014	mg/L	0.0030	1.014 mg/L	0.0030	0.29%
Ba 233.527†	5656.1	1.033	mg/L	0.0053	1.033 mg/L	0.0053	0.51%
Be 313.042†	517869.0	0.9890	mg/L	0.00357	0.9890 mg/L	0.00357	0.36%
Ca 317.933†	18842.0	2.122	mg/L	0.0059	2.122 mg/L	0.0059	0.28%
Cd 228.802†	23211.7	1.057	mg/L	0.0102	1.057 mg/L	0.0102	0.97%
Co 228.616†	33575.6	1.026	mg/L	0.0087	1.026 mg/L	0.0087	0.85%
Cr 267.716†	7064.6	1.056	mg/L	0.0030	1.056 mg/L	0.0030	0.28%
Cu 324.752†	239599.8	1.022	mg/L	0.0029	1.022 mg/L	0.0029	0.28%
Fe 273.955†	1891.9	2.098	mg/L	0.0034	2.098 mg/L	0.0034	0.16%
K 766.490†	41121.8	20.27	mg/L	0.033	20.27 mg/L	0.033	0.16%
Mg 279.077†	1746.3	2.058	mg/L	0.0044	2.058 mg/L	0.0044	0.22%
Mn 257.610†	33471.2	0.9834	mg/L	0.00637	0.9834 mg/L	0.00637	0.65%
Mo 202.031†	18034.6	1.003	mg/L	0.0073	1.003 mg/L	0.0073	0.73%
Na 589.592†	624356.8	50.31	mg/L	0.149	50.31 mg/L	0.149	0.30%
Na 330.237†	1270.8	53.57	mg/L	0.049	53.57 mg/L	0.049	0.09%
Ni 231.604†	3321.0	1.026	mg/L	0.0024	1.026 mg/L	0.0024	0.23%
Pb 220.353†	16535.2	2.028	mg/L	0.0177	2.028 mg/L	0.0177	0.87%
Sb 206.836†	5629.5	2.110	mg/L	0.0182	2.110 mg/L	0.0182	0.86%
Se 196.026†	3233.1	2.036	mg/L	0.0259	2.036 mg/L	0.0259	1.27%
Si 288.158†	2251.7	2.066	mg/L	0.0142	2.066 mg/L	0.0142	0.69%
Sn 189.927†	4650.1	1.007	mg/L	0.0084	1.007 mg/L	0.0084	0.83%
Sr 421.552†	778502.6	0.9987	mg/L	0.00076	0.9987 mg/L	0.00076	0.08%
Ti 334.903†	21633.5	1.009	mg/L	0.0017	1.009 mg/L	0.0017	0.17%
Tl 190.801†	3470.4	2.089	mg/L	0.0146	2.089 mg/L	0.0146	0.70%
V 292.402†	145842.0	0.9924	mg/L	0.00193	0.9924 mg/L	0.00193	0.19%
Zn 206.200†	3871.7	1.006	mg/L	0.0023	1.006 mg/L	0.0023	0.23%

User canceled analysis.

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Analysis Begun

Start Time: 3/21/2014 9:02:26 AM Plasma On Time: 3/21/2014 7:29:05 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0321.sif
Batch ID:
Results Data Set: I2140321
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 2
 Sample ID: ~~1~~ CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 9:02:27 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 209.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2411342.9	98.95 %	%	0.742			0.75%
ScR 361.383	290252.5	98.84 %	%	0.314			0.32%
Ag 328.068†	-11.4	-0.00005	mg/L	0.000034	-0.00005	0.000034	66.50%
Al 308.215†	-3.3	-0.00378	mg/L	0.003340	-0.00378	0.003340	88.35%
As 188.979†	-0.4	-0.00022	mg/L	0.000874	-0.00022	0.000874	392.78%
B 249.677†	6.4	0.00121	mg/L	0.000818	0.00121	0.000818	67.59%
Ba 233.527†	1.1	0.00020	mg/L	0.000150	0.00020	0.000150	74.06%
Be 313.042†	44.1	0.00008	mg/L	0.000011	0.00008	0.000011	13.18%
Ca 317.933†	-3.9	-0.00044	mg/L	0.000448	-0.00044	0.000448	101.60%
Cd 228.802†	4.4	0.00021	mg/L	0.000283	0.00021	0.000283	137.84%
Co 228.616†	-0.5	-0.00002	mg/L	0.000105	-0.00002	0.000105	618.25%
Cr 267.716†	-2.5	-0.00037	mg/L	0.001101	-0.00037	0.001101	299.09%
Cu 324.752†	44.8	0.00019	mg/L	0.000206	0.00019	0.000206	107.74%
Fe 273.955†	2.6	0.00284	mg/L	0.003026	0.00284	0.003026	106.38%
K 766.490†	14.7	0.00722	mg/L	0.019843	0.00722	0.019843	274.65%
Mg 279.077†	-2.1	-0.00247	mg/L	0.002432	-0.00247	0.002432	98.65%
Mn 257.610†	-0.3	-0.00001	mg/L	0.000074	-0.00001	0.000074	>999.9%
Mo 202.031†	12.5	0.00070	mg/L	0.000208	0.00070	0.000208	29.85%
Na 589.592†	27.9	0.00225	mg/L	0.001976	0.00225	0.001976	87.80%
Na 330.237†	3.3	0.1406	mg/L	0.43576	0.1406	0.43576	309.82%
Ni 231.604†	3.8	0.00117	mg/L	0.000922	0.00117	0.000922	78.48%
Pb 220.353†	3.6	0.00044	mg/L	0.000469	0.00044	0.000469	107.72%
Sb 206.836†	15.5	0.00582	mg/L	0.002098	0.00582	0.002098	36.02%
Se 196.026†	2.8	0.00175	mg/L	0.004027	0.00175	0.004027	230.69%
Si 288.158†	3.5	0.00320	mg/L	0.006666	0.00320	0.006666	208.42%
Sn 189.927†	2.2	0.00048	mg/L	0.000804	0.00048	0.000804	167.43%
Sr 421.552†	46.8	0.00006	mg/L	0.000016	0.00006	0.000016	27.32%
Ti 334.903†	26.9	0.00125	mg/L	0.000565	0.00125	0.000565	45.06%
Tl 190.801†	-1.9	-0.00115	mg/L	0.003488	-0.00115	0.003488	302.19%
V 292.402†	-12.5	-0.00009	mg/L	0.000020	-0.00009	0.000020	23.13%
Zn 206.200†	-0.9	-0.00022	mg/L	0.000295	-0.00022	0.000295	133.40%

Sequence No.: 3
 Sample ID: CRI
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 301
 Date Collected: 3/21/2014 9:06:42 AM
 Data Type: Original

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2423317.8	99.45 %	1.296			1.30%
ScR 361.383	293844.9	100.1 %	0.12			0.12%
Ag 328.068†	690.1	0.00311 mg/L	0.000068	0.00311 mg/L	0.000068	2.20%
Al 308.215†	44.2	0.05001 mg/L	0.003486	0.05001 mg/L	0.003486	6.97%
As 188.979†	69.7	0.05136 mg/L	0.000946	0.05136 mg/L	0.000946	1.84%
B 249.677†	106.3	0.02021 mg/L	0.000455	0.02021 mg/L	0.000455	2.25%
Ba 233.527†	16.5	0.00301 mg/L	0.000691	0.00301 mg/L	0.000691	22.97%
Be 313.042†	509.8	0.00097 mg/L	0.000010	0.00097 mg/L	0.000010	1.03%
Ca 317.933†	469.2	0.05285 mg/L	0.001118	0.05285 mg/L	0.001118	2.12%
Cd 228.802†	54.8	0.00226 mg/L	0.000321	0.00226 mg/L	0.000321	14.17%
Co 228.616†	94.9	0.00289 mg/L	0.000012	0.00289 mg/L	0.000012	0.40%
Cr 267.716†	34.1	0.00510 mg/L	0.000706	0.00510 mg/L	0.000706	13.85%
Cu 324.752†	476.1	0.00203 mg/L	0.000316	0.00203 mg/L	0.000316	15.54%
Fe 273.955†	47.4	0.05267 mg/L	0.003278	0.05267 mg/L	0.003278	6.22%
K 766.490†	1064.0	0.5245 mg/L	0.00699	0.5245 mg/L	0.00699	1.33%
Mg 279.077†	45.1	0.05295 mg/L	0.001690	0.05295 mg/L	0.001690	3.19%
Mn 257.610†	32.9	0.00097 mg/L	0.000087	0.00097 mg/L	0.000087	8.93%
Mo 202.031†	90.9	0.00506 mg/L	0.000159	0.00506 mg/L	0.000159	3.14%
Na 589.592†	6135.4	0.4944 mg/L	0.00182	0.4944 mg/L	0.00182	0.37%
Na 330.237†	26.5	1.115 mg/L	0.2823	1.115 mg/L	0.2823	25.31%
Ni 231.604†	33.7	0.01041 mg/L	0.000668	0.01041 mg/L	0.000668	6.42%
Pb 220.353†	162.8	0.01999 mg/L	0.000704	0.01999 mg/L	0.000704	3.52%
Sb 206.836†	139.5	0.05237 mg/L	0.000471	0.05237 mg/L	0.000471	0.90%
Se 196.026†	80.6	0.05079 mg/L	0.002781	0.05079 mg/L	0.002781	5.47%
Si 288.158†	63.9	0.05852 mg/L	0.005388	0.05852 mg/L	0.005388	9.21%
Sn 189.927†	47.6	0.01034 mg/L	0.000553	0.01034 mg/L	0.000553	5.34%
Sr 421.552†	785.0	0.00101 mg/L	0.000034	0.00101 mg/L	0.000034	3.34%
Ti 334.903†	116.3	0.00542 mg/L	0.000116	0.00542 mg/L	0.000116	2.14%
Tl 190.801†	80.6	0.04867 mg/L	0.001286	0.04867 mg/L	0.001286	2.64%
V 292.402†	449.6	0.00306 mg/L	0.000068	0.00306 mg/L	0.000068	2.24%
Zn 206.200†	36.2	0.00940 mg/L	0.000345	0.00940 mg/L	0.000345	3.66%

Sequence No.: 4
 Sample ID: ICSA
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 3/21/2014 9:10:58 AM
 Data Type: Original

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2351479.6	96.50	%	0.835			0.87%
ScR 361.383	287273.4	97.83	%	0.695			0.71%
Ag 328.068†	-318.8	-0.00077	mg/L	0.000219	-0.00077	0.000219	28.35%
Al 308.215†	180700.3	205.2	mg/L	1.00	205.2	1.00	0.49%
As 188.979†	54.9	0.02572	mg/L	0.008553	0.02572	0.008553	33.26%
B 249.677†	-53.6	-0.01019	mg/L	0.001254	-0.01019	0.001254	12.31%
Ba 233.527†	127.5	0.00001	mg/L	0.000886	0.00001	0.000886	>999.9%
Be 313.042†	65.1	0.00012	mg/L	0.000016	0.00012	0.000016	13.42%
Ca 317.933†	896104.8	100.9	mg/L	0.34	100.9	0.34	0.34%
Cd 228.802†	32.4	0.00128	mg/L	0.000140	0.00128	0.000140	10.93%
Co 228.616†	90.1	0.00273	mg/L	0.000207	0.00273	0.000207	7.59%
Cr 267.716†	-6.2	-0.00111	mg/L	0.000350	-0.00111	0.000350	31.53%
Cu 324.752†	-2140.1	-0.00018	mg/L	0.000167	-0.00018	0.000167	92.22%
Fe 273.955†	176373.4	196.2	mg/L	1.53	196.2	1.53	0.78%
K 766.490†	51.6	0.02546	mg/L	0.010341	0.02546	0.010341	40.62%
Mg 279.077†	89638.7	105.1	mg/L	0.26	105.1	0.26	0.25%
Mn 257.610†	31.3	-0.00091	mg/L	0.000228	-0.00091	0.000228	25.05%
Mo 202.031†	110.2	0.00457	mg/L	0.000419	0.00457	0.000419	9.17%
Na 589.592†	53.6	0.00432	mg/L	0.002331	0.00432	0.002331	53.99%
Na 330.237†	-25.7	-1.077	mg/L	0.3519	-1.077	0.3519	32.66%
Ni 231.604†	5.5	0.00170	mg/L	0.001233	0.00170	0.001233	72.73%
Pb 220.353†	-487.8	0.01711	mg/L	0.001437	0.01711	0.001437	8.40%
Sb 206.836†	-10.0	-0.00389	mg/L	0.001396	-0.00389	0.001396	35.94%
Se 196.026†	60.2	0.03795	mg/L	0.003392	0.03795	0.003392	8.94%
Si 288.158†	-21.3	-0.01951	mg/L	0.000983	-0.01951	0.000983	5.04%
Sn 189.927†	-126.9	-0.00870	mg/L	0.000629	-0.00870	0.000629	7.23%
Sr 421.552†	4218.7	0.00541	mg/L	0.000005	0.00541	0.000005	0.09%
Ti 334.903†	339.2	0.00567	mg/L	0.000325	0.00567	0.000325	5.73%
Tl 190.801†	9.9	0.02255	mg/L	0.004473	0.02255	0.004473	19.83%
V 292.402†	1501.5	-0.00308	mg/L	0.000811	-0.00308	0.000811	26.37%
Zn 206.200†	-9.3	-0.00371	mg/L	0.001096	-0.00371	0.001096	29.52%

Sequence No.: 5
 Sample ID: ICSAB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 3/21/2014 9:15:13 AM
 Data Type: Original

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2351476.7	96.50 %	0.401				0.42%
ScR 361.383	291469.9	99.26 %	0.336				0.34%
Ag 328.068†	228713.1	1.032 mg/L	0.0045	1.032 mg/L	0.0045		0.44%
Al 308.215†	179985.6	204.4 mg/L	1.19	204.4 mg/L	1.19		0.58%
As 188.979†	1424.4	1.032 mg/L	0.0043	1.032 mg/L	0.0043		0.42%
B 249.677†	-46.4	-0.01084 mg/L	0.000830	-0.01084 mg/L	0.000830		7.66%
Ba 233.527†	5686.4	1.016 mg/L	0.0094	1.016 mg/L	0.0094		0.93%
Be 313.042†	501808.0	0.9583 mg/L	0.00640	0.9583 mg/L	0.00640		0.67%
Ca 317.933†	902354.4	101.6 mg/L	0.42	101.6 mg/L	0.42		0.42%
Cd 228.802†	22523.5	1.031 mg/L	0.0045	1.031 mg/L	0.0045		0.43%
Co 228.616†	31350.6	0.9595 mg/L	0.00171	0.9595 mg/L	0.00171		0.18%
Cr 267.716†	6824.5	1.020 mg/L	0.0052	1.020 mg/L	0.0052		0.51%
Cu 324.752†	236566.5	1.018 mg/L	0.0027	1.018 mg/L	0.0027		0.26%
Fe 273.955†	176756.1	196.6 mg/L	1.22	196.6 mg/L	1.22		0.62%
K 766.490†	-14.5	-0.00716 mg/L	0.015235	-0.00716 mg/L	0.015235		212.84%
Mg 279.077†	86108.9	101.0 mg/L	0.35	101.0 mg/L	0.35		0.34%
Mn 257.610†	31970.9	0.9373 mg/L	0.00330	0.9373 mg/L	0.00330		0.35%
Mo 202.031†	113.3	0.00473 mg/L	0.000118	0.00473 mg/L	0.000118		2.48%
Na 589.592†	59.2	0.00477 mg/L	0.002297	0.00477 mg/L	0.002297		48.14%
Na 330.237†	-21.7	-1.185 mg/L	0.0542	-1.185 mg/L	0.0542		4.58%
Ni 231.604†	3123.6	0.9650 mg/L	0.00924	0.9650 mg/L	0.00924		0.96%
Pb 220.353†	7324.8	0.9752 mg/L	0.00249	0.9752 mg/L	0.00249		0.26%
Sb 206.836†	2723.1	1.012 mg/L	0.0057	1.012 mg/L	0.0057		0.56%
Se 196.026†	1641.0	1.033 mg/L	0.0104	1.033 mg/L	0.0104		1.00%
Si 288.158†	-30.9	-0.02372 mg/L	0.003835	-0.02372 mg/L	0.003835		16.17%
Sn 189.927†	-121.4	-0.00679 mg/L	0.000542	-0.00679 mg/L	0.000542		7.98%
Sr 421.552†	4144.4	0.00532 mg/L	0.000014	0.00532 mg/L	0.000014		0.27%
Ti 334.903†	340.8	0.00548 mg/L	0.000433	0.00548 mg/L	0.000433		7.90%
Tl 190.801†	1599.5	0.9737 mg/L	0.00619	0.9737 mg/L	0.00619		0.64%
V 292.402†	141076.5	0.9469 mg/L	0.00399	0.9469 mg/L	0.00399		0.42%
Zn 206.200†	3627.4	0.9412 mg/L	0.00759	0.9412 mg/L	0.00759		0.81%

Sequence No.: 6
 Sample ID: CV{
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/21/2014 9:20:02 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2457023.9	100.8 %	0.02			0.02%
ScR 361.383	293901.2	100.1 %	0.25			0.25%
Ag 328.068†	224453.9	1.013 mg/L	0.0025	1.013 mg/L	0.0025	0.24%
Al 308.215†	1860.9	2.081 mg/L	0.0033	2.081 mg/L	0.0033	0.16%
As 188.979†	2732.9	2.040 mg/L	0.0039	2.040 mg/L	0.0039	0.19%
B 249.677†	5265.6	0.9997 mg/L	0.00051	0.9997 mg/L	0.00051	0.05%
Ba 233.527†	5626.3	1.028 mg/L	0.0020	1.028 mg/L	0.0020	0.19%
Be 313.042†	503585.6	0.9617 mg/L	0.00510	0.9617 mg/L	0.00510	0.53%
Ca 317.933†	18609.5	2.096 mg/L	0.0020	2.096 mg/L	0.0020	0.10%
Cd 228.802†	22758.2	1.037 mg/L	0.0031	1.037 mg/L	0.0031	0.30%
Co 228.616†	33115.4	1.012 mg/L	0.0011	1.012 mg/L	0.0011	0.10%
Cr 267.716†	6979.1	1.043 mg/L	0.0017	1.043 mg/L	0.0017	0.16%
Cu 324.752†	236096.2	1.007 mg/L	0.0023	1.007 mg/L	0.0023	0.23%
Fe 273.955†	1867.5	2.071 mg/L	0.0041	2.071 mg/L	0.0041	0.20%
K 766.490†	40798.2	20.11 mg/L	0.102	20.11 mg/L	0.102	0.51%
Mg 279.077†	1733.2	2.042 mg/L	0.0050	2.042 mg/L	0.0050	0.25%
Mn 257.610†	32828.3	0.9645 mg/L	0.00186	0.9645 mg/L	0.00186	0.19%
Mo 202.031†	17743.6	0.9870 mg/L	0.00140	0.9870 mg/L	0.00140	0.14%
Na 589.592†	618919.7	49.87 mg/L	0.033	49.87 mg/L	0.033	0.07%
Na 330.237†	1257.9	53.02 mg/L	0.226	53.02 mg/L	0.226	0.43%
Ni 231.604†	3294.7	1.018 mg/L	0.0022	1.018 mg/L	0.0022	0.22%
Pb 220.353†	16281.1	1.997 mg/L	0.0019	1.997 mg/L	0.0019	0.09%
Sb 206.836†	5560.9	2.084 mg/L	0.0026	2.084 mg/L	0.0026	0.12%
Se 196.026†	3178.0	2.001 mg/L	0.0078	2.001 mg/L	0.0078	0.39%
Si 288.158†	2212.5	2.030 mg/L	0.0131	2.030 mg/L	0.0131	0.65%
Sn 189.927†	4563.5	0.9885 mg/L	0.00571	0.9885 mg/L	0.00571	0.58%
Sr 421.552†	767013.1	0.9840 mg/L	0.00085	0.9840 mg/L	0.00085	0.09%
Ti 334.903†	21248.8	0.9909 mg/L	0.00153	0.9909 mg/L	0.00153	0.15%
Tl 190.801†	3427.8	2.063 mg/L	0.0026	2.063 mg/L	0.0026	0.13%
V 292.402†	144305.3	0.9820 mg/L	0.00178	0.9820 mg/L	0.00178	0.18%
Zn 206.200†	3825.0	0.9940 mg/L	0.00110	0.9940 mg/L	0.00110	0.11%

Sequence No.: 7
 Sample ID: CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 9:23:51 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2462061.4	101.0 %		0.29			0.29%
ScR 361.383	300042.7	102.2 %		0.52			0.51%
Ag 328.068†	10.3	0.00005 mg/L		0.000085	0.00005 mg/L	0.000085	182.16%
Al 308.215†	-3.0	-0.00343 mg/L		0.006703	-0.00343 mg/L	0.006703	195.17%
As 188.979†	-1.1	-0.00081 mg/L		0.001324	-0.00081 mg/L	0.001324	163.00%
B 249.677†	7.2	0.00137 mg/L		0.001236	0.00137 mg/L	0.001236	89.92%
Ba 233.527†	-1.0	-0.00017 mg/L		0.000329	-0.00017 mg/L	0.000329	188.47%
Be 313.042†	23.1	0.00004 mg/L		0.000025	0.00004 mg/L	0.000025	57.02%
Ca 317.933†	6.7	0.00075 mg/L		0.000917	0.00075 mg/L	0.000917	121.86%
Cd 228.802†	3.8	0.00018 mg/L		0.000090	0.00018 mg/L	0.000090	50.29%
Co 228.616†	2.5	0.00007 mg/L		0.000147	0.00007 mg/L	0.000147	195.78%
Cr 267.716†	-1.7	-0.00025 mg/L		0.000127	-0.00025 mg/L	0.000127	51.02%
Cu 324.752†	64.3	0.00027 mg/L		0.000133	0.00027 mg/L	0.000133	48.37%
Fe 273.955†	3.4	0.00378 mg/L		0.001903	0.00378 mg/L	0.001903	50.36%
K 766.490†	16.0	0.00791 mg/L		0.009053	0.00791 mg/L	0.009053	114.47%
Mg 279.077†	-4.9	-0.00577 mg/L		0.000765	-0.00577 mg/L	0.000765	13.26%
Mn 257.610†	-0.8	-0.00002 mg/L		0.000140	-0.00002 mg/L	0.000140	634.66%
Mo 202.031†	9.2	0.00051 mg/L		0.000246	0.00051 mg/L	0.000246	47.98%
Na 589.592†	69.3	0.00559 mg/L		0.003390	0.00559 mg/L	0.003390	60.67%
Na 330.237†	15.7	0.6627 mg/L		0.22692	0.6627 mg/L	0.22692	34.24%
Ni 231.604†	0.3	0.00008 mg/L		0.000356	0.00008 mg/L	0.000356	421.81%
Pb 220.353†	7.0	0.00086 mg/L		0.000734	0.00086 mg/L	0.000734	85.51%
Sb 206.836†	11.3	0.00427 mg/L		0.003862	0.00427 mg/L	0.003862	90.55%
Se 196.026†	7.0	0.00439 mg/L		0.001724	0.00439 mg/L	0.001724	39.26%
Si 288.158†	1.7	0.00153 mg/L		0.003384	0.00153 mg/L	0.003384	221.71%
Sn 189.927†	5.1	0.00110 mg/L		0.000357	0.00110 mg/L	0.000357	32.32%
Sr 421.552†	36.7	0.00005 mg/L		0.000052	0.00005 mg/L	0.000052	111.49%
Ti 334.903†	9.0	0.00042 mg/L		0.001324	0.00042 mg/L	0.001324	315.88%
Tl 190.801†	0.4	0.00025 mg/L		0.003791	0.00025 mg/L	0.003791	>999.9%
V 292.402†	6.3	0.00004 mg/L		0.000063	0.00004 mg/L	0.000063	152.03%
Zn 206.200†	-1.1	-0.00029 mg/L		0.000412	-0.00029 mg/L	0.000412	143.61%

Sequence No.: 8
Sample ID: YC98 MB1 SWC
Analyst: ALA
Dilution: 2.000000X

DEL
RL

Autosampler Location: 304
Date Collected: 3/21/2014 9:28:06 AM
Data Type: Original

Nebulizer Parameters: YC98 MB1 SWC
Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

Mean Data: YC98 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2519903.3	103.4 %		0.44			0.42%
ScR 361.383	305120.4	103.9 %		0.61			0.58%
Ag 328.068†	-53.2	-0.00024 mg/L		0.000026	-0.00048 mg/L	0.000052	10.78%
Al 308.215†	12.8	0.01457 mg/L		0.002435	0.02914 mg/L	0.004870	16.71%
As 188.979†	-2.5	-0.00185 mg/L		0.001765	-0.00370 mg/L	0.003531	95.55%
B 249.677†	0.8	0.00016 mg/L		0.000612	0.00032 mg/L	0.001225	383.92%
Ba 233.527†	1.2	0.00021 mg/L		0.000483	0.00041 mg/L	0.000965	235.21%
Be 313.042†	4.6	0.00001 mg/L		0.000041	0.00002 mg/L	0.000082	470.91%
Ca 317.933†	169.5	0.01908 mg/L		0.001005	0.03817 mg/L	0.002010	5.27%
Cd 228.802†	1.9	0.00010 mg/L		0.000186	0.00021 mg/L	0.000372	179.97%
Co 228.616†	14.6	0.00044 mg/L		0.000062	0.00089 mg/L	0.000124	14.01%
Cr 267.716†	58.5	0.00875 mg/L		0.000842	0.01751 mg/L	0.001683	9.61%
Cu 324.752†	141.8	0.00061 mg/L		0.000166	0.00121 mg/L	0.000332	27.32%
Fe 273.955†	52.2	0.05805 mg/L		0.001257	0.1161 mg/L	0.00251	2.16%
K 766.490†	16.9	0.00834 mg/L		0.006837	0.01669 mg/L	0.013675	81.96%
Mg 279.077†	4.2	0.00486 mg/L		0.006748	0.00973 mg/L	0.013495	138.72%
Mn 257.610†	60.1	0.00177 mg/L		0.000035	0.00353 mg/L	0.000070	1.99%
Mo 202.031†	15.9	0.00089 mg/L		0.000171	0.00177 mg/L	0.000342	19.32%
Na 589.592†	106.9	0.00861 mg/L		0.000835	0.01723 mg/L	0.001670	9.69%
Na 330.237†	3.8	0.1612 mg/L		0.60484	0.3224 mg/L	1.20967	375.26%
Ni 231.604†	28.3	0.00874 mg/L		0.000353	0.01748 mg/L	0.000706	4.04%
Pb 220.353†	0.5	0.00009 mg/L		0.000140	0.00018 mg/L	0.000280	153.78%
Sb 206.836†	1.1	0.00032 mg/L		0.002325	0.00063 mg/L	0.004650	736.55%
Se 196.026†	6.7	0.00425 mg/L		0.000676	0.00850 mg/L	0.001352	15.91%
Si 288.158†	-2.3	-0.00209 mg/L		0.003768	-0.00418 mg/L	0.007535	180.17%
Sn 189.927†	3.4	0.00074 mg/L		0.000880	0.00147 mg/L	0.001760	119.70%
Sr 421.552†	30.1	0.00004 mg/L		0.000033	0.00008 mg/L	0.000066	86.07%
Ti 334.903†	19.3	0.00090 mg/L		0.000915	0.00179 mg/L	0.001830	102.03%
Tl 190.801†	0.4	0.00025 mg/L		0.003187	0.00051 mg/L	0.006373	>999.9%
V 292.402†	30.2	0.00024 mg/L		0.000172	0.00047 mg/L	0.000343	72.45%
Zn 206.200†	3.3	0.00086 mg/L		0.000782	0.00171 mg/L	0.001563	91.36%

Sequence No.: 9
 Sample ID: YC98 A-L SWC
 Analyst: ALA
 Dilution: 10.00000X

Autosampler Location: 305
 Date Collected: 3/21/2014 9:32:22 AM
 Data Type: Original

Nebulizer Parameters: YC98 A-L SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC98 A-L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2488296.8	102.1	%	0.08			0.08%
ScR 361.383	304321.9	103.6	%	0.47			0.45%
Ag 328.068†	-105.3	-0.00036	mg/L	0.000229	-0.00363	0.002290	63.09%
Al 308.215†	21361.2	24.25	mg/L	0.114	242.5	1.14	0.47%
As 188.979†	-74.1	0.01074	mg/L	0.002382	0.1074	0.02382	22.19%
B 249.677†	70.8	0.01341	mg/L	0.000615	0.1341	0.00615	4.58%
Ba 233.527†	392.9	0.06768	mg/L	0.001078	0.6768	0.01078	1.59%
Be 313.042†	233.3	0.00040	mg/L	0.000006	0.00403	0.000057	1.43%
Ca 317.933†	119397.3	13.45	mg/L	0.031	134.5	0.31	0.23%
Cd 228.802†	10.1	0.00078	mg/L	0.000038	0.00783	0.000379	4.85%
Co 228.616†	635.6	0.01608	mg/L	0.000177	0.1608	0.00177	1.10%
Cr 267.716†	308.6	0.04675	mg/L	0.000369	0.4675	0.00369	0.79%
Cu 324.752†	8843.8	0.03902	mg/L	0.000669	0.3902	0.00669	1.71%
Fe 273.955†	30953.9	34.43	mg/L	0.067	344.3	0.67	0.20%
K 766.490†	3107.5	1.532	mg/L	0.0064	15.32	0.064	0.42%
Mg 279.077†	8176.1	9.572	mg/L	0.0061	95.72	0.061	0.06%
Mn 257.610†	17908.8	0.5258	mg/L	0.00181	5.258	0.0181	0.34%
Mo 202.031†	35.1	0.00174	mg/L	0.000056	0.01744	0.000557	3.19%
Na 589.592†	92032.5	7.416	mg/L	0.0130	74.16	0.130	0.18%
Na 330.237†	183.5	8.218	mg/L	0.2000	82.18	2.000	2.43%
Ni 231.604†	146.2	0.04517	mg/L	0.001188	0.4517	0.01188	2.63%
Pb 220.353†	14.2	0.01152	mg/L	0.001164	0.1152	0.01164	10.10%
Sb 206.836†	2.4	0.00208	mg/L	0.002086	0.02075	0.020862	100.53%
Se 196.026†	20.7	0.01300	mg/L	0.002922	0.1300	0.02922	22.48%
Si 288.158†	488.4	0.4470	mg/L	0.00140	4.470	0.0140	0.31%
Sn 189.927†	-21.6	-0.00183	mg/L	0.000501	-0.01826	0.005010	27.44%
Sr 421.552†	47836.0	0.06137	mg/L	0.000234	0.6137	0.00234	0.38%
Ti 334.903†	40325.5	1.882	mg/L	0.0040	18.82	0.040	0.21%
Tl 190.801†	10.9	0.00940	mg/L	0.001219	0.09401	0.012190	12.97%
V 292.402†	13409.4	0.08771	mg/L	0.000842	0.8771	0.00842	0.96%
Zn 206.200†	275.1	0.07139	mg/L	0.000260	0.7139	0.00260	0.36%

Sequence No.: 10
 Sample ID: YC98 A SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 306
 Date Collected: 3/21/2014 9:36:22 AM
 Data Type: Original

Nebulizer Parameters: YC98 A SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC98 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2493697.2	102.3	%	0.29			0.28%
ScR 361.383	304992.1	103.9	%	0.15			0.14%
Ag 328.068†	-339.9	-0.00097	mg/L	0.000104	-0.00193	0.000209	10.80%
Al 308.215†	109550.1	124.4	mg/L	0.34	248.7	0.68	0.27%
As 188.979†	-393.8	0.04245	mg/L	0.002692	0.08489	0.005383	6.34%
B 249.677†	343.8	0.06515	mg/L	0.000734	0.1303	0.00147	1.13%
Ba 233.527†	1966.4	0.3386	mg/L	0.00185	0.6772	0.00371	0.55%
Be 313.042†	1078.9	0.00185	mg/L	0.000027	0.00369	0.000055	1.49%
Ca 317.933†	610036.3	68.71	mg/L	0.588	137.4	1.18	0.86%
Cd 228.802†	41.1	0.00356	mg/L	0.000225	0.00713	0.000450	6.32%
Co 228.616†	3056.7	0.07638	mg/L	0.000306	0.1528	0.00061	0.40%
Cr 267.716†	1574.4	0.2385	mg/L	0.00253	0.4770	0.00506	1.06%
Cu 324.752†	45694.7	0.2014	mg/L	0.00092	0.4029	0.00183	0.45%
Fe 273.955†	156169.6	173.7	mg/L	1.83	347.4	3.66	1.05%
K 766.490†	15878.5	7.827	mg/L	0.0599	15.65	0.120	0.77%
Mg 279.077†	41408.2	48.48	mg/L	0.295	96.96	0.590	0.61%
Mn 257.610†	90299.4	2.651	mg/L	0.0246	5.302	0.0492	0.93%
Mo 202.031†	127.1	0.00601	mg/L	0.000330	0.01202	0.000660	5.49%
Na 589.592†	467079.4	37.64	mg/L	0.126	75.28	0.253	0.34%
Na 330.237†	872.9	39.25	mg/L	0.167	78.49	0.335	0.43%
Ni 231.604†	730.1	0.2255	mg/L	0.00215	0.4511	0.00430	0.95%
Pb 220.353†	73.3	0.05895	mg/L	0.000459	0.1179	0.00092	0.78%
Sb 206.836†	-4.0	0.00447	mg/L	0.001358	0.00894	0.002717	30.37%
Se 196.026†	46.2	0.02877	mg/L	0.005315	0.05755	0.010630	18.47%
Si 288.158†	2564.4	2.347	mg/L	0.0209	4.694	0.0418	0.89%
Sn 189.927†	-83.3	-0.00344	mg/L	0.001423	-0.00689	0.002846	41.30%
Sr 421.552†	242200.1	0.3107	mg/L	0.00108	0.6214	0.00216	0.35%
Ti 334.903†	205366.7	9.583	mg/L	0.0318	19.17	0.064	0.33%
Tl 190.801†	17.5	0.02468	mg/L	0.001394	0.04935	0.002789	5.65%
V 292.402†	66098.4	0.4319	mg/L	0.00193	0.8639	0.00387	0.45%
Zn 206.200†	1391.2	0.3610	mg/L	0.00469	0.7219	0.00938	1.30%

Sequence No.: 11

Autosampler Location: 307

Sample ID: YC98 ADUP SWC

Date Collected: 3/21/2014 9:40:08 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YC98 ADUP SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YC98 ADUP SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2428071.4	99.64	%	0.574			0.58%
ScR 361.383	297977.9	101.5	%	0.42			0.42%
Ag 328.068†	-246.7	-0.00069	mg/L	0.000150	-0.00137	mg/L	0.000300 21.86%
Al 308.215†	99811.0	113.3	mg/L	0.23	226.6	mg/L	0.46 0.20%
As 188.979†	-338.7	0.04614	mg/L	0.004519	0.09229	mg/L	0.009037 9.79%
B 249.677†	282.3	0.05349	mg/L	0.000233	0.1070	mg/L	0.00047 0.44%
Ba 233.527†	1893.5	0.3258	mg/L	0.00221	0.6516	mg/L	0.00442 0.68%
Be 313.042†	1061.3	0.00183	mg/L	0.000022	0.00367	mg/L	0.000043 1.18%
Ca 317.933†	431359.3	48.58	mg/L	0.294	97.16	mg/L	0.588 0.60%
Cd 228.802†	43.4	0.00344	mg/L	0.000151	0.00687	mg/L	0.000301 4.38%
Co 228.616†	2640.8	0.06565	mg/L	0.000486	0.1313	mg/L	0.00097 0.74%
Cr 267.716†	1297.7	0.1972	mg/L	0.00113	0.3943	mg/L	0.00227 0.58%
Cu 324.752†	48758.8	0.2146	mg/L	0.00035	0.4291	mg/L	0.00070 0.16%
Fe 273.955†	152228.2	169.3	mg/L	0.44	338.7	mg/L	0.87 0.26%
K 766.490†	16703.4	8.234	mg/L	0.0657	16.47	mg/L	0.131 0.80%
Mg 279.077†	41246.4	48.29	mg/L	0.199	96.59	mg/L	0.399 0.41%
Mn 257.610†	91501.9	2.687	mg/L	0.0070	5.373	mg/L	0.0139 0.26%
Mo 202.031†	116.3	0.00572	mg/L	0.000328	0.01144	mg/L	0.000656 5.73%
Na 589.592†	542752.0	43.74	mg/L	0.142	87.47	mg/L	0.284 0.32%
Na 330.237†	1040.9	46.04	mg/L	0.221	92.07	mg/L	0.442 0.48%
Ni 231.604†	631.9	0.1952	mg/L	0.00262	0.3904	mg/L	0.00525 1.34%
Pb 220.353†	141.4	0.06342	mg/L	0.000182	0.1268	mg/L	0.00036 0.29%
Sb 206.836†	-11.5	0.00122	mg/L	0.000847	0.00243	mg/L	0.001694 69.68%
Se 196.026†	36.6	0.02279	mg/L	0.005728	0.04558	mg/L	0.011455 25.13%
Si 288.158†	2914.4	2.667	mg/L	0.0120	5.335	mg/L	0.0240 0.45%
Sn 189.927†	-69.5	-0.00441	mg/L	0.000755	-0.00882	mg/L	0.001510 17.13%
Sr 421.552†	247974.3	0.3181	mg/L	0.00074	0.6362	mg/L	0.00149 0.23%
Ti 334.903†	181461.7	8.469	mg/L	0.0244	16.94	mg/L	0.049 0.29%
Tl 190.801†	10.2	0.02155	mg/L	0.004115	0.04310	mg/L	0.008230 19.10%
V 292.402†	60753.8	0.3965	mg/L	0.00310	0.7930	mg/L	0.00620 0.78%
Zn 206.200†	1390.6	0.3611	mg/L	0.00123	0.7222	mg/L	0.00245 0.34%

Sequence No.: 12

Autosampler Location: 308

Sample ID: YC98 ASPK SWC

Date Collected: 3/21/2014 9:43:54 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YC98 ASPK SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YC98 ASPK SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2447788.0	100.4 %	0.48				0.47%
ScR 361.383	299177.7	101.9 %	0.29				0.29%
Ag 328.068†	111950.4	0.5057 mg/L	0.00345	1.011 mg/L	0.0069		0.68%
Al 308.215†	115499.8	131.1 mg/L	0.51	262.2 mg/L	1.01		0.39%
As 188.979†	2295.3	2.032 mg/L	0.0096	4.065 mg/L	0.0193		0.47%
B 249.677†	303.7	0.05651 mg/L	0.001185	0.1130 mg/L	0.00237		2.10%
Ba 233.527†	13192.4	2.389 mg/L	0.0119	4.778 mg/L	0.0238		0.50%
Be 313.042†	245985.1	0.4695 mg/L	0.00244	0.9391 mg/L	0.00487		0.52%
Ca 317.933†	654264.6	73.69 mg/L	0.094	147.4 mg/L	0.19		0.13%
Cd 228.802†	11534.4	0.5220 mg/L	0.00090	1.044 mg/L	0.0018		0.17%
Co 228.616†	18807.9	0.5576 mg/L	0.00159	1.115 mg/L	0.0032		0.29%
Cr 267.716†	4816.6	0.7223 mg/L	0.00271	1.445 mg/L	0.0054		0.38%
Cu 324.752†	161172.9	0.6943 mg/L	0.00120	1.389 mg/L	0.0024		0.17%
Fe 273.955†	163058.6	181.4 mg/L	0.95	362.7 mg/L	1.91		0.53%
K 766.490†	37703.5	18.59 mg/L	0.030	37.17 mg/L	0.059		0.16%
Mg 279.077†	53247.9	62.38 mg/L	0.244	124.8 mg/L	0.49		0.39%
Mn 257.610†	112542.2	3.305 mg/L	0.0135	6.609 mg/L	0.0271		0.41%
Mo 202.031†	134.0	0.00632 mg/L	0.000060	0.01263 mg/L	0.000119		0.95%
Na 589.592†	610815.0	49.22 mg/L	0.172	98.44 mg/L	0.344		0.35%
Na 330.237†	1148.3	50.83 mg/L	0.424	101.7 mg/L	0.85		0.83%
Ni 231.604†	2249.2	0.6939 mg/L	0.00204	1.388 mg/L	0.0041		0.29%
Pb 220.353†	15850.6	1.996 mg/L	0.0049	3.992 mg/L	0.0097		0.24%
Sb 206.836†	-2.8	0.00068 mg/L	0.001443	0.00135 mg/L	0.002885		213.64%
Se 196.026†	3181.7	2.004 mg/L	0.0028	4.008 mg/L	0.0056		0.14%
Si 288.158†	2509.4	2.299 mg/L	0.0021	4.598 mg/L	0.0042		0.09%
Sn 189.927†	-92.7	-0.00442 mg/L	0.001377	-0.00883 mg/L	0.002754		31.18%
Sr 421.552†	626656.7	0.8039 mg/L	0.00314	1.608 mg/L	0.0063		0.39%
Ti 334.903†	214183.7	9.994 mg/L	0.0356	19.99 mg/L	0.071		0.36%
Tl 190.801†	3200.2	1.944 mg/L	0.0056	3.888 mg/L	0.0113		0.29%
V 292.402†	137475.8	0.9169 mg/L	0.00513	1.834 mg/L	0.0103		0.56%
Zn 206.200†	3226.4	0.8378 mg/L	0.00248	1.676 mg/L	0.0050		0.30%

Sequence No.: 13
 Sample ID: YC98 B SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 309
 Date Collected: 3/21/2014 9:47:43 AM
 Data Type: Original

 Nebulizer Parameters: YC98 B SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YC98 B SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2427944.4	99.64	%	0.167				0.17%
ScR 361.383	299502.8	102.0	%	0.19				0.18%
Ag 328.068†	-131.7	-0.00029	mg/L	0.000073	-0.00057	mg/L	0.000145	25.23%
Al 308.215†	97122.7	110.3	mg/L	0.33	220.5	mg/L	0.67	0.30%
As 188.979†	-155.1	0.07136	mg/L	0.005811	0.1427	mg/L	0.01162	8.14%
B 249.677†	498.0	0.09452	mg/L	0.002384	0.1890	mg/L	0.00477	2.52%
Ba 233.527†	2106.9	0.3660	mg/L	0.000072	0.7319	mg/L	0.00144	0.20%
Be 313.042†	1034.3	0.00184	mg/L	0.000023	0.00367	mg/L	0.000047	1.28%
Ca 317.933†	301091.8	33.91	mg/L	0.071	67.82	mg/L	0.143	0.21%
Cd 228.802†	68.8	0.00384	mg/L	0.000070	0.00769	mg/L	0.000140	1.82%
Co 228.616†	1906.8	0.04879	mg/L	0.000178	0.09757	mg/L	0.000356	0.36%
Cr 267.716†	1013.7	0.1553	mg/L	0.00113	0.3106	mg/L	0.00227	0.73%
Cu 324.752†	76636.1	0.3337	mg/L	0.00049	0.6675	mg/L	0.00098	0.15%
Fe 273.955†	143554.8	159.7	mg/L	0.27	319.4	mg/L	0.53	0.17%
K 766.490†	23102.4	11.39	mg/L	0.027	22.78	mg/L	0.055	0.24%
Mg 279.077†	31278.6	36.59	mg/L	0.046	73.18	mg/L	0.093	0.13%
Mn 257.610†	67493.3	1.982	mg/L	0.0052	3.963	mg/L	0.0104	0.26%
Mo 202.031†	134.4	0.00695	mg/L	0.000293	0.01390	mg/L	0.000586	4.22%
Na 589.592†	487416.8	39.28	mg/L	0.119	78.55	mg/L	0.238	0.30%
Na 330.237†	947.0	41.16	mg/L	0.479	82.32	mg/L	0.959	1.16%
Ni 231.604†	391.8	0.1210	mg/L	0.00027	0.2421	mg/L	0.00054	0.22%
Pb 220.353†	987.7	0.1654	mg/L	0.00071	0.3307	mg/L	0.00142	0.43%
Sb 206.836†	-7.3	0.00066	mg/L	0.001604	0.00132	mg/L	0.003208	242.28%
Se 196.026†	30.4	0.01890	mg/L	0.004926	0.03779	mg/L	0.009853	26.07%
Si 288.158†	3741.5	3.424	mg/L	0.0085	6.849	mg/L	0.0169	0.25%
Sn 189.927†	4.6	0.00829	mg/L	0.001801	0.01658	mg/L	0.003602	21.73%
Sr 421.552†	347840.9	0.4462	mg/L	0.00094	0.8925	mg/L	0.00188	0.21%
Ti 334.903†	114335.7	5.336	mg/L	0.0081	10.67	mg/L	0.016	0.15%
Tl 190.801†	1.2	0.01652	mg/L	0.000773	0.03305	mg/L	0.001545	4.68%
V 292.402†	48037.2	0.3125	mg/L	0.00078	0.6251	mg/L	0.00156	0.25%
Zn 206.200†	2569.0	0.6675	mg/L	0.00142	1.335	mg/L	0.0028	0.21%

Sequence No.: 14
 Sample ID: YC98 C SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 310
 Date Collected: 3/21/2014 9:51:29 AM
 Data Type: Original

Nebulizer Parameters: YC98 C SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC98 C SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2494945.9	102.4	%	0.10			0.10%
ScR 361.383	304951.8	103.8	%	0.48			0.46%
Ag 328.068†	-229.0	-0.00074	mg/L	0.000153	-0.00148	mg/L	0.000305 20.58%
Al 308.215†	78755.3	89.42	mg/L	0.315	178.8	mg/L	0.63 0.35%
As 188.979†	-181.6	0.05559	mg/L	0.004292	0.1112	mg/L	0.00858 7.72%
B 249.677†	186.6	0.03537	mg/L	0.000350	0.07074	mg/L	0.000701 0.99%
Ba 233.527†	1262.7	0.2154	mg/L	0.00175	0.4309	mg/L	0.00350 0.81%
Be 313.042†	718.1	0.00123	mg/L	0.000010	0.00246	mg/L	0.000019 0.77%
Ca 317.933†	278749.5	31.39	mg/L	0.114	62.79	mg/L	0.227 0.36%
Cd 228.802†	38.6	0.00253	mg/L	0.000119	0.00506	mg/L	0.000238 4.71%
Co 228.616†	1651.8	0.04083	mg/L	0.000113	0.08167	mg/L	0.000226 0.28%
Cr 267.716†	844.8	0.1294	mg/L	0.00051	0.2588	mg/L	0.00101 0.39%
Cu 324.752†	36167.0	0.1595	mg/L	0.00150	0.3191	mg/L	0.00300 0.94%
Fe 273.955†	115264.2	128.2	mg/L	0.69	256.4	mg/L	1.39 0.54%
K 766.490†	17192.2	8.475	mg/L	0.0110	16.95	mg/L	0.022 0.13%
Mg 279.077†	23290.1	27.24	mg/L	0.115	54.47	mg/L	0.230 0.42%
Mn 257.610†	42690.4	1.253	mg/L	0.0038	2.507	mg/L	0.0076 0.30%
Mo 202.031†	155.3	0.00815	mg/L	0.000081	0.01631	mg/L	0.000162 0.99%
Na 589.592†	201957.1	16.27	mg/L	0.044	32.55	mg/L	0.089 0.27%
Na 330.237†	373.7	17.09	mg/L	0.078	34.18	mg/L	0.157 0.46%
Ni 231.604†	307.1	0.09487	mg/L	0.001267	0.1897	mg/L	0.00253 1.34%
Pb 220.353†	659.7	0.1169	mg/L	0.00081	0.2338	mg/L	0.00161 0.69%
Sb 206.836†	-9.6	0.00019	mg/L	0.000852	0.00038	mg/L	0.001704 443.92%
Se 196.026†	27.5	0.01712	mg/L	0.000901	0.03423	mg/L	0.001801 5.26%
Si 288.158†	2185.0	2.000	mg/L	0.0135	4.000	mg/L	0.0270 0.68%
Sn 189.927†	-9.9	0.00471	mg/L	0.000547	0.00943	mg/L	0.001094 11.60%
Sr 421.552†	314782.4	0.4038	mg/L	0.00102	0.8076	mg/L	0.00204 0.25%
Ti 334.903†	116292.6	5.427	mg/L	0.0136	10.85	mg/L	0.027 0.25%
Tl 190.801†	0.2	0.01221	mg/L	0.000906	0.02442	mg/L	0.001812 7.42%
V 292.402†	48092.1	0.3148	mg/L	0.00133	0.6295	mg/L	0.00266 0.42%
Zn 206.200†	1438.8	0.3737	mg/L	0.00388	0.7474	mg/L	0.00775 1.04%

Sequence No.: 15
 Sample ID: YC98 D SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 311
 Date Collected: 3/21/2014 9:55:29 AM
 Data Type: Original

Nebulizer Parameters: YC98 D SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YC98 D SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2462840.3	101.1 %	0.55			0.55%	
ScR 361.383	301393.4	102.6 %	0.92			0.89%	
Ag 328.068†	-312.9	-0.00113 mg/L	0.000318	-0.00225 mg/L	0.000636	28.20%	
Al 308.215†	73437.9	83.38 mg/L	0.419	166.8 mg/L	0.84	0.50%	
As 188.979†	-151.0	0.07589 mg/L	0.004910	0.1518 mg/L	0.00982	6.47%	
B 249.677†	249.3	0.04729 mg/L	0.001052	0.09458 mg/L	0.002104	2.22%	
Ba 233.527†	1095.7	0.1798 mg/L	0.00150	0.3596 mg/L	0.00301	0.84%	
Be 313.042†	705.6	0.00121 mg/L	0.000028	0.00241 mg/L	0.000055	2.28%	
Ca 317.933†	267984.8	30.18 mg/L	0.166	60.36 mg/L	0.333	0.55%	
Cd 228.802†	41.5	0.00254 mg/L	0.000253	0.00508 mg/L	0.000505	9.94%	
Co 228.616†	1654.5	0.04104 mg/L	0.000431	0.08207 mg/L	0.000862	1.05%	
Cr 267.716†	850.5	0.1322 mg/L	0.00071	0.2643 mg/L	0.00142	0.54%	
Cu 324.752†	31695.3	0.1427 mg/L	0.00010	0.2854 mg/L	0.00020	0.07%	
Fe 273.955†	154183.2	171.5 mg/L	1.19	343.0 mg/L	2.38	0.69%	
K 766.490†	17043.0	8.401 mg/L	0.0559	16.80 mg/L	0.112	0.67%	
Mg 279.077†	22661.8	26.46 mg/L	0.164	52.91 mg/L	0.328	0.62%	
Mn 257.610†	61142.1	1.796 mg/L	0.0144	3.591 mg/L	0.0288	0.80%	
Mo 202.031†	316.8	0.01716 mg/L	0.000090	0.03431 mg/L	0.000180	0.52%	
Na 589.592†	310781.0	25.04 mg/L	0.147	50.09 mg/L	0.294	0.59%	
Na 330.237†	592.4	26.31 mg/L	0.543	52.61 mg/L	1.085	2.06%	
Ni 231.604†	282.0	0.08711 mg/L	0.001382	0.1742 mg/L	0.00276	1.59%	
Pb 220.353†	722.1	0.1251 mg/L	0.00073	0.2502 mg/L	0.00146	0.58%	
Sb 206.836†	-0.8	0.00346 mg/L	0.001360	0.00692 mg/L	0.002720	39.31%	
Se 196.026†	27.1	0.01682 mg/L	0.003629	0.03364 mg/L	0.007259	21.58%	
Si 288.158†	1832.5	1.677 mg/L	0.0111	3.354 mg/L	0.0222	0.66%	
Sn 189.927†	-8.1	0.00487 mg/L	0.000687	0.00974 mg/L	0.001374	14.11%	
Sr 421.552†	301770.8	0.3871 mg/L	0.00203	0.7743 mg/L	0.00406	0.52%	
Ti 334.903†	114913.6	5.363 mg/L	0.0306	10.73 mg/L	0.061	0.57%	
Tl 190.801†	-4.2	0.01509 mg/L	0.001384	0.03017 mg/L	0.002767	9.17%	
V 292.402†	48884.3	0.3173 mg/L	0.00071	0.6347 mg/L	0.00142	0.22%	
Zn 206.200†	1327.2	0.3447 mg/L	0.00241	0.6894 mg/L	0.00482	0.70%	

Sequence No.: 16
 Sample ID: YC98 E SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 312
 Date Collected: 3/21/2014 9:59:15 AM
 Data Type: Original

Nebulizer Parameters: YC98 E SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YC98 E SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2486511.1	102.0	%	0.93				0.91%
ScR 361.383	303223.9	103.3	%	1.08				1.04%
Ag 328.068†	-237.6	-0.00078	mg/L	0.000253	-0.00156	mg/L	0.000506	32.42%
Al 308.215†	94132.7	106.9	mg/L	1.17	213.8	mg/L	2.34	1.09%
As 188.979†	-151.9	0.07299	mg/L	0.001643	0.1460	mg/L	0.00329	2.25%
B 249.677†	441.7	0.08383	mg/L	0.001438	0.1677	mg/L	0.00288	1.72%
Ba 233.527†	2119.6	0.3692	mg/L	0.00309	0.7384	mg/L	0.00617	0.84%
Be 313.042†	1032.7	0.00184	mg/L	0.000038	0.00367	mg/L	0.000076	2.07%
Ca 317.933†	283069.8	31.88	mg/L	0.054	63.76	mg/L	0.109	0.17%
Cd 228.802†	56.7	0.00328	mg/L	0.000224	0.00655	mg/L	0.000448	6.84%
Co 228.616†	1974.6	0.05091	mg/L	0.000631	0.1018	mg/L	0.00126	1.24%
Cr 267.716†	1019.9	0.1558	mg/L	0.00158	0.3116	mg/L	0.00317	1.02%
Cu 324.752†	45437.7	0.2003	mg/L	0.00040	0.4005	mg/L	0.00079	0.20%
Fe 273.955†	136749.4	152.1	mg/L	2.87	304.2	mg/L	5.75	1.89%
K 766.490†	24578.4	12.12	mg/L	0.197	24.23	mg/L	0.394	1.63%
Mg 279.077†	32905.6	38.51	mg/L	0.464	77.02	mg/L	0.928	1.20%
Mn 257.610†	65120.8	1.912	mg/L	0.0321	3.824	mg/L	0.0642	1.68%
Mo 202.031†	120.7	0.00622	mg/L	0.000193	0.01245	mg/L	0.000386	3.10%
Na 589.592†	714557.2	57.58	mg/L	0.171	115.2	mg/L	0.34	0.30%
Na 330.237†	1415.9	60.98	mg/L	0.677	122.0	mg/L	1.35	1.11%
Ni 231.604†	395.9	0.1223	mg/L	0.00167	0.2446	mg/L	0.00334	1.36%
Pb 220.353†	387.2	0.09043	mg/L	0.001974	0.1809	mg/L	0.00395	2.18%
Sb 206.836†	-12.3	-0.00135	mg/L	0.002101	-0.00270	mg/L	0.004202	155.53%
Se 196.026†	29.0	0.01807	mg/L	0.002883	0.03614	mg/L	0.005766	15.96%
Si 288.158†	2543.4	2.328	mg/L	0.0311	4.656	mg/L	0.0622	1.34%
Sn 189.927†	-40.9	-0.00193	mg/L	0.001124	-0.00385	mg/L	0.002248	58.35%
Sr 421.552†	340897.5	0.4373	mg/L	0.00192	0.8747	mg/L	0.00383	0.44%
Ti 334.903†	113722.6	5.307	mg/L	0.0609	10.61	mg/L	0.122	1.15%
Tl 190.801†	-2.8	0.01334	mg/L	0.004060	0.02667	mg/L	0.008119	30.44%
V 292.402†	46841.4	0.3050	mg/L	0.00157	0.6099	mg/L	0.00315	0.52%
Zn 206.200†	1749.4	0.4545	mg/L	0.00448	0.9089	mg/L	0.00895	0.99%

Sequence No.: 17

Autosampler Location: 313

Sample ID: YC98 MB1SPK SWC

Date Collected: 3/21/2014 10:03:16 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YC98 MB1SPK SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YC98 MB1SPK SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2450876.1	100.6	%	0.40			0.40%
ScR 361.383	296393.2	100.9	%	0.60			0.60%
Ag 328.068†	117646.2	0.5308	mg/L	0.00363	1.062	mg/L	0.0073
Al 308.215†	1873.8	2.121	mg/L	0.0124	4.241	mg/L	0.0247
As 188.979†	2824.8	2.074	mg/L	0.0155	4.149	mg/L	0.0311
B 249.677†	7.6	0.00039	mg/L	0.002083	0.00077	mg/L	0.004166
Ba 233.527†	11431.9	2.089	mg/L	0.0108	4.177	mg/L	0.0216
Be 313.042†	247093.1	0.4719	mg/L	0.00390	0.9438	mg/L	0.00781
Ca 317.933†	88803.8	10.00	mg/L	0.088	20.00	mg/L	0.176
Cd 228.802†	11407.3	0.5141	mg/L	0.00362	1.028	mg/L	0.0072
Co 228.616†	16294.0	0.4986	mg/L	0.00358	0.9971	mg/L	0.00717
Cr 267.716†	3508.1	0.5236	mg/L	0.00364	1.047	mg/L	0.0073
Cu 324.752†	115656.4	0.4935	mg/L	0.00287	0.9869	mg/L	0.00574
Fe 273.955†	1906.8	2.118	mg/L	0.0182	4.235	mg/L	0.0364
K 766.490†	20556.0	10.13	mg/L	0.085	20.27	mg/L	0.170
Mg 279.077†	9126.2	10.72	mg/L	0.087	21.44	mg/L	0.174
Mn 257.610†	16564.1	0.4867	mg/L	0.00503	0.9735	mg/L	0.01005
Mo 202.031†	24.9	0.00123	mg/L	0.000325	0.00246	mg/L	0.000650
Na 589.592†	123790.8	9.975	mg/L	0.0485	19.95	mg/L	0.097
Na 330.237†	261.8	10.90	mg/L	0.085	21.80	mg/L	0.170
Ni 231.604†	1653.4	0.5099	mg/L	0.00560	1.020	mg/L	0.0112
Pb 220.353†	16228.9	1.991	mg/L	0.0111	3.981	mg/L	0.0223
Sb 206.836†	15.3	0.00068	mg/L	0.002449	0.00137	mg/L	0.004898
Se 196.026†	3250.8	2.048	mg/L	0.0063	4.096	mg/L	0.0125
Si 288.158†	0.3	0.00262	mg/L	0.001353	0.00523	mg/L	0.002707
Sn 189.927†	-19.9	-0.00237	mg/L	0.001133	-0.00473	mg/L	0.002266
Sr 421.552†	379768.4	0.4872	mg/L	0.00284	0.9744	mg/L	0.00567
Ti 334.903†	147.5	0.00578	mg/L	0.000453	0.01156	mg/L	0.000907
Tl 190.801†	3378.1	2.036	mg/L	0.0092	4.072	mg/L	0.0185
V 292.402†	73465.8	0.4998	mg/L	0.00342	0.9997	mg/L	0.00684
Zn 206.200†	1910.3	0.4963	mg/L	0.00429	0.9927	mg/L	0.00859

Sequence No.: 18
 Sample ID: CV 2
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/21/2014 10:07:16 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2417861.4	99.22	%	0.969			0.98%
ScR 361.383	296672.6	101.0	%	1.90			1.88%
Ag 328.068†	235530.1	1.063	mg/L	0.0167	1.063	mg/L	0.0167 1.57%
Al 308.215†	1873.8	2.095	mg/L	0.0380	2.095	mg/L	0.0380 1.81%
As 188.979†	2807.0	2.094	mg/L	0.0171	2.094	mg/L	0.0171 0.82%
B 249.677†	5289.3	1.004	mg/L	0.0191	1.004	mg/L	0.0191 1.90%
Ba 233.527†	5709.0	1.043	mg/L	0.0209	1.043	mg/L	0.0209 2.00%
Be 313.042†	506906.2	0.9680	mg/L	0.02289	0.9680	mg/L	0.02289 2.36%
Ca 317.933†	18749.7	2.112	mg/L	0.0397	2.112	mg/L	0.0397 1.88%
Cd 228.802†	23296.0	1.061	mg/L	0.0079	1.061	mg/L	0.0079 0.75%
Co 228.616†	33923.2	1.037	mg/L	0.0084	1.037	mg/L	0.0084 0.81%
Cr 267.716†	7035.7	1.052	mg/L	0.0209	1.052	mg/L	0.0209 1.98%
Cu 324.752†	245932.0	1.049	mg/L	0.0182	1.049	mg/L	0.0182 1.73%
Fe 273.955†	1873.7	2.077	mg/L	0.0378	2.077	mg/L	0.0378 1.82%
K 766.490†	41038.4	20.23	mg/L	0.473	20.23	mg/L	0.473 2.34%
Mg 279.077†	1748.8	2.061	mg/L	0.0493	2.061	mg/L	0.0493 2.39%
Mn 257.610†	33216.1	0.9759	mg/L	0.02162	0.9759	mg/L	0.02162 2.22%
Mo 202.031†	18140.1	1.009	mg/L	0.0082	1.009	mg/L	0.0082 0.82%
Na 589.592†	620939.1	50.04	mg/L	1.013	50.04	mg/L	1.013 2.02%
Na 330.237†	1256.3	52.95	mg/L	0.966	52.95	mg/L	0.966 1.82%
Ni 231.604†	3329.6	1.029	mg/L	0.0229	1.029	mg/L	0.0229 2.22%
Pb 220.353†	16652.5	2.043	mg/L	0.0175	2.043	mg/L	0.0175 0.86%
Sb 206.836†	5659.6	2.122	mg/L	0.0207	2.122	mg/L	0.0207 0.97%
Se 196.026†	3259.2	2.053	mg/L	0.0158	2.053	mg/L	0.0158 0.77%
Si 288.158†	2222.8	2.039	mg/L	0.0438	2.039	mg/L	0.0438 2.15%
Sn 189.927†	4670.9	1.012	mg/L	0.0091	1.012	mg/L	0.0091 0.90%
Sr 421.552†	770511.4	0.9885	mg/L	0.02181	0.9885	mg/L	0.02181 2.21%
Ti 334.903†	21445.2	1.000	mg/L	0.0227	1.000	mg/L	0.0227 2.27%
Tl 190.801†	3514.7	2.116	mg/L	0.0206	2.116	mg/L	0.0206 0.97%
V 292.402†	149582.3	1.018	mg/L	0.0162	1.018	mg/L	0.0162 1.59%
Zn 206.200†	3871.8	1.006	mg/L	0.0206	1.006	mg/L	0.0206 2.04%

Sequence No.: 19
 Sample ID: CB 2
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 10:11:20 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2459106.1	100.9	%	0.48			0.47%
ScR 361.383	296540.7	101.0	%	0.31			0.31%
Ag 328.068†	10.7	0.00005	mg/L	0.000101	0.00005	mg/L	0.000101 208.98%
Al 308.215†	6.8	0.00771	mg/L	0.001790	0.00771	mg/L	0.001790 23.21%
As 188.979†	0.8	0.00064	mg/L	0.002642	0.00064	mg/L	0.002642 411.81%
B 249.677†	8.0	0.00152	mg/L	0.000437	0.00152	mg/L	0.000437 28.82%
Ba 233.527†	1.1	0.00021	mg/L	0.000451	0.00021	mg/L	0.000451 215.62%
Be 313.042†	60.2	0.00011	mg/L	0.000033	0.00011	mg/L	0.000033 28.48%
Ca 317.933†	28.3	0.00318	mg/L	0.000381	0.00318	mg/L	0.000381 11.98%
Cd 228.802†	4.5	0.00021	mg/L	0.000135	0.00021	mg/L	0.000135 65.80%
Co 228.616†	3.7	0.00011	mg/L	0.000139	0.00011	mg/L	0.000139 123.65%
Cr 267.716†	-3.5	-0.00052	mg/L	0.001047	-0.00052	mg/L	0.001047 202.07%
Cu 324.752†	66.8	0.00028	mg/L	0.000151	0.00028	mg/L	0.000151 53.01%
Fe 273.955†	7.7	0.00861	mg/L	0.002247	0.00861	mg/L	0.002247 26.09%
K 766.490†	19.7	0.00969	mg/L	0.007280	0.00969	mg/L	0.007280 75.13%
Mg 279.077†	-2.3	-0.00266	mg/L	0.008203	-0.00266	mg/L	0.008203 308.79%
Mn 257.610†	4.9	0.00014	mg/L	0.000146	0.00014	mg/L	0.000146 101.11%
Mo 202.031†	11.1	0.00062	mg/L	0.000216	0.00062	mg/L	0.000216 35.10%
Na 589.592†	12.7	0.00103	mg/L	0.002052	0.00103	mg/L	0.002052 200.14%
Na 330.237†	8.7	0.3677	mg/L	0.16461	0.3677	mg/L	0.16461 44.77%
Ni 231.604†	-1.4	-0.00044	mg/L	0.001117	-0.00044	mg/L	0.001117 256.34%
Pb 220.353†	1.7	0.00022	mg/L	0.000624	0.00022	mg/L	0.000624 289.38%
Sb 206.836†	13.8	0.00518	mg/L	0.001629	0.00518	mg/L	0.001629 31.42%
Se 196.026†	4.9	0.00308	mg/L	0.000635	0.00308	mg/L	0.000635 20.63%
Si 288.158†	-1.2	-0.00105	mg/L	0.002009	-0.00105	mg/L	0.002009 190.69%
Sn 189.927†	4.8	0.00104	mg/L	0.000544	0.00104	mg/L	0.000544 52.37%
Sr 421.552†	37.0	0.00005	mg/L	0.000032	0.00005	mg/L	0.000032 67.50%
Ti 334.903†	23.5	0.00110	mg/L	0.000654	0.00110	mg/L	0.000654 59.54%
Tl 190.801†	-2.2	-0.00135	mg/L	0.001643	-0.00135	mg/L	0.001643 121.46%
V 292.402†	8.9	0.00006	mg/L	0.000127	0.00006	mg/L	0.000127 220.16%
Zn 206.200†	-1.1	-0.00028	mg/L	0.000244	-0.00028	mg/L	0.000244 87.18%

Sequence No.: 20
 Sample ID: YC98 MB1 SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 314
 Date Collected: 3/21/2014 10:15:35 AM
 Data Type: Original

Nebulizer Parameters: YC98 MB1 SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC98 MB1 SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2462386.4	101.0	%	0.70			0.69%
ScR 361.383	300714.3	102.4	%	0.37			0.36%
Ag 328.068†	19.3	0.00009	mg/L	0.000129	0.00017	mg/L	0.000258 147.92%
Al 308.215†	6.1	0.00693	mg/L	0.003677	0.01386	mg/L	0.007355 53.07%
As 188.979†	0.7	0.00053	mg/L	0.001303	0.00106	mg/L	0.002607 246.15%
B 249.677†	0.4	0.00007	mg/L	0.000511	0.00013	mg/L	0.001022 762.50%
Ba 233.527†	-0.8	-0.00015	mg/L	0.000402	-0.00030	mg/L	0.000804 266.08%
Be 313.042†	22.7	0.00004	mg/L	0.000052	0.00009	mg/L	0.000104 120.40%
Ca 317.933†	71.4	0.00804	mg/L	0.000887	0.01608	mg/L	0.001773 11.03%
Cd 228.802†	2.4	0.00011	mg/L	0.000119	0.00022	mg/L	0.000239 109.14%
Co 228.616†	-1.4	-0.00004	mg/L	0.000080	-0.00009	mg/L	0.000160 182.48%
Cr 267.716†	5.9	0.00089	mg/L	0.000357	0.00178	mg/L	0.000715 40.24%
Cu 324.752†	92.0	0.00039	mg/L	0.000111	0.00079	mg/L	0.000221 28.17%
Fe 273.955†	12.3	0.01372	mg/L	0.002661	0.02745	mg/L	0.005321 19.39%
K 766.490†	18.0	0.00886	mg/L	0.003211	0.01771	mg/L	0.006422 36.26%
Mg 279.077†	-0.4	-0.00051	mg/L	0.002127	-0.00101	mg/L	0.004254 419.47%
Mn 257.610†	11.7	0.00034	mg/L	0.000104	0.00069	mg/L	0.000209 30.33%
Mo 202.031†	5.6	0.00031	mg/L	0.000027	0.00062	mg/L	0.000054 8.62%
Na 589.592†	10.2	0.00082	mg/L	0.002580	0.00164	mg/L	0.005161 314.17%
Na 330.237†	12.6	0.5301	mg/L	0.75063	1.060	mg/L	1.5013 141.60%
Ni 231.604†	4.4	0.00137	mg/L	0.000094	0.00274	mg/L	0.000188 6.86%
Pb 220.353†	-2.3	-0.00028	mg/L	0.001365	-0.00057	mg/L	0.002729 481.82%
Sb 206.836†	2.2	0.00083	mg/L	0.001382	0.00165	mg/L	0.002764 167.06%
Se 196.026†	6.6	0.00419	mg/L	0.002351	0.00837	mg/L	0.004703 56.18%
Si 288.158†	0.9	0.00086	mg/L	0.003691	0.00173	mg/L	0.007381 427.50%
Sn 189.927†	1.5	0.00032	mg/L	0.000219	0.00065	mg/L	0.000438 67.70%
Sr 421.552†	3.6	0.00000	mg/L	0.000026	0.00001	mg/L	0.000052 560.51%
Ti 334.903†	13.0	0.00061	mg/L	0.000542	0.00121	mg/L	0.001084 89.52%
Tl 190.801†	-0.7	-0.00045	mg/L	0.000721	-0.00090	mg/L	0.001442 160.04%
V 292.402†	18.1	0.00013	mg/L	0.000245	0.00025	mg/L	0.000489 195.36%
Zn 206.200†	0.2	0.00006	mg/L	0.000506	0.00012	mg/L	0.001012 812.81%

Sequence No.: 21

Autosampler Location: 315

Sample ID: YC98 F SWC

Date Collected: 3/21/2014 10:19:51 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YC98 F SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YC98 F SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD	
	Intensity				Conc. Units	Std.Dev.		
ScA 357.253	2468646.4		101.3 %	0.29			0.28%	
ScR 361.383	294960.7		100.4 %	0.62			0.61%	
Ag 328.068†	-236.6	-0.00073	mg/L	0.000038	-0.00147	mg/L	0.000076	5.20%
Al 308.215†	113368.7		128.7 mg/L	0.68	257.4	mg/L	1.36	0.53%
As 188.979†	-194.1	0.07733	mg/L	0.001957	0.1547	mg/L	0.00391	2.53%
B 249.677†	575.2	0.1092	mg/L	0.00046	0.2184	mg/L	0.00092	0.42%
Ba 233.527†	2302.8	0.4003	mg/L	0.00018	0.8006	mg/L	0.00037	0.05%
Be 313.042†	1131.1	0.00200	mg/L	0.000031	0.00400	mg/L	0.000063	1.57%
Ca 317.933†	322840.7		36.36 mg/L	0.188	72.72	mg/L	0.376	0.52%
Cd 228.802†	67.6	0.00395	mg/L	0.000286	0.00790	mg/L	0.000571	7.24%
Co 228.616†	2151.5	0.05452	mg/L	0.000265	0.1090	mg/L	0.00053	0.49%
Cr 267.716†	1184.0	0.1808	mg/L	0.00063	0.3615	mg/L	0.00125	0.35%
Cu 324.752†	53371.5	0.2349	mg/L	0.00048	0.4697	mg/L	0.00097	0.21%
Fe 273.955†	154264.4		171.6 mg/L	1.00	343.2	mg/L	2.00	0.58%
K 766.490†	28774.9		14.18 mg/L	0.085	28.37	mg/L	0.170	0.60%
Mg 279.077†	36817.1		43.09 mg/L	0.333	86.17	mg/L	0.666	0.77%
Mn 257.610†	69330.1		2.035 mg/L	0.0114	4.071	mg/L	0.0229	0.56%
Mo 202.031†	135.1	0.00696	mg/L	0.000205	0.01391	mg/L	0.000411	2.95%
Na 589.592†	768832.7		61.95 mg/L	0.082	123.9	mg/L	0.16	0.13%
Na 330.237†	1502.9		64.91 mg/L	0.266	129.8	mg/L	0.53	0.41%
Ni 231.604†	440.4	0.1360	mg/L	0.00127	0.2721	mg/L	0.00255	0.94%
Pb 220.353†	504.4	0.1129	mg/L	0.00060	0.2258	mg/L	0.00119	0.53%
Sb 206.836†	-5.4	0.00192	mg/L	0.000873	0.00384	mg/L	0.001746	45.46%
Se 196.026†	32.7	0.02033	mg/L	0.003060	0.04066	mg/L	0.006121	15.05%
Si 288.158†	2498.3		2.287 mg/L	0.0055	4.573	mg/L	0.0111	0.24%
Sn 189.927†	-32.6	0.00090	mg/L	0.000565	0.00179	mg/L	0.001129	63.01%
Sr 421.552†	382835.8		0.4911 mg/L	0.00189	0.9823	mg/L	0.00378	0.38%
Ti 334.903†	135316.0		6.315 mg/L	0.0261	12.63	mg/L	0.052	0.41%
Tl 190.801†	2.1	0.01816	mg/L	0.004326	0.03632	mg/L	0.008651	23.82%
V 292.402†	54194.2		0.3530 mg/L	0.00085	0.7060	mg/L	0.00171	0.24%
Zn 206.200†	1968.0		0.5112 mg/L	0.00179	1.022	mg/L	0.0036	0.35%

Sequence No.: 22

Autosampler Location: 316

Sample ID: YC98 G SWC

Date Collected: 3/21/2014 10:23:53 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YC98 G SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YC98 G SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2460218.5	101.0	%	0.47				0.47%
ScR 361.383	304286.6	103.6	%	1.66				1.60%
Ag 328.068†	-216.0	-0.00062	mg/L	0.000201	-0.00124	mg/L	0.000401	32.25%
Al 308.215†	109355.4	124.2	mg/L	1.31	248.3	mg/L	2.62	1.05%
As 188.979†	-232.4	0.05840	mg/L	0.003899	0.1168	mg/L	0.00780	6.68%
B 249.677†	293.2	0.05559	mg/L	0.001220	0.1112	mg/L	0.00244	2.19%
Ba 233.527†	2543.8	0.4463	mg/L	0.00850	0.8925	mg/L	0.01700	1.90%
Be 313.042†	1066.2	0.00187	mg/L	0.000046	0.00375	mg/L	0.000091	2.43%
Ca 317.933†	348066.5	39.20	mg/L	0.377	78.40	mg/L	0.754	0.96%
Cd 228.802†	45.3	0.00306	mg/L	0.000182	0.00612	mg/L	0.000364	5.95%
Co 228.616†	2209.2	0.05580	mg/L	0.000717	0.1116	mg/L	0.00143	1.28%
Cr 267.716†	1061.0	0.1620	mg/L	0.00222	0.3241	mg/L	0.00444	1.37%
Cu 324.752†	41292.6	0.1825	mg/L	0.00039	0.3649	mg/L	0.00078	0.21%
Fe 273.955†	139722.3	155.4	mg/L	1.98	310.8	mg/L	3.95	1.27%
K 766.490†	22012.5	10.85	mg/L	0.097	21.70	mg/L	0.194	0.90%
Mg 279.077†	32502.8	38.03	mg/L	0.431	76.07	mg/L	0.863	1.13%
Mn 257.610†	77408.5	2.273	mg/L	0.0247	4.545	mg/L	0.0495	1.09%
Mo 202.031†	130.3	0.00664	mg/L	0.000149	0.01328	mg/L	0.000297	2.24%
Na 589.592†	354712.7	28.58	mg/L	0.238	57.17	mg/L	0.475	0.83%
Na 330.237†	671.4	29.94	mg/L	0.356	59.87	mg/L	0.712	1.19%
Ni 231.604†	430.9	0.1331	mg/L	0.00284	0.2662	mg/L	0.00567	2.13%
Pb 220.353†	194.6	0.07257	mg/L	0.000283	0.1451	mg/L	0.00057	0.39%
Sb 206.836†	-13.4	-0.00067	mg/L	0.000527	-0.00133	mg/L	0.001053	79.14%
Se 196.026†	39.4	0.02455	mg/L	0.001786	0.04911	mg/L	0.003573	7.28%
Si 288.158†	2685.7	2.458	mg/L	0.0299	4.916	mg/L	0.0598	1.22%
Sn 189.927†	-52.0	-0.00273	mg/L	0.000815	-0.00546	mg/L	0.001631	29.85%
Sr 421.552†	362847.5	0.4655	mg/L	0.00437	0.9310	mg/L	0.00874	0.94%
Ti 334.903†	141111.8	6.585	mg/L	0.0578	13.17	mg/L	0.116	0.88%
Tl 190.801†	3.0	0.01645	mg/L	0.000630	0.03291	mg/L	0.001260	3.83%
V 292.402†	53998.4	0.3526	mg/L	0.00118	0.7051	mg/L	0.00237	0.34%
Zn 206.200†	1629.6	0.4232	mg/L	0.00597	0.8465	mg/L	0.01194	1.41%

Sequence No.: 23

Autosampler Location: 317

Sample ID: YC98 H SWC

Date Collected: 3/21/2014 10:27:40 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YC98 H SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YC98 H SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2436527.4	99.99	%	0.195			0.19%
ScR 361.383	298805.0	101.8	%	0.25			0.25%
Ag 328.068†	-196.7	-0.00059	mg/L	0.000096	-0.00118	mg/L	0.000191 16.19%
Al 308.215†	88881.6	100.9	mg/L	0.46	201.8	mg/L	0.92 0.46%
As 188.979†	-204.2	0.04389	mg/L	0.002919	0.08778	mg/L	0.005838 6.65%
B 249.677†	275.4	0.05222	mg/L	0.002693	0.1044	mg/L	0.00539 5.16%
Ba 233.527†	2062.0	0.3602	mg/L	0.00203	0.7204	mg/L	0.00406 0.56%
Be 313.042†	915.2	0.00161	mg/L	0.000016	0.00321	mg/L	0.000032 0.98%
Ca 317.933†	287489.0	32.38	mg/L	0.326	64.76	mg/L	0.652 1.01%
Cd 228.802†	46.5	0.00301	mg/L	0.000090	0.00601	mg/L	0.000179 2.99%
Co 228.616†	1974.9	0.05045	mg/L	0.000072	0.1009	mg/L	0.00014 0.14%
Cr 267.716†	940.9	0.1437	mg/L	0.00092	0.2873	mg/L	0.00184 0.64%
Cu 324.752†	35039.2	0.1552	mg/L	0.00051	0.3104	mg/L	0.00102 0.33%
Fe 273.955†	124813.3	138.8	mg/L	1.11	277.7	mg/L	2.22 0.80%
K 766.490†	19540.4	9.632	mg/L	0.0728	19.26	mg/L	0.146 0.76%
Mg 279.077†	29898.7	34.99	mg/L	0.219	69.98	mg/L	0.437 0.62%
Mn 257.610†	62452.0	1.834	mg/L	0.0169	3.667	mg/L	0.0338 0.92%
Mo 202.031†	115.6	0.00593	mg/L	0.000376	0.01186	mg/L	0.000753 6.34%
Na 589.592†	519418.6	41.86	mg/L	0.171	83.71	mg/L	0.341 0.41%
Na 330.237†	1021.3	44.44	mg/L	0.433	88.87	mg/L	0.867 0.98%
Ni 231.604†	393.3	0.1215	mg/L	0.00064	0.2430	mg/L	0.00128 0.53%
Pb 220.353†	201.6	0.06504	mg/L	0.001362	0.1301	mg/L	0.00272 2.09%
Sb 206.836†	-5.9	0.00146	mg/L	0.002021	0.00291	mg/L	0.004042 138.71%
Se 196.026†	30.0	0.01869	mg/L	0.001501	0.03737	mg/L	0.003003 8.04%
Si 288.158†	4649.9	4.256	mg/L	0.0221	8.511	mg/L	0.0441 0.52%
Sn 189.927†	-34.4	-0.00037	mg/L	0.000826	-0.00075	mg/L	0.001652 221.10%
Sr 421.552†	295216.1	0.3787	mg/L	0.00148	0.7574	mg/L	0.00296 0.39%
Ti 334.903†	119315.1	5.568	mg/L	0.0339	11.14	mg/L	0.068 0.61%
Tl 190.801†	4.0	0.01573	mg/L	0.003176	0.03147	mg/L	0.006351 20.18%
V 292.402†	47822.0	0.3123	mg/L	0.00040	0.6246	mg/L	0.00080 0.13%
Zn 206.200†	1470.9	0.3825	mg/L	0.00262	0.7649	mg/L	0.00525 0.69%

Sequence No.: 24
 Sample ID: YC98 I SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 318
 Date Collected: 3/21/2014 10:31:26 AM
 Data Type: Original

Nebulizer Parameters: YC98 I SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YC98 I SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2504940.9	102.8	%	0.04			0.03%
ScR 361.383	305730.2	104.1	%	0.57			0.55%
Ag 328.068†	-164.4	-0.00044	mg/L	0.000047	-0.00089	mg/L	0.000093 10.53%
Al 308.215†	102216.0	116.1	mg/L	0.13	232.1	mg/L	0.25 0.11%
As 188.979†	-162.6	0.07077	mg/L	0.002322	0.1415	mg/L	0.00464 3.28%
B 249.677†	637.4	0.1210	mg/L	0.00070	0.2420	mg/L	0.00139 0.58%
Ba 233.527†	2147.5	0.3727	mg/L	0.00189	0.7454	mg/L	0.00378 0.51%
Be 313.042†	1088.5	0.00194	mg/L	0.000009	0.00387	mg/L	0.000017 0.44%
Ca 317.933†	286526.1	32.27	mg/L	0.042	64.54	mg/L	0.084 0.13%
Cd 228.802†	65.2	0.00371	mg/L	0.000213	0.00742	mg/L	0.000426 5.74%
Co 228.616†	2046.4	0.05282	mg/L	0.000215	0.1056	mg/L	0.00043 0.41%
Cr 267.716†	1040.9	0.1592	mg/L	0.00056	0.3185	mg/L	0.00112 0.35%
Cu 324.752†	55772.9	0.2450	mg/L	0.00109	0.4899	mg/L	0.00218 0.45%
Fe 273.955†	148534.9	165.2	mg/L	0.31	330.4	mg/L	0.62 0.19%
K 766.490†	29120.8	14.36	mg/L	0.087	28.71	mg/L	0.175 0.61%
Mg 279.077†	35796.5	41.89	mg/L	0.056	83.79	mg/L	0.112 0.13%
Mn 257.610†	59977.5	1.761	mg/L	0.0011	3.522	mg/L	0.0023 0.07%
Mo 202.031†	131.3	0.00680	mg/L	0.000368	0.01361	mg/L	0.000735 5.40%
Na 589.592†	744271.3	59.97	mg/L	0.128	119.9	mg/L	0.26 0.21%
Na 330.237†	1475.2	63.51	mg/L	0.274	127.0	mg/L	0.55 0.43%
Ni 231.604†	411.8	0.1272	mg/L	0.00113	0.2544	mg/L	0.00225 0.88%
Pb 220.353†	641.7	0.1253	mg/L	0.00096	0.2505	mg/L	0.00193 0.77%
Sb 206.836†	-6.5	0.00102	mg/L	0.003237	0.00205	mg/L	0.006475 315.94%
Se 196.026†	30.6	0.01905	mg/L	0.001915	0.03810	mg/L	0.003830 10.05%
Si 288.158†	3230.4	2.957	mg/L	0.0083	5.913	mg/L	0.0165 0.28%
Sn 189.927†	-29.1	0.00073	mg/L	0.001031	0.00146	mg/L	0.002062 141.32%
Sr 421.552†	353074.6	0.4529	mg/L	0.00138	0.9059	mg/L	0.00276 0.30%
Ti 334.903†	117141.6	5.467	mg/L	0.0109	10.93	mg/L	0.022 0.20%
Tl 190.801†	1.7	0.01760	mg/L	0.002845	0.03521	mg/L	0.005691 16.16%
V 292.402†	49629.1	0.3229	mg/L	0.00094	0.6457	mg/L	0.00188 0.29%
Zn 206.200†	2002.1	0.5202	mg/L	0.00146	1.040	mg/L	0.0029 0.28%

Sequence No.: 25

Autosampler Location: 319

Sample ID: YC98 J SWC

Date Collected: 3/21/2014 10:35:27 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YC98 J SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YC98 J SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2518220.8	103.3	%	0.58				0.56%
ScR 361.383	303981.5	103.5	%	0.69				0.67%
Ag 328.068†	-213.4	-0.00066	mg/L	0.000256	-0.00133	mg/L	0.000512	38.49%
Al 308.215†	99384.7	112.8	mg/L	0.54	225.7	mg/L	1.09	0.48%
As 188.979†	-150.2	0.07887	mg/L	0.001150	0.1577	mg/L	0.00230	1.46%
B 249.677†	511.7	0.09711	mg/L	0.001493	0.1942	mg/L	0.00299	1.54%
Ba 233.527†	2138.7	0.3716	mg/L	0.00258	0.7431	mg/L	0.00516	0.69%
Be 313.042†	1069.1	0.00190	mg/L	0.000040	0.00380	mg/L	0.000079	2.09%
Ca 317.933†	288556.6	32.50	mg/L	0.081	65.00	mg/L	0.162	0.25%
Cd 228.802†	64.0	0.00361	mg/L	0.000121	0.00723	mg/L	0.000242	3.34%
Co 228.616†	2010.3	0.05177	mg/L	0.000186	0.1035	mg/L	0.00037	0.36%
Cr 267.716†	1040.4	0.1591	mg/L	0.00254	0.3181	mg/L	0.00508	1.60%
Cu 324.752†	52010.9	0.2287	mg/L	0.00117	0.4574	mg/L	0.00234	0.51%
Fe 273.955†	144980.2	161.3	mg/L	0.75	322.5	mg/L	1.50	0.46%
K 766.490†	25905.6	12.77	mg/L	0.113	25.54	mg/L	0.226	0.88%
Mg 279.077†	35190.4	41.19	mg/L	0.264	82.37	mg/L	0.529	0.64%
Mn 257.610†	73995.0	2.173	mg/L	0.0109	4.345	mg/L	0.0217	0.50%
Mo 202.031†	126.2	0.00652	mg/L	0.000345	0.01304	mg/L	0.000689	5.29%
Na 589.592†	783453.8	63.13	mg/L	0.133	126.3	mg/L	0.27	0.21%
Na 330.237†	1549.1	66.62	mg/L	0.295	133.2	mg/L	0.59	0.44%
Ni 231.604†	416.0	0.1285	mg/L	0.00007	0.2570	mg/L	0.00014	0.06%
Pb 220.353†	546.4	0.1123	mg/L	0.00042	0.2247	mg/L	0.00085	0.38%
Sb 206.836†	-5.8	0.00122	mg/L	0.002624	0.00244	mg/L	0.005248	215.42%
Se 196.026†	40.1	0.02502	mg/L	0.004532	0.05005	mg/L	0.009063	18.11%
Si 288.158†	3465.1	3.171	mg/L	0.0180	6.343	mg/L	0.0359	0.57%
Sn 189.927†	-32.2	0.00009	mg/L	0.000344	0.00018	mg/L	0.000687	379.11%
Sr 421.552†	349851.3	0.4488	mg/L	0.00040	0.8976	mg/L	0.00081	0.09%
Ti 334.903†	116560.9	5.440	mg/L	0.0299	10.88	mg/L	0.060	0.55%
Tl 190.801†	-0.0	0.01606	mg/L	0.001811	0.03212	mg/L	0.003622	11.28%
V 292.402†	48156.6	0.3132	mg/L	0.00247	0.6264	mg/L	0.00494	0.79%
Zn 206.200†	1911.6	0.4967	mg/L	0.00283	0.9934	mg/L	0.00567	0.57%

Sequence No.: 26
Sample ID: YC98 K SWC
Analyst: ALA
Dilution: 2.000000X

Autosampler Location: 320
Date Collected: 3/21/2014 10:39:28 AM
Data Type: Original

Nebulizer Parameters: YC98 K SWC

Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

Mean Data: YC98 K SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2389320.5	98.05	%	0.842			0.86%
ScR 361.383	293228.9	99.85	%	1.457			1.46%
Ag 328.068†	-206.4	-0.00064	mg/L	0.000366	-0.00127 mg/L	0.000733	57.67%
Al 308.215†	95829.7	108.8	mg/L	1.32	217.6 mg/L	2.64	1.22%
As 188.979†	-187.2	0.05690	mg/L	0.001561	0.1138 mg/L	0.00312	2.74%
B 249.677†	367.6	0.06974	mg/L	0.001721	0.1395 mg/L	0.00344	2.47%
Ba 233.527†	2322.2	0.4076	mg/L	0.00620	0.8152 mg/L	0.01240	1.52%
Be 313.042†	1041.7	0.00185	mg/L	0.000033	0.00370 mg/L	0.000065	1.76%
Ca 317.933†	289509.4	32.61	mg/L	0.483	65.21 mg/L	0.966	1.48%
Cd 228.802†	52.8	0.00323	mg/L	0.000322	0.00646 mg/L	0.000645	9.98%
Co 228.616†	1975.3	0.05043	mg/L	0.000756	0.1009 mg/L	0.00151	1.50%
Cr 267.716†	969.6	0.1478	mg/L	0.00253	0.2956 mg/L	0.00506	1.71%
Cu 324.752†	38077.8	0.1682	mg/L	0.00111	0.3364 mg/L	0.00222	0.66%
Fe 273.955†	126191.2	140.4	mg/L	1.54	280.7 mg/L	3.08	1.10%
K 766.490†	22171.7	10.93	mg/L	0.126	21.86 mg/L	0.252	1.15%
Mg 279.077†	32490.2	38.03	mg/L	0.412	76.07 mg/L	0.825	1.08%
Mn 257.610†	84736.2	2.488	mg/L	0.0274	4.976 mg/L	0.0547	1.10%
Mo 202.031†	130.6	0.00676	mg/L	0.000228	0.01353 mg/L	0.000457	3.38%
Na 589.592†	757113.9	61.01	mg/L	0.756	122.0 mg/L	1.51	1.24%
Na 330.237†	1497.5	64.52	mg/L	0.847	129.0 mg/L	1.69	1.31%
Ni 231.604†	393.3	0.1215	mg/L	0.00133	0.2430 mg/L	0.00265	1.09%
Pb 220.353†	194.6	0.06679	mg/L	0.000145	0.1336 mg/L	0.00029	0.22%
Sb 206.836†	-11.2	-0.00061	mg/L	0.003334	-0.00122 mg/L	0.006668	546.89%
Se 196.026†	34.8	0.02171	mg/L	0.004646	0.04342 mg/L	0.009291	21.40%
Si 288.158†	2177.1	1.993	mg/L	0.0292	3.985 mg/L	0.0585	1.47%
Sn 189.927†	-43.0	-0.00219	mg/L	0.000047	-0.00438 mg/L	0.000094	2.15%
Sr 421.552†	325601.2	0.4177	mg/L	0.00590	0.8354 mg/L	0.01180	1.41%
Ti 334.903†	119663.6	5.585	mg/L	0.0608	11.17 mg/L	0.122	1.09%
Tl 190.801†	0.9	0.01405	mg/L	0.001129	0.02811 mg/L	0.002258	8.04%
V 292.402†	46582.7	0.3039	mg/L	0.00287	0.6078 mg/L	0.00575	0.95%
Zn 206.200†	1445.5	0.3754	mg/L	0.00620	0.7509 mg/L	0.01240	1.65%

Sequence No.: 27
 Sample ID: YC98 L SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 321
 Date Collected: 3/21/2014 10:43:29 AM
 Data Type: Original

Nebulizer Parameters: YC98 L SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC98 L SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2472259.3	101.5	%	0.30				0.29%
ScR 361.383	295792.6	100.7	%	0.31				0.31%
Ag 328.068†	-259.5	-0.00087	mg/L	0.000174	-0.00173	mg/L	0.000347	20.04%
Al 308.215†	101803.9	115.6	mg/L	0.43	231.2	mg/L	0.85	0.37%
As 188.979†	-180.5	0.06991	mg/L	0.006314	0.1398	mg/L	0.01263	9.03%
B 249.677†	426.4	0.08090	mg/L	0.001359	0.1618	mg/L	0.00272	1.68%
Ba 233.527†	2348.2	0.4112	mg/L	0.00117	0.8224	mg/L	0.00233	0.28%
Be 313.042†	1053.3	0.00187	mg/L	0.000023	0.00374	mg/L	0.000047	1.26%
Ca 317.933†	297583.3	33.52	mg/L	0.195	67.03	mg/L	0.391	0.58%
Cd 228.802†	53.7	0.00325	mg/L	0.000047	0.00650	mg/L	0.000094	1.45%
Co 228.616†	1996.1	0.05066	mg/L	0.000435	0.1013	mg/L	0.00087	0.86%
Cr 267.716†	1024.4	0.1562	mg/L	0.00106	0.3125	mg/L	0.00212	0.68%
Cu 324.752†	42664.2	0.1882	mg/L	0.00077	0.3764	mg/L	0.00154	0.41%
Fe 273.955†	134799.5	149.9	mg/L	1.05	299.9	mg/L	2.11	0.70%
K 766.490†	24498.3	12.08	mg/L	0.017	24.15	mg/L	0.034	0.14%
Mg 279.077†	34296.6	40.15	mg/L	0.178	80.29	mg/L	0.356	0.44%
Mn 257.610†	74070.8	2.175	mg/L	0.0115	4.349	mg/L	0.0230	0.53%
Mo 202.031†	120.3	0.00617	mg/L	0.000379	0.01235	mg/L	0.000757	6.13%
Na 589.592†	796827.6	64.21	mg/L	0.143	128.4	mg/L	0.29	0.22%
Na 330.237†	1573.9	67.79	mg/L	0.160	135.6	mg/L	0.32	0.24%
Ni 231.604†	417.6	0.1290	mg/L	0.00090	0.2580	mg/L	0.00179	0.69%
Pb 220.353†	289.2	0.08109	mg/L	0.000787	0.1622	mg/L	0.00157	0.97%
Sb 206.836†	-6.5	0.00125	mg/L	0.001645	0.00249	mg/L	0.003289	132.03%
Se 196.026†	40.2	0.02510	mg/L	0.001791	0.05019	mg/L	0.003582	7.14%
Si 288.158†	2205.5	2.019	mg/L	0.0015	4.037	mg/L	0.0030	0.07%
Sn 189.927†	-42.9	-0.00196	mg/L	0.001237	-0.00393	mg/L	0.002474	62.96%
Sr 421.552†	339027.6	0.4349	mg/L	0.00030	0.8699	mg/L	0.00061	0.07%
Tl 334.903†	124587.4	5.814	mg/L	0.0204	11.63	mg/L	0.041	0.35%
Tl 190.801†	-1.0	0.01397	mg/L	0.000281	0.02794	mg/L	0.000561	2.01%
V 292.402†	47643.6	0.3103	mg/L	0.00061	0.6206	mg/L	0.00123	0.20%
Zn 206.200†	1614.4	0.4193	mg/L	0.00145	0.8386	mg/L	0.00289	0.35%

Sequence No.: 28

Autosampler Location: 322

Sample ID: YD22 B SWC

Date Collected: 3/21/2014 10:47:30 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD22 B SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YD22 B SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2479721.2	101.8	%	0.37			0.36%
ScR 361.383	299655.5	102.0	%	0.09			0.09%
Ag 328.068†	-209.7	-0.00066	mg/L	0.000214	-0.00132	mg/L	0.000428 32.57%
Al 308.215†	99608.7	113.1	mg/L	0.80	226.2	mg/L	1.59 0.70%
As 188.979†	-173.6	0.06961	mg/L	0.003106	0.1392	mg/L	0.00621 4.46%
B 249.677†	539.4	0.1024	mg/L	0.00215	0.2048	mg/L	0.00429 2.10%
Ba 233.527†	2088.6	0.3640	mg/L	0.00172	0.7281	mg/L	0.00343 0.47%
Be 313.042†	996.9	0.00176	mg/L	0.000013	0.00353	mg/L	0.000027 0.76%
Ca 317.933†	278394.5	31.35	mg/L	0.170	62.71	mg/L	0.341 0.54%
Cd 228.802†	57.6	0.00340	mg/L	0.000178	0.00680	mg/L	0.000357 5.25%
Co 228.616†	1869.0	0.04706	mg/L	0.000008	0.09411	mg/L	0.000016 0.02%
Cr 267.716†	1015.1	0.1549	mg/L	0.00161	0.3098	mg/L	0.00321 1.04%
Cu 324.752†	43652.0	0.1923	mg/L	0.00098	0.3847	mg/L	0.00196 0.51%
Fe 273.955†	132739.5	147.7	mg/L	1.29	295.3	mg/L	2.59 0.88%
K 766.490†	25522.1	12.58	mg/L	0.057	25.16	mg/L	0.114 0.45%
Mg 279.077†	32567.3	38.12	mg/L	0.290	76.24	mg/L	0.581 0.76%
Mn 257.610†	58200.6	1.709	mg/L	0.0146	3.417	mg/L	0.0291 0.85%
Mo 202.031†	123.7	0.00640	mg/L	0.000162	0.01280	mg/L	0.000325 2.54%
Na 589.592†	773453.8	62.33	mg/L	0.199	124.7	mg/L	0.40 0.32%
Na 330.237†	1521.3	65.53	mg/L	0.256	131.1	mg/L	0.51 0.39%
Ni 231.604†	384.8	0.1189	mg/L	0.00081	0.2378	mg/L	0.00162 0.68%
Pb 220.353†	411.4	0.09514	mg/L	0.001675	0.1903	mg/L	0.00335 1.76%
Sb 206.836†	-8.4	0.00044	mg/L	0.000405	0.00087	mg/L	0.000810 93.04%
Se 196.026†	31.8	0.01981	mg/L	0.001985	0.03962	mg/L	0.003969 10.02%
Si 288.158†	2424.0	2.219	mg/L	0.0066	4.437	mg/L	0.0131 0.30%
Sn 189.927†	-28.5	0.00072	mg/L	0.000795	0.00143	mg/L	0.001589 110.85%
Sr 421.552†	331019.9	0.4247	mg/L	0.00264	0.8493	mg/L	0.00528 0.62%
Ti 334.903†	121182.9	5.656	mg/L	0.0341	11.31	mg/L	0.068 0.60%
Tl 190.801†	-3.9	0.01220	mg/L	0.000445	0.02439	mg/L	0.000890 3.65%
V 292.402†	46816.7	0.3049	mg/L	0.00182	0.6097	mg/L	0.00364 0.60%
Zn 206.200†	1621.0	0.4211	mg/L	0.00013	0.8421	mg/L	0.00026 0.03%

Sequence No.: 29

Autosampler Location: 323

Sample ID: YD22 MB1SPK SWC

Date Collected: 3/21/2014 10:51:32 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD22 MB1SPK SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YD22 MB1SPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2505894.1	102.8	%	0.26				0.26%
ScR 361.383	304624.8	103.7	%	0.72				0.69%
Ag 328.068†	112891.2	0.5094	mg/L	0.00092	1.019	mg/L	0.0018	0.18%
Al 308.215†	1865.1	2.110	mg/L	0.0173	4.221	mg/L	0.0346	0.82%
As 188.979†	2839.8	2.085	mg/L	0.0026	4.171	mg/L	0.0051	0.12%
B 249.677†	5.8	0.00005	mg/L	0.000249	0.00009	mg/L	0.000497	532.46%
Ba 233.527†	11236.5	2.053	mg/L	0.0078	4.106	mg/L	0.0156	0.38%
Be 313.042†	247689.7	0.4730	mg/L	0.00192	0.9460	mg/L	0.00384	0.41%
Ca 317.933†	89216.7	10.05	mg/L	0.020	20.10	mg/L	0.040	0.20%
Cd 228.802†	11352.2	0.5115	mg/L	0.00234	1.023	mg/L	0.0047	0.46%
Co 228.616†	16425.7	0.5026	mg/L	0.00337	1.005	mg/L	0.0067	0.67%
Cr 267.716†	3574.7	0.5335	mg/L	0.00467	1.067	mg/L	0.0093	0.87%
Cu 324.752†	111665.3	0.4764	mg/L	0.00081	0.9529	mg/L	0.00162	0.17%
Fe 273.955†	1916.1	2.128	mg/L	0.0164	4.256	mg/L	0.0327	0.77%
K 766.490†	20591.3	10.15	mg/L	0.057	20.30	mg/L	0.114	0.56%
Mg 279.077†	9114.7	10.71	mg/L	0.102	21.42	mg/L	0.203	0.95%
Mn 257.610†	16483.1	0.4844	mg/L	0.00236	0.9687	mg/L	0.00471	0.49%
Mo 202.031†	40.6	0.00211	mg/L	0.000210	0.00421	mg/L	0.000420	9.99%
Na 589.592†	124386.7	10.02	mg/L	0.033	20.05	mg/L	0.066	0.33%
Na 330.237†	263.4	10.97	mg/L	0.106	21.93	mg/L	0.212	0.97%
Ni 231.604†	1682.3	0.5188	mg/L	0.00509	1.038	mg/L	0.0102	0.98%
Pb 220.353†	16275.3	1.996	mg/L	0.0040	3.992	mg/L	0.0080	0.20%
Sb 206.836†	15.8	0.00081	mg/L	0.001877	0.00162	mg/L	0.003753	232.32%
Se 196.026†	3248.6	2.046	mg/L	0.0038	4.093	mg/L	0.0077	0.19%
Si 288.158†	-4.2	-0.00148	mg/L	0.003069	-0.00295	mg/L	0.006139	208.03%
Sn 189.927†	-17.8	-0.00192	mg/L	0.001527	-0.00383	mg/L	0.003054	79.74%
Sr 421.552†	380755.3	0.4885	mg/L	0.00231	0.9769	mg/L	0.00462	0.47%
Ti 334.903†	147.6	0.00578	mg/L	0.000568	0.01155	mg/L	0.001136	9.83%
Tl 190.801†	3400.9	2.050	mg/L	0.0054	4.099	mg/L	0.0108	0.26%
V 292.402†	74675.1	0.5081	mg/L	0.00419	1.016	mg/L	0.0084	0.82%
Zn 206.200†	1910.5	0.4964	mg/L	0.00476	0.9928	mg/L	0.00953	0.96%

Sequence No.: 30
 Sample ID: CV3
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/21/2014 10:55:33 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2426111.4	99.56 %	0.172				0.17%
ScR 361.383	294224.2	100.2 %	0.44				0.44%
Ag 328.068†	229375.4	1.035 mg/L	0.0016	1.035 mg/L	0.0016		0.16%
Al 308.215†	1877.9	2.100 mg/L	0.0115	2.100 mg/L	0.0115		0.55%
As 188.979†	2790.9	2.083 mg/L	0.0106	2.083 mg/L	0.0106		0.51%
B 249.677†	5307.6	1.008 mg/L	0.0006	1.008 mg/L	0.0006		0.06%
Ba 233.527†	5757.7	1.052 mg/L	0.0020	1.052 mg/L	0.0020		0.19%
Be 313.042†	509672.6	0.9733 mg/L	0.00372	0.9733 mg/L	0.00372		0.38%
Ca 317.933†	18765.9	2.114 mg/L	0.0036	2.114 mg/L	0.0036		0.17%
Cd 228.802†	23192.8	1.056 mg/L	0.0048	1.056 mg/L	0.0048		0.45%
Co 228.616†	34036.0	1.040 mg/L	0.0047	1.040 mg/L	0.0047		0.45%
Cr 267.716†	7060.6	1.055 mg/L	0.0024	1.055 mg/L	0.0024		0.23%
Cu 324.752†	240756.6	1.027 mg/L	0.0021	1.027 mg/L	0.0021		0.21%
Fe 273.955†	1866.9	2.070 mg/L	0.0058	2.070 mg/L	0.0058		0.28%
K 766.490†	41688.9	20.55 mg/L	0.087	20.55 mg/L	0.087		0.42%
Mg 279.077†	1752.3	2.065 mg/L	0.0089	2.065 mg/L	0.0089		0.43%
Mn 257.610†	33172.4	0.9746 mg/L	0.00403	0.9746 mg/L	0.00403		0.41%
Mo 202.031†	18095.3	1.007 mg/L	0.0047	1.007 mg/L	0.0047		0.47%
Na 589.592†	631298.0	50.87 mg/L	0.043	50.87 mg/L	0.043		0.08%
Na 330.237†	1260.9	53.15 mg/L	0.257	53.15 mg/L	0.257		0.48%
Ni 231.604†	3367.1	1.040 mg/L	0.0079	1.040 mg/L	0.0079		0.76%
Pb 220.353†	16647.2	2.042 mg/L	0.0087	2.042 mg/L	0.0087		0.43%
Sb 206.836†	5642.6	2.115 mg/L	0.0109	2.115 mg/L	0.0109		0.52%
Se 196.026†	3232.3	2.036 mg/L	0.0137	2.036 mg/L	0.0137		0.67%
Si 288.158†	2223.3	2.039 mg/L	0.0031	2.039 mg/L	0.0031		0.15%
Sn 189.927†	4617.4	1.000 mg/L	0.0054	1.000 mg/L	0.0054		0.54%
Sr 421.552†	780663.8	1.001 mg/L	0.0014	1.001 mg/L	0.0014		0.14%
Ti 334.903†	21635.7	1.009 mg/L	0.0029	1.009 mg/L	0.0029		0.29%
Tl 190.801†	3533.6	2.127 mg/L	0.0083	2.127 mg/L	0.0083		0.39%
V 292.402†	147235.7	1.002 mg/L	0.0028	1.002 mg/L	0.0028		0.28%
Zn 206.200†	3885.8	1.010 mg/L	0.0021	1.010 mg/L	0.0021		0.20%

Sequence No.: 31
 Sample ID: CB³
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 10:59:21 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2506905.4	102.9	%	0.78			0.76%
ScR 361.383	308456.8	105.0	%	0.79			0.75%
Ag 328.068†	-48.1	-0.00022	mg/L	0.000166	-0.00022	0.000166	76.51%
Al 308.215†	-2.1	-0.00238	mg/L	0.006083	-0.00238	0.006083	255.75%
As 188.979†	0.8	0.00060	mg/L	0.001514	0.00060	0.001514	251.36%
B 249.677†	7.1	0.00134	mg/L	0.000630	0.00134	0.000630	46.93%
Ba 233.527†	-0.6	-0.00011	mg/L	0.000080	-0.00011	0.000080	73.80%
Be 313.042†	51.8	0.00010	mg/L	0.000030	0.00010	0.000030	30.73%
Ca 317.933†	31.3	0.00352	mg/L	0.000848	0.00352	0.000848	24.06%
Cd 228.802†	5.3	0.00024	mg/L	0.000162	0.00024	0.000162	67.24%
Co 228.616†	1.3	0.00004	mg/L	0.000189	0.00004	0.000189	495.82%
Cr 267.716†	-1.0	-0.00016	mg/L	0.000234	-0.00016	0.000234	150.48%
Cu 324.752†	147.6	0.00063	mg/L	0.000193	0.00063	0.000193	30.70%
Fe 273.955†	14.0	0.01555	mg/L	0.001963	0.01555	0.001963	12.63%
K 766.490†	24.6	0.01214	mg/L	0.008062	0.01214	0.008062	66.39%
Mg 279.077†	-3.3	-0.00383	mg/L	0.004816	-0.00383	0.004816	125.57%
Mn 257.610†	10.2	0.00030	mg/L	0.000070	0.00030	0.000070	23.46%
Mo 202.031†	9.4	0.00052	mg/L	0.000054	0.00052	0.000054	10.40%
Na 589.592†	111.1	0.00895	mg/L	0.002794	0.00895	0.002794	31.20%
Na 330.237†	7.1	0.3008	mg/L	0.28274	0.3008	0.28274	93.99%
Ni 231.604†	0.4	0.00011	mg/L	0.000673	0.00011	0.000673	600.65%
Pb 220.353†	2.8	0.00034	mg/L	0.000347	0.00034	0.000347	102.93%
Sb 206.836†	7.3	0.00275	mg/L	0.001553	0.00275	0.001553	56.39%
Se 196.026†	4.4	0.00276	mg/L	0.001853	0.00276	0.001853	67.08%
Si 288.158†	1.3	0.00118	mg/L	0.009099	0.00118	0.009099	769.52%
Sn 189.927†	3.2	0.00069	mg/L	0.000575	0.00069	0.000575	83.55%
Sr 421.552†	67.1	0.00009	mg/L	0.000056	0.00009	0.000056	64.72%
Ti 334.903†	28.6	0.00133	mg/L	0.000509	0.00133	0.000509	38.16%
Tl 190.801†	1.4	0.00084	mg/L	0.002237	0.00084	0.002237	267.54%
V 292.402†	1.9	0.00001	mg/L	0.000081	0.00001	0.000081	745.01%
Zn 206.200†	0.4	0.00011	mg/L	0.000598	0.00011	0.000598	521.51%

Sequence No.: 32
 Sample ID: YD22 MB1 SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 324
 Date Collected: 3/21/2014 11:03:36 AM
 Data Type: Original

Nebulizer Parameters: YD22 MB1 SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: YD22 MB1 SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2491717.6		102.3 %	0.66			0.65%
ScR 361.383	307979.0		104.9 %	0.81			0.77%
Ag 328.068†	-66.6	-0.00030	mg/L	0.000030	-0.00060	mg/L	0.000061 10.10%
Al 308.215†	-1.4	-0.00157	mg/L	0.005809	-0.00314	mg/L	0.011618 369.46%
As 188.979†	-1.4	-0.00102	mg/L	0.002471	-0.00203	mg/L	0.004942 243.06%
B 249.677†	7.1	0.00134	mg/L	0.001210	0.00269	mg/L	0.002421 90.02%
Ba 233.527†	2.4	0.00044	mg/L	0.000456	0.00088	mg/L	0.000912 103.27%
Be 313.042†	18.4	0.00004	mg/L	0.000052	0.00007	mg/L	0.000103 147.25%
Ca 317.933†	86.6	0.00975	mg/L	0.002574	0.01951	mg/L	0.005148 26.39%
Cd 228.802†	3.2	0.00015	mg/L	0.000219	0.00031	mg/L	0.000437 141.87%
Co 228.616†	5.7	0.00017	mg/L	0.000207	0.00035	mg/L	0.000414 119.39%
Cr 267.716†	10.0	0.00149	mg/L	0.000607	0.00298	mg/L	0.001215 40.75%
Cu 324.752†	142.4	0.00061	mg/L	0.000296	0.00122	mg/L	0.000592 48.63%
Fe 273.955†	13.9	0.01549	mg/L	0.002952	0.03098	mg/L	0.005905 19.06%
K 766.490†	0.3	0.00014	mg/L	0.011951	0.00027	mg/L	0.023901 >999.9%
Mg 279.077†	-12.5	-0.01469	mg/L	0.011356	-0.02938	mg/L	0.022712 77.32%
Mn 257.610†	18.1	0.00053	mg/L	0.000076	0.00107	mg/L	0.000151 14.21%
Mo 202.031†	0.5	0.00003	mg/L	0.000057	0.00005	mg/L	0.000113 225.77%
Na 589.592†	63.9	0.00515	mg/L	0.000725	0.01030	mg/L	0.001449 14.07%
Na 330.237†	6.9	0.2896	mg/L	0.23132	0.5793	mg/L	0.46265 79.87%
Ni 231.604†	5.6	0.00172	mg/L	0.000562	0.00344	mg/L	0.001124 32.65%
Pb 220.353†	1.7	0.00021	mg/L	0.000585	0.00043	mg/L	0.001169 272.14%
Sb 206.836†	-0.4	-0.00015	mg/L	0.001397	-0.00031	mg/L	0.002793 911.62%
Se 196.026†	9.7	0.00614	mg/L	0.002338	0.01228	mg/L	0.004676 38.07%
Si 288.158†	-2.2	-0.00206	mg/L	0.002338	-0.00412	mg/L	0.004677 113.64%
Sn 189.927†	0.3	0.00007	mg/L	0.001013	0.00014	mg/L	0.002026 >999.9%
Sr 421.552†	42.6	0.00005	mg/L	0.000013	0.00011	mg/L	0.000027 24.61%
Ti 334.903†	6.8	0.00031	mg/L	0.000542	0.00063	mg/L	0.001084 172.30%
Tl 190.801†	-0.3	-0.00018	mg/L	0.001746	-0.00037	mg/L	0.003492 952.34%
V 292.402†	15.9	0.00011	mg/L	0.000118	0.00023	mg/L	0.000237 105.13%
Zn 206.200†	2.7	0.00071	mg/L	0.000227	0.00142	mg/L	0.000453 31.87%

Sequence No.: 33

Autosampler Location: 325

Sample ID: YD22 A-L SWC

Date Collected: 3/21/2014 11:07:51 AM

Analyst: ALA

Data Type: Original

Dilution: 10.000000X

Nebulizer Parameters: YD22 A-L SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YD22 A-L SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2476296.4		101.6 %	0.51				0.51%
ScR 361.383	302899.4		103.1 %	1.15				1.12%
Ag 328.068†	-86.3	-0.00032	mg/L	0.000187	-0.00320	mg/L	0.001868	58.39%
Al 308.215†	21186.8	24.06	mg/L	0.128	240.6	mg/L	1.28	0.53%
As 188.979†	-39.2	0.01576	mg/L	0.000392	0.1576	mg/L	0.00392	2.49%
B 249.677†	68.4	0.01297	mg/L	0.000888	0.1297	mg/L	0.00888	6.85%
Ba 233.527†	508.2	0.08918	mg/L	0.001347	0.8918	mg/L	0.01347	1.51%
Be 313.042†	245.8	0.00044	mg/L	0.000002	0.00437	mg/L	0.000025	0.56%
Ca 317.933†	67705.2	7.625	mg/L	0.0208	76.25	mg/L	0.208	0.27%
Cd 228.802†	14.6	0.00084	mg/L	0.000151	0.00838	mg/L	0.001506	17.97%
Co 228.616†	450.7	0.01150	mg/L	0.000182	0.1150	mg/L	0.00182	1.58%
Cr 267.716†	201.1	0.03073	mg/L	0.000796	0.3073	mg/L	0.00796	2.59%
Cu 324.752†	8116.3	0.03588	mg/L	0.000537	0.3588	mg/L	0.00537	1.50%
Fe 273.955†	27721.5	30.84	mg/L	0.173	308.4	mg/L	1.73	0.56%
K 766.490†	4579.2	2.257	mg/L	0.0344	22.57	mg/L	0.344	1.53%
Mg 279.077†	6633.6	7.763	mg/L	0.0306	77.63	mg/L	0.306	0.39%
Mn 257.610†	14307.0	0.4200	mg/L	0.00216	4.200	mg/L	0.0216	0.52%
Mo 202.031†	30.0	0.00155	mg/L	0.000128	0.01549	mg/L	0.001280	8.27%
Na 589.592†	117012.9	9.429	mg/L	0.0159	94.29	mg/L	0.159	0.17%
Na 330.237†	232.5	10.12	mg/L	0.228	101.2	mg/L	2.28	2.26%
Ni 231.604†	84.4	0.02608	mg/L	0.001480	0.2608	mg/L	0.01480	5.68%
Pb 220.353†	62.1	0.01709	mg/L	0.000891	0.1709	mg/L	0.00891	5.22%
Sb 206.836†	2.2	0.00170	mg/L	0.002022	0.01702	mg/L	0.020219	118.78%
Se 196.026†	10.8	0.00675	mg/L	0.002195	0.06747	mg/L	0.021946	32.53%
Si 288.158†	414.2	0.3791	mg/L	0.00914	3.791	mg/L	0.0914	2.41%
Sn 189.927†	-10.3	-0.00058	mg/L	0.000444	-0.00579	mg/L	0.004443	76.77%
Sr 421.552†	73280.8	0.09401	mg/L	0.000256	0.9401	mg/L	0.00256	0.27%
Ti 334.903†	27424.7	1.280	mg/L	0.0053	12.80	mg/L	0.053	0.41%
Tl 190.801†	5.9	0.00646	mg/L	0.002907	0.06464	mg/L	0.029067	44.97%
V 292.402†	10908.8	0.07128	mg/L	0.000835	0.7128	mg/L	0.00835	1.17%
Zn 206.200†	334.9	0.08696	mg/L	0.001877	0.8696	mg/L	0.01877	2.16%

Sequence No.: 34
 Sample ID: YD22 A SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 326
 Date Collected: 3/21/2014 11:11:50 AM
 Data Type: Original

Nebulizer Parameters: YD22 A SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YD22 A SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2428573.4		99.66 %	0.186			0.19%
ScR 361.383	292749.5		99.69 %	0.237			0.24%
Ag 328.068†	-265.4	-0.00085	mg/L	0.000238	-0.00170	0.000477	28.08%
Al 308.215†	112206.0	127.4	mg/L	1.36	254.8	2.72	1.07%
As 188.979†	-227.1	0.06053	mg/L	0.001833	0.1211	0.00367	3.03%
B 249.677†	362.7	0.06880	mg/L	0.001101	0.1376	0.00220	1.60%
Ba 233.527†	2582.7	0.4527	mg/L	0.00320	0.9055	0.00640	0.71%
Be 313.042†	1085.5	0.00191	mg/L	0.000029	0.00383	0.000058	1.51%
Ca 317.933†	345171.7	38.88	mg/L	0.168	77.75	0.335	0.43%
Cd 228.802†	52.8	0.00339	mg/L	0.000234	0.00677	0.000468	6.92%
Co 228.616†	2181.3	0.05504	mg/L	0.000562	0.1101	0.00112	1.02%
Cr 267.716†	1013.2	0.1550	mg/L	0.00160	0.3099	0.00320	1.03%
Cu 324.752†	40400.0	0.1789	mg/L	0.00044	0.3579	0.00088	0.25%
Fe 273.955†	144784.4	161.0	mg/L	1.99	322.1	3.98	1.24%
K 766.490†	24219.5	11.94	mg/L	0.127	23.88	0.254	1.07%
Mg 279.077†	34498.7	40.37	mg/L	0.467	80.75	0.934	1.16%
Mn 257.610†	74671.7	2.192	mg/L	0.0286	4.385	0.0572	1.30%
Mo 202.031†	112.5	0.00566	mg/L	0.000506	0.01132	0.001012	8.94%
Na 589.592†	605049.1	48.76	mg/L	0.137	97.51	0.273	0.28%
Na 330.237†	1171.4	51.00	mg/L	0.303	102.0	0.61	0.60%
Ni 231.604†	413.7	0.1278	mg/L	0.00085	0.2556	0.00170	0.66%
Pb 220.353†	304.4	0.08738	mg/L	0.001024	0.1748	0.00205	1.17%
Sb 206.836†	-10.9	0.00032	mg/L	0.001516	0.00065	0.003032	467.52%
Se 196.026†	32.4	0.02013	mg/L	0.002096	0.04027	0.004193	10.41%
Si 288.158†	1993.9	1.825	mg/L	0.0270	3.650	0.0541	1.48%
Sn 189.927†	-46.1	-0.00151	mg/L	0.000836	-0.00302	0.001673	55.46%
Sr 421.552†	376181.1	0.4826	mg/L	0.00143	0.9652	0.00286	0.30%
Ti 334.903†	140006.7	6.534	mg/L	0.0215	13.07	0.043	0.33%
Tl 190.801†	3.9	0.01776	mg/L	0.002280	0.03552	0.004560	12.84%
V 292.402†	53158.8	0.3465	mg/L	0.00057	0.6930	0.00115	0.17%
Zn 206.200†	1675.8	0.4351	mg/L	0.00534	0.8703	0.01068	1.23%

Sequence No.: 35

Autosampler Location: 327

Sample ID: YD22 ADUP SWC

Date Collected: 3/21/2014 11:15:52 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD22 ADUP SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YD22 ADUP SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2449187.8	100.5	%	0.28			0.28%
ScR 361.383	299813.3	102.1	%	0.25			0.24%
Ag 328.068†	-259.3	-0.00083	mg/L	0.000228	-0.00166	mg/L	0.000457 27.53%
Al 308.215†	105638.6	119.9	mg/L	0.46	239.9	mg/L	0.91 0.38%
As 188.979†	-221.9	0.05847	mg/L	0.004443	0.1169	mg/L	0.00889 7.60%
B 249.677†	350.9	0.06656	mg/L	0.001269	0.1331	mg/L	0.00254 1.91%
Ba 233.527†	2444.1	0.4283	mg/L	0.00342	0.8566	mg/L	0.00683 0.80%
Be 313.042†	1037.9	0.00183	mg/L	0.000028	0.00365	mg/L	0.000057 1.56%
Ca 317.933†	336344.6	37.88	mg/L	0.119	75.76	mg/L	0.239 0.32%
Cd 228.802†	53.6	0.00340	mg/L	0.000147	0.00681	mg/L	0.000293 4.31%
Co 228.616†	2130.8	0.05380	mg/L	0.000183	0.1076	mg/L	0.00037 0.34%
Cr 267.716†	1023.5	0.1563	mg/L	0.00150	0.3125	mg/L	0.00299 0.96%
Cu 324.752†	39035.4	0.1728	mg/L	0.00016	0.3456	mg/L	0.00032 0.09%
Fe 273.955†	137944.3	153.4	mg/L	0.82	306.9	mg/L	1.64 0.53%
K 766.490†	23273.6	11.47	mg/L	0.016	22.95	mg/L	0.032 0.14%
Mg 279.077†	33563.8	39.28	mg/L	0.092	78.57	mg/L	0.184 0.23%
Mn 257.610†	71073.4	2.087	mg/L	0.0073	4.173	mg/L	0.0146 0.35%
Mo 202.031†	109.8	0.00552	mg/L	0.000106	0.01105	mg/L	0.000212 1.92%
Na 589.592†	601011.7	48.43	mg/L	0.264	96.86	mg/L	0.528 0.54%
Na 330.237†	1173.6	51.05	mg/L	0.225	102.1	mg/L	0.45 0.44%
Ni 231.604†	417.2	0.1289	mg/L	0.00164	0.2578	mg/L	0.00328 1.27%
Pb 220.353†	243.8	0.07714	mg/L	0.000900	0.1543	mg/L	0.00180 1.17%
Sb 206.836†	-14.9	-0.00134	mg/L	0.000432	-0.00268	mg/L	0.000863 32.17%
Se 196.026†	32.5	0.02021	mg/L	0.003473	0.04042	mg/L	0.006946 17.19%
Si 288.158†	2241.9	2.052	mg/L	0.0258	4.104	mg/L	0.0516 1.26%
Sn 189.927†	-40.5	-0.00053	mg/L	0.001384	-0.00105	mg/L	0.002769 263.28%
Sr 421.552†	357181.5	0.4582	mg/L	0.00198	0.9164	mg/L	0.00396 0.43%
Ti 334.903†	136391.6	6.365	mg/L	0.0163	12.73	mg/L	0.033 0.26%
Tl 190.801†	1.4	0.01539	mg/L	0.003786	0.03078	mg/L	0.007573 24.60%
V 292.402†	52298.2	0.3412	mg/L	0.00047	0.6825	mg/L	0.00095 0.14%
Zn 206.200†	1650.2	0.4286	mg/L	0.00235	0.8571	mg/L	0.00469 0.55%

Sequence No.: 36
 Sample ID: YD22 ASPK SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 328
 Date Collected: 3/21/2014 11:19:38 AM
 Data Type: Original

Nebulizer Parameters: YD22 ASPK SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YD22 ASPK SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD	
	Intensity	Conc.			Conc.	Units		Std.Dev.
ScA 357.253	2487321.3	102.1	%	0.36			0.35%	
ScR 361.383	299594.5	102.0	%	0.14			0.14%	
Ag 328.068†	112239.0	0.5067	mg/L	0.00176	1.013	mg/L	0.0035	0.35%
Al 308.215†	96569.1	109.6	mg/L	0.17	219.3	mg/L	0.35	0.16%
As 188.979†	2545.7	2.062	mg/L	0.0037	4.125	mg/L	0.0074	0.18%
B 249.677†	357.9	0.06687	mg/L	0.000893	0.1337	mg/L	0.00179	1.34%
Ba 233.527†	13686.6	2.484	mg/L	0.0197	4.968	mg/L	0.0393	0.79%
Be 313.042†	245294.4	0.4683	mg/L	0.00391	0.9366	mg/L	0.00783	0.84%
Ca 317.933†	392984.8	44.26	mg/L	0.088	88.52	mg/L	0.176	0.20%
Cd 228.802†	11411.4	0.5154	mg/L	0.00124	1.031	mg/L	0.0025	0.24%
Co 228.616†	17962.2	0.5396	mg/L	0.00130	1.079	mg/L	0.0026	0.24%
Cr 267.716†	4351.1	0.6525	mg/L	0.00544	1.305	mg/L	0.0109	0.83%
Cu 324.752†	150773.4	0.6489	mg/L	0.00075	1.298	mg/L	0.0015	0.12%
Fe 273.955†	125718.6	139.8	mg/L	0.90	279.7	mg/L	1.81	0.65%
K 766.490†	41382.8	20.40	mg/L	0.075	40.80	mg/L	0.150	0.37%
Mg 279.077†	39764.3	46.58	mg/L	0.061	93.16	mg/L	0.122	0.13%
Mn 257.610†	81642.7	2.397	mg/L	0.0160	4.795	mg/L	0.0320	0.67%
Mo 202.031†	117.7	0.00586	mg/L	0.000236	0.01173	mg/L	0.000472	4.03%
Na 589.592†	733573.3	59.11	mg/L	0.225	118.2	mg/L	0.45	0.38%
Na 330.237†	1415.7	60.92	mg/L	0.172	121.8	mg/L	0.34	0.28%
Ni 231.604†	1971.9	0.6083	mg/L	0.00679	1.217	mg/L	0.0136	1.12%
Pb 220.353†	16033.4	2.009	mg/L	0.0032	4.018	mg/L	0.0064	0.16%
Sb 206.836†	3.2	-0.00011	mg/L	0.003254	-0.00022	mg/L	0.006507	>999.9%
Se 196.026†	3187.0	2.007	mg/L	0.0049	4.015	mg/L	0.0098	0.24%
Si 288.158†	2412.4	2.210	mg/L	0.0058	4.421	mg/L	0.0116	0.26%
Sn 189.927†	-46.7	-0.00075	mg/L	0.000089	-0.00151	mg/L	0.000178	11.83%
Sr 421.552†	712700.1	0.9143	mg/L	0.00263	1.829	mg/L	0.0053	0.29%
Ti 334.903†	119100.9	5.557	mg/L	0.0145	11.11	mg/L	0.029	0.26%
Tl 190.801†	3228.6	1.959	mg/L	0.0127	3.918	mg/L	0.0254	0.65%
V 292.402†	115313.9	0.7717	mg/L	0.00094	1.543	mg/L	0.0019	0.12%
Zn 206.200†	3371.8	0.8759	mg/L	0.00582	1.752	mg/L	0.0116	0.66%

Sequence No.: 37

Autosampler Location: 329

Sample ID: YD22 APOST SWC ZZZZZZ

Date Collected: 3/21/2014 11:23:27 AM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

3-21-14

Nebulizer Parameters: YD22 APOST SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YD22 APOST SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2434352.9	99.90	%	0.512			0.51%
ScR 361.383	295992.0	100.8	%	0.71			0.71%
Ag 328.068†	109249.6	0.4933	mg/L	0.00186	0.9866	mg/L	0.38%
Al 308.215†	108429.7	123.1	mg/L	0.79	246.2	mg/L	0.64%
As 188.979†	2577.1	2.114	mg/L	0.0225	4.229	mg/L	1.06%
B 249.677†	357.7	0.06678	mg/L	0.001378	0.1336	mg/L	2.06%
Ba 233.527†	14001.5	2.540	mg/L	0.0173	5.080	mg/L	0.68%
Be 313.042†	236098.4	0.4507	mg/L	0.00249	0.9014	mg/L	0.55%
Ca 317.933†	431249.6	48.57	mg/L	0.151	97.14	mg/L	0.31%
Cd 228.802†	11639.3	0.5257	mg/L	0.00389	1.051	mg/L	0.74%
Co 228.616†	18491.0	0.5543	mg/L	0.00382	1.109	mg/L	0.69%
Cr 267.716†	4453.4	0.6681	mg/L	0.00696	1.336	mg/L	1.04%
Cu 324.752†	160682.8	0.6917	mg/L	0.00050	1.383	mg/L	0.07%
Fe 273.955†	138828.7	154.4	mg/L	0.97	308.8	mg/L	0.63%
K 766.490†	44556.0	21.96	mg/L	0.134	43.93	mg/L	0.61%
Mg 279.077†	42141.3	49.36	mg/L	0.235	98.72	mg/L	0.48%
Mn 257.610†	87290.8	2.563	mg/L	0.0167	5.126	mg/L	0.65%
Mo 202.031†	117.5	0.00579	mg/L	0.000093	0.01158	mg/L	1.61%
Na 589.592†	716369.6	57.73	mg/L	0.100	115.5	mg/L	0.17%
Na 330.237†	1383.5	59.77	mg/L	0.682	119.5	mg/L	1.14%
Ni 231.604†	2034.7	0.6277	mg/L	0.00559	1.255	mg/L	0.89%
Pb 220.353†	16417.6	2.061	mg/L	0.0133	4.122	mg/L	0.64%
Sb 206.836†	0.4	-0.00052	mg/L	0.002629	-0.00105	mg/L	501.34%
Se 196.026†	3277.4	2.064	mg/L	0.0235	4.129	mg/L	1.14%
Si 288.158†	2027.3	1.858	mg/L	0.0106	3.716	mg/L	0.57%
Sn 189.927†	-61.7	-0.00304	mg/L	0.001077	-0.00608	mg/L	35.42%
Sr 421.552†	751472.1	0.9640	mg/L	0.00440	1.928	mg/L	0.46%
Ti 334.903†	136935.7	6.389	mg/L	0.0306	12.78	mg/L	0.48%
Tl 190.801†	3276.2	1.989	mg/L	0.0123	3.978	mg/L	0.62%
V 292.402†	123754.5	0.8275	mg/L	0.00251	1.655	mg/L	0.30%
Zn 206.200†	3538.0	0.9190	mg/L	0.01037	1.838	mg/L	1.13%

Sequence No.: 38
 Sample ID: YD22 C SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 330
 Date Collected: 3/21/2014 11:27:16 AM
 Data Type: Original

Nebulizer Parameters: YD22 C SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD22 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2462132.4	101.0 %	0.71			0.70%
ScR 361.383	294340.5	100.2 %	0.52			0.52%
Ag 328.068†	-188.7	-0.00047 mg/L	0.000047	-0.00094 mg/L	0.000094	10.05%
Al 308.215†	105620.9	119.9 mg/L	0.81	239.8 mg/L	1.61	0.67%
As 188.979†	-168.9	0.08024 mg/L	0.002445	0.1605 mg/L	0.00489	3.05%
B 249.677†	639.2	0.1214 mg/L	0.00144	0.2427 mg/L	0.00287	1.18%
Ba 233.527†	2139.5	0.3717 mg/L	0.00356	0.7434 mg/L	0.00711	0.96%
Be 313.042†	1112.6	0.00198 mg/L	0.000016	0.00395 mg/L	0.000032	0.81%
Ca 317.933†	400137.8	45.07 mg/L	0.115	90.13 mg/L	0.230	0.26%
Cd 228.802†	61.3	0.00354 mg/L	0.000198	0.00709 mg/L	0.000397	5.59%
Co 228.616†	1979.9	0.04999 mg/L	0.000321	0.09998 mg/L	0.000643	0.64%
Cr 267.716†	1048.6	0.1602 mg/L	0.00181	0.3204 mg/L	0.00363	1.13%
Cu 324.752†	49571.8	0.2182 mg/L	0.00127	0.4364 mg/L	0.00254	0.58%
Fe 273.955†	145069.1	161.4 mg/L	1.75	322.7 mg/L	3.50	1.08%
K 766.490†	28099.6	13.85 mg/L	0.139	27.70 mg/L	0.279	1.01%
Mg 279.077†	34352.1	40.20 mg/L	0.336	80.40 mg/L	0.671	0.83%
Mn 257.610†	62586.3	1.837 mg/L	0.0185	3.675 mg/L	0.0369	1.00%
Mo 202.031†	125.7	0.00630 mg/L	0.000598	0.01259 mg/L	0.001196	9.50%
Na 589.592†	750427.0	60.47 mg/L	0.142	120.9 mg/L	0.28	0.23%
Na 330.237†	1464.4	63.19 mg/L	0.495	126.4 mg/L	0.99	0.78%
Ni 231.604†	381.5	0.1178 mg/L	0.00104	0.2357 mg/L	0.00209	0.89%
Pb 220.353†	486.2	0.1073 mg/L	0.00057	0.2145 mg/L	0.00115	0.54%
Sb 206.836†	-12.0	-0.00072 mg/L	0.003438	-0.00145 mg/L	0.006876	475.53%
Se 196.026†	36.6	0.02283 mg/L	0.002238	0.04567 mg/L	0.004476	9.80%
Si 288.158†	3324.7	3.043 mg/L	0.0103	6.086 mg/L	0.0207	0.34%
Sn 189.927†	-38.2	0.00121 mg/L	0.000577	0.00243 mg/L	0.001154	47.52%
Sr 421.552†	403526.6	0.5177 mg/L	0.00184	1.035 mg/L	0.0037	0.36%
Ti 334.903†	126721.3	5.913 mg/L	0.0236	11.83 mg/L	0.047	0.40%
Tl 190.801†	6.5	0.01900 mg/L	0.002122	0.03800 mg/L	0.004244	11.17%
V 292.402†	50098.0	0.3260 mg/L	0.00197	0.6521 mg/L	0.00394	0.60%
Zn 206.200†	1825.1	0.4741 mg/L	0.00442	0.9481 mg/L	0.00884	0.93%

Sequence No.: 39
 Sample ID: YC22 D SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 331
 Date Collected: 3/21/2014 11:31:18 AM
 Data Type: Original

Nebulizer Parameters: YC22 D SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YC22 D SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2471874.3	101.4	%	0.35			0.35%
ScR 361.383	299600.0	102.0	%	0.49			0.48%
Ag 328.068†	-219.0	-0.00068	mg/L	0.000068	-0.00137	mg/L	0.000135 9.88%
Al 308.215†	103565.8	117.6	mg/L	0.21	235.2	mg/L	0.42 0.18%
As 188.979†	-154.1	0.08653	mg/L	0.000792	0.1731	mg/L	0.00158 0.92%
B 249.677†	612.1	0.1162	mg/L	0.00163	0.2324	mg/L	0.00326 1.40%
Ba 233.527†	2148.3	0.3734	mg/L	0.00239	0.7468	mg/L	0.00478 0.64%
Be 313.042†	1102.7	0.00196	mg/L	0.000010	0.00392	mg/L	0.000021 0.53%
Ca 317.933†	292518.0	32.95	mg/L	0.023	65.89	mg/L	0.046 0.07%
Cd 228.802†	63.7	0.00360	mg/L	0.000221	0.00720	mg/L	0.000442 6.14%
Co 228.616†	1966.1	0.04989	mg/L	0.000281	0.09977	mg/L	0.000563 0.56%
Cr 267.716†	983.9	0.1506	mg/L	0.00044	0.3011	mg/L	0.00088 0.29%
Cu 324.752†	49019.3	0.2159	mg/L	0.00104	0.4317	mg/L	0.00209 0.48%
Fe 273.955†	144424.5	160.6	mg/L	2.19	321.3	mg/L	4.38 1.36%
K 766.490†	27661.5	13.64	mg/L	0.082	27.27	mg/L	0.165 0.60%
Mg 279.077†	35180.6	41.18	mg/L	0.198	82.35	mg/L	0.397 0.48%
Mn 257.610†	60398.7	1.773	mg/L	0.0213	3.547	mg/L	0.0426 1.20%
Mo 202.031†	118.4	0.00608	mg/L	0.000409	0.01216	mg/L	0.000817 6.72%
Na 589.592†	791910.3	63.81	mg/L	0.149	127.6	mg/L	0.30 0.23%
Na 330.237†	1558.4	67.10	mg/L	0.440	134.2	mg/L	0.88 0.66%
Ni 231.604†	382.4	0.1181	mg/L	0.00209	0.2363	mg/L	0.00417 1.77%
Pb 220.353†	443.0	0.1012	mg/L	0.00078	0.2023	mg/L	0.00157 0.78%
Sb 206.836†	-5.7	0.00162	mg/L	0.001579	0.00324	mg/L	0.003157 97.46%
Se 196.026†	36.6	0.02280	mg/L	0.002971	0.04559	mg/L	0.005943 13.04%
Si 288.158†	2456.3	2.248	mg/L	0.0042	4.496	mg/L	0.0083 0.18%
Sn 189.927†	-32.0	0.00029	mg/L	0.001255	0.00058	mg/L	0.002511 434.80%
Sr 421.552†	361012.8	0.4631	mg/L	0.00027	0.9263	mg/L	0.00053 0.06%
Ti 334.903†	122878.8	5.735	mg/L	0.0278	11.47	mg/L	0.056 0.48%
Tl 190.801†	1.1	0.01659	mg/L	0.001706	0.03317	mg/L	0.003413 10.29%
V 292.402†	49841.1	0.3244	mg/L	0.00151	0.6488	mg/L	0.00303 0.47%
Zn 206.200†	1791.9	0.4655	mg/L	0.00232	0.9309	mg/L	0.00464 0.50%

Sequence No.: 40
 Sample ID: YD22 E SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 332
 Date Collected: 3/21/2014 11:35:20 AM
 Data Type: Original

Nebulizer Parameters: YD22 E SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD22 E SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2457557.3	100.9	%	0.48			0.48%
ScR 361.383	296491.2	101.0	%	0.35			0.35%
Ag 328.068†	-188.5	-0.00055	mg/L	0.000262	-0.00111	mg/L	0.000525 47.43%
Al 308.215†	102102.0	115.9	mg/L	0.22	231.9	mg/L	0.44 0.19%
As 188.979†	-177.3	0.07538	mg/L	0.000953	0.1508	mg/L	0.00191 1.26%
B 249.677†	528.9	0.1004	mg/L	0.00137	0.2008	mg/L	0.00274 1.37%
Ba 233.527†	2142.6	0.3737	mg/L	0.00249	0.7475	mg/L	0.00497 0.67%
Be 313.042†	1040.1	0.00184	mg/L	0.000012	0.00368	mg/L	0.000025 0.68%
Ca 317.933†	286666.9	32.29	mg/L	0.032	64.57	mg/L	0.063 0.10%
Cd 228.802†	56.0	0.00333	mg/L	0.000106	0.00667	mg/L	0.000212 3.18%
Co 228.616†	1949.2	0.04908	mg/L	0.000307	0.09816	mg/L	0.000615 0.63%
Cr 267.716†	995.4	0.1520	mg/L	0.00084	0.3041	mg/L	0.00168 0.55%
Cu 324.752†	44269.0	0.1950	mg/L	0.00031	0.3900	mg/L	0.00063 0.16%
Fe 273.955†	134009.8	149.1	mg/L	0.71	298.1	mg/L	1.43 0.48%
K 766.490†	25993.1	12.81	mg/L	0.048	25.63	mg/L	0.095 0.37%
Mg 279.077†	32311.0	37.82	mg/L	0.046	75.63	mg/L	0.093 0.12%
Mn 257.610†	60207.6	1.768	mg/L	0.0114	3.535	mg/L	0.0228 0.64%
Mo 202.031†	107.9	0.00550	mg/L	0.000508	0.01100	mg/L	0.001017 9.24%
Na 589.592†	677755.1	54.61	mg/L	0.221	109.2	mg/L	0.44 0.40%
Na 330.237†	1333.1	57.65	mg/L	0.201	115.3	mg/L	0.40 0.35%
Ni 231.604†	380.3	0.1175	mg/L	0.00256	0.2349	mg/L	0.00513 2.18%
Pb 220.353†	438.2	0.09939	mg/L	0.001472	0.1988	mg/L	0.00294 1.48%
Sb 206.836†	-18.3	-0.00301	mg/L	0.003541	-0.00603	mg/L	0.007082 117.49%
Se 196.026†	32.7	0.02037	mg/L	0.003701	0.04074	mg/L	0.007401 18.17%
Si 288.158†	2023.2	1.852	mg/L	0.0061	3.704	mg/L	0.0123 0.33%
Sn 189.927†	-28.6	0.00093	mg/L	0.000871	0.00186	mg/L	0.001742 93.54%
Sr 421.552†	347502.8	0.4458	mg/L	0.00107	0.8916	mg/L	0.00214 0.24%
Tl 334.903†	126341.8	5.896	mg/L	0.0141	11.79	mg/L	0.028 0.24%
Tl 190.801†	6.5	0.01849	mg/L	0.001936	0.03698	mg/L	0.003871 10.47%
V 292.402†	48322.4	0.3148	mg/L	0.00023	0.6296	mg/L	0.00047 0.07%
Zn 206.200†	1713.2	0.4449	mg/L	0.00190	0.8899	mg/L	0.00381 0.43%

Sequence No.: 41
 Sample ID: YD22 F SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 333
 Date Collected: 3/21/2014 11:39:21 AM
 Data Type: Original

Nebulizer Parameters: YD22 F SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD22 F SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2445892.3	100.4 %	0.54			0.54%
ScR 361.383	297788.7	101.4 %	1.08			1.06%
Ag 328.068†	-272.6	-0.00087 mg/L	0.000123	-0.00174 mg/L	0.000247	14.15%
Al 308.215†	109883.1	124.8 mg/L	0.62	249.5 mg/L	1.23	0.49%
As 188.979†	-218.2	0.08311 mg/L	0.003382	0.1662 mg/L	0.00676	4.07%
B 249.677†	589.3	0.1119 mg/L	0.00172	0.2237 mg/L	0.00344	1.54%
Ba 233.527†	3116.0	0.5483 mg/L	0.00330	1.097 mg/L	0.0066	0.60%
Be 313.042†	1102.1	0.00193 mg/L	0.000064	0.00386 mg/L	0.000128	3.32%
Ca 317.933†	343800.1	38.72 mg/L	0.255	77.44 mg/L	0.510	0.66%
Cd 228.802†	68.7	0.00408 mg/L	0.000168	0.00815 mg/L	0.000336	4.13%
Co 228.616†	2250.2	0.05633 mg/L	0.000663	0.1127 mg/L	0.00133	1.18%
Cr 267.716†	1220.4	0.1865 mg/L	0.00173	0.3730 mg/L	0.00345	0.93%
Cu 324.752†	50336.4	0.2220 mg/L	0.00058	0.4441 mg/L	0.00116	0.26%
Fe 273.955†	158657.0	176.5 mg/L	1.20	353.0 mg/L	2.41	0.68%
K 766.490†	27680.5	13.65 mg/L	0.135	27.29 mg/L	0.270	0.99%
Mg 279.077†	35476.7	41.51 mg/L	0.216	83.02 mg/L	0.432	0.52%
Mn 257.610†	71877.8	2.110 mg/L	0.0166	4.221 mg/L	0.0333	0.79%
Mo 202.031†	111.6	0.00561 mg/L	0.000198	0.01122 mg/L	0.000395	3.52%
Na 589.592†	661256.7	53.28 mg/L	0.348	106.6 mg/L	0.70	0.65%
Na 330.237†	1271.9	55.33 mg/L	0.143	110.7 mg/L	0.29	0.26%
Ni 231.604†	412.2	0.1273 mg/L	0.00202	0.2547 mg/L	0.00404	1.59%
Pb 220.353†	531.4	0.1153 mg/L	0.00021	0.2305 mg/L	0.00041	0.18%
Sb 206.836†	-17.2	-0.00191 mg/L	0.003750	-0.00382 mg/L	0.007501	196.41%
Se 196.026†	39.3	0.02449 mg/L	0.005320	0.04898 mg/L	0.010640	21.72%
Si 288.158†	3008.3	2.753 mg/L	0.0047	5.507 mg/L	0.0093	0.17%
Sn 189.927†	-27.3	0.00260 mg/L	0.001309	0.00520 mg/L	0.002617	50.34%
Sr 421.552†	381152.8	0.4890 mg/L	0.00144	0.9779 mg/L	0.00287	0.29%
Ti 334.903†	149643.4	6.984 mg/L	0.0182	13.97 mg/L	0.036	0.26%
Tl 190.801†	-4.0	0.01474 mg/L	0.003041	0.02949 mg/L	0.006082	20.63%
V 292.402†	58823.0	0.3837 mg/L	0.00050	0.7673 mg/L	0.00100	0.13%
Zn 206.200†	2035.1	0.5286 mg/L	0.00297	1.057 mg/L	0.0059	0.56%

Sequence No.: 42
 Sample ID: CV
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/21/2014 11:43:23 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2507391.5	102.9	%	0.22			0.21%
ScR 361.383	298591.3	101.7	%	0.58			0.57%
Ag 328.068†	225689.2	1.018	mg/L	0.0041	1.018	mg/L	0.41%
Al 308.215†	1887.4	2.111	mg/L	0.0161	2.111	mg/L	0.76%
As 188.979†	2737.8	2.044	mg/L	0.0055	2.044	mg/L	0.27%
B 249.677†	5307.1	1.008	mg/L	0.0097	1.008	mg/L	0.96%
Ba 233.527†	5724.8	1.046	mg/L	0.0098	1.046	mg/L	0.94%
Be 313.042†	504433.4	0.9633	mg/L	0.00719	0.9633	mg/L	0.75%
Ca 317.933†	18780.4	2.115	mg/L	0.0148	2.115	mg/L	0.70%
Cd 228.802†	22680.4	1.033	mg/L	0.0033	1.033	mg/L	0.32%
Co 228.616†	33392.1	1.020	mg/L	0.0033	1.020	mg/L	0.33%
Cr 267.716†	7042.2	1.053	mg/L	0.0077	1.053	mg/L	0.73%
Cu 324.752†	236169.5	1.007	mg/L	0.0050	1.007	mg/L	0.49%
Fe 273.955†	1883.7	2.089	mg/L	0.0171	2.089	mg/L	0.82%
K 766.490†	41202.4	20.31	mg/L	0.088	20.31	mg/L	0.43%
Mg 279.077†	1753.5	2.066	mg/L	0.0154	2.066	mg/L	0.74%
Mn 257.610†	32702.0	0.9608	mg/L	0.00352	0.9608	mg/L	0.37%
Mo 202.031†	17682.3	0.9836	mg/L	0.00422	0.9836	mg/L	0.43%
Na 589.592†	625650.9	50.42	mg/L	0.132	50.42	mg/L	0.26%
Na 330.237†	1256.5	52.96	mg/L	0.464	52.96	mg/L	0.88%
Ni 231.604†	3353.4	1.036	mg/L	0.0140	1.036	mg/L	1.35%
Pb 220.353†	16339.6	2.004	mg/L	0.0058	2.004	mg/L	0.29%
Sb 206.836†	5535.0	2.075	mg/L	0.0106	2.075	mg/L	0.51%
Se 196.026†	3170.5	1.997	mg/L	0.0083	1.997	mg/L	0.42%
Si 288.158†	2208.3	2.026	mg/L	0.0184	2.026	mg/L	0.91%
Sn 189.927†	4533.5	0.9820	mg/L	0.00628	0.9820	mg/L	0.64%
Sr 421.552†	770428.2	0.9884	mg/L	0.00091	0.9884	mg/L	0.09%
Ti 334.903†	21464.0	1.001	mg/L	0.0009	1.001	mg/L	0.09%
Tl 190.801†	3461.7	2.084	mg/L	0.0107	2.084	mg/L	0.52%
V 292.402†	144899.3	0.9860	mg/L	0.00340	0.9860	mg/L	0.34%
Zn 206.200†	3888.2	1.010	mg/L	0.0085	1.010	mg/L	0.84%

Sequence No.: 43
 Sample ID: CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 11:47:12 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2444011.8	100.3	%	0.53			0.53%
ScR 361.383	299282.5	101.9	%	0.65			0.63%
Ag 328.068†	-22.8	-0.00010	mg/L	0.000199	-0.00010 mg/L	0.000199	193.23%
Al 308.215†	8.4	0.00951	mg/L	0.004247	0.00951 mg/L	0.004247	44.64%
As 188.979†	4.3	0.00326	mg/L	0.000657	0.00326 mg/L	0.000657	20.13%
B 249.677†	7.7	0.00146	mg/L	0.001286	0.00146 mg/L	0.001286	88.08%
Ba 233.527†	2.3	0.00042	mg/L	0.000720	0.00042 mg/L	0.000720	172.29%
Be 313.042†	50.0	0.00010	mg/L	0.000027	0.00010 mg/L	0.000027	28.43%
Ca 317.933†	39.3	0.00443	mg/L	0.000221	0.00443 mg/L	0.000221	4.98%
Cd 228.802†	5.6	0.00024	mg/L	0.000046	0.00024 mg/L	0.000046	18.93%
Co 228.616†	-5.4	-0.00017	mg/L	0.000049	-0.00017 mg/L	0.000049	28.94%
Cr 267.716†	-7.4	-0.00111	mg/L	0.000815	-0.00111 mg/L	0.000815	73.69%
Cu 324.752†	220.3	0.00094	mg/L	0.000113	0.00094 mg/L	0.000113	12.02%
Fe 273.955†	14.3	0.01590	mg/L	0.002577	0.01590 mg/L	0.002577	16.21%
K 766.490†	25.2	0.01241	mg/L	0.006882	0.01241 mg/L	0.006882	55.47%
Mg 279.077†	4.4	0.00511	mg/L	0.005484	0.00511 mg/L	0.005484	107.42%
Mn 257.610†	6.4	0.00019	mg/L	0.000121	0.00019 mg/L	0.000121	64.73%
Mo 202.031†	7.6	0.00042	mg/L	0.000301	0.00042 mg/L	0.000301	71.14%
Na 589.592†	103.1	0.00831	mg/L	0.002183	0.00831 mg/L	0.002183	26.28%
Na 330.237†	16.2	0.6837	mg/L	0.44050	0.6837 mg/L	0.44050	64.42%
Ni 231.604†	0.7	0.00022	mg/L	0.000915	0.00022 mg/L	0.000915	424.40%
Pb 220.353†	-0.1	-0.00001	mg/L	0.000871	-0.00001 mg/L	0.000871	>999.9%
Sb 206.836†	13.6	0.00512	mg/L	0.000297	0.00512 mg/L	0.000297	5.79%
Se 196.026†	3.4	0.00215	mg/L	0.003318	0.00215 mg/L	0.003318	154.45%
Si 288.158†	-0.7	-0.00065	mg/L	0.003022	-0.00065 mg/L	0.003022	467.14%
Sn 189.927†	2.4	0.00052	mg/L	0.000057	0.00052 mg/L	0.000057	10.89%
Sr 421.552†	60.2	0.00008	mg/L	0.000042	0.00008 mg/L	0.000042	54.04%
Ti 334.903†	48.8	0.00228	mg/L	0.000528	0.00228 mg/L	0.000528	23.18%
Tl 190.801†	-2.1	-0.00126	mg/L	0.001220	-0.00126 mg/L	0.001220	96.74%
V 292.402†	15.2	0.00010	mg/L	0.000173	0.00010 mg/L	0.000173	178.79%
Zn 206.200†	0.6	0.00015	mg/L	0.000409	0.00015 mg/L	0.000409	269.67%

Sequence No.: 44
 Sample ID: CRI
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 301
 Date Collected: 3/21/2014 11:51:27 AM
 Data Type: Original

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2490084.8	102.2	%	0.76			0.74%
ScR 361.383	302331.5	103.0	%	0.33			0.32%
Ag 328.068†	666.9	0.00301	mg/L	0.000061	0.00301 mg/L	0.000061	2.03%
Al 308.215†	50.8	0.05758	mg/L	0.001311	0.05758 mg/L	0.001311	2.28%
As 188.979†	68.3	0.05036	mg/L	0.000553	0.05036 mg/L	0.000553	1.10%
B 249.677†	108.6	0.02064	mg/L	0.001184	0.02064 mg/L	0.001184	5.74%
Ba 233.527†	16.8	0.00306	mg/L	0.000849	0.00306 mg/L	0.000849	27.75%
Be 313.042†	500.6	0.00096	mg/L	0.000013	0.00096 mg/L	0.000013	1.40%
Ca 317.933†	463.8	0.05224	mg/L	0.000755	0.05224 mg/L	0.000755	1.45%
Cd 228.802†	59.0	0.00247	mg/L	0.000147	0.00247 mg/L	0.000147	5.97%
Co 228.616†	99.5	0.00304	mg/L	0.000124	0.00304 mg/L	0.000124	4.10%
Cr 267.716†	34.2	0.00512	mg/L	0.001298	0.00512 mg/L	0.001298	25.37%
Cu 324.752†	628.4	0.00268	mg/L	0.000007	0.00268 mg/L	0.000007	0.24%
Fe 273.955†	58.9	0.06549	mg/L	0.000316	0.06549 mg/L	0.000316	0.48%
K 766.490†	1034.2	0.5098	mg/L	0.01580	0.5098 mg/L	0.01580	3.10%
Mg 279.077†	45.4	0.05329	mg/L	0.008222	0.05329 mg/L	0.008222	15.43%
Mn 257.610†	36.3	0.00107	mg/L	0.000125	0.00107 mg/L	0.000125	11.65%
Mo 202.031†	87.7	0.00488	mg/L	0.000135	0.00488 mg/L	0.000135	2.76%
Na 589.592†	6211.1	0.5005	mg/L	0.00453	0.5005 mg/L	0.00453	0.90%
Na 330.237†	20.4	0.8601	mg/L	0.45313	0.8601 mg/L	0.45313	52.68%
Ni 231.604†	34.7	0.01074	mg/L	0.000832	0.01074 mg/L	0.000832	7.75%
Pb 220.353†	166.2	0.02041	mg/L	0.000908	0.02041 mg/L	0.000908	4.45%
Sb 206.836†	137.5	0.05162	mg/L	0.001732	0.05162 mg/L	0.001732	3.36%
Se 196.026†	80.4	0.05065	mg/L	0.002680	0.05065 mg/L	0.002680	5.29%
Si 288.158†	69.1	0.06322	mg/L	0.005403	0.06322 mg/L	0.005403	8.55%
Sn 189.927†	46.2	0.01003	mg/L	0.000234	0.01003 mg/L	0.000234	2.33%
Sr 421.552†	796.2	0.00102	mg/L	0.000041	0.00102 mg/L	0.000041	4.03%
Ti 334.903†	125.9	0.00587	mg/L	0.000745	0.00587 mg/L	0.000745	12.70%
Tl 190.801†	78.4	0.04735	mg/L	0.002685	0.04735 mg/L	0.002685	5.67%
V 292.402†	443.8	0.00302	mg/L	0.000100	0.00302 mg/L	0.000100	3.30%
Zn 206.200†	41.2	0.01071	mg/L	0.000311	0.01071 mg/L	0.000311	2.90%

Sequence No.: 45
 Sample ID: ICSA
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 3/21/2014 11:55:43 AM
 Data Type: Original

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2440334.0		100.1 %	1.03			1.03%
ScR 361.383	302035.8		102.9 %	0.68			0.66%
Ag 328.068†	-348.5	-0.00093	mg/L	0.000225	-0.00093	mg/L	0.000225 24.27%
Al 308.215†	174293.2	197.9	mg/L	0.46	197.9	mg/L	0.46 0.23%
As 188.979†	56.0	0.02691	mg/L	0.001766	0.02691	mg/L	0.001766 6.56%
B 249.677†	-49.2	-0.00935	mg/L	0.001290	-0.00935	mg/L	0.001290 13.79%
Ba 233.527†	123.6	0.00011	mg/L	0.000454	0.00011	mg/L	0.000454 411.37%
Be 313.042†	57.7	0.00011	mg/L	0.000026	0.00011	mg/L	0.000026 23.98%
Ca 317.933†	871871.4	98.20	mg/L	0.152	98.20	mg/L	0.152 0.15%
Cd 228.802†	26.1	0.00099	mg/L	0.000333	0.00099	mg/L	0.000333 33.67%
Co 228.616†	89.8	0.00272	mg/L	0.000295	0.00272	mg/L	0.000295 10.85%
Cr 267.716†	-3.1	-0.00068	mg/L	0.000364	-0.00068	mg/L	0.000364 53.28%
Cu 324.752†	-2089.0	-0.00028	mg/L	0.000127	-0.00028	mg/L	0.000127 44.75%
Fe 273.955†	170196.6	189.3	mg/L	1.33	189.3	mg/L	1.33 0.70%
K 766.490†	39.7	0.01957	mg/L	0.013293	0.01957	mg/L	0.013293 67.94%
Mg 279.077†	86922.5	101.9	mg/L	0.42	101.9	mg/L	0.42 0.41%
Mn 257.610†	43.2	-0.00050	mg/L	0.000223	-0.00050	mg/L	0.000223 44.21%
Mo 202.031†	109.5	0.00458	mg/L	0.000460	0.00458	mg/L	0.000460 10.04%
Na 589.592†	89.7	0.00723	mg/L	0.001908	0.00723	mg/L	0.001908 26.39%
Na 330.237†	-31.5	-1.322	mg/L	0.2339	-1.322	mg/L	0.2339 17.69%
Ni 231.604†	0.8	0.00025	mg/L	0.000394	0.00025	mg/L	0.000394 158.93%
Pb 220.353†	-483.5	0.01492	mg/L	0.001240	0.01492	mg/L	0.001240 8.31%
Sb 206.836†	-12.6	-0.00486	mg/L	0.004537	-0.00486	mg/L	0.004537 93.27%
Se 196.026†	61.2	0.03854	mg/L	0.003992	0.03854	mg/L	0.003992 10.36%
Si 288.158†	-17.5	-0.01605	mg/L	0.005002	-0.01605	mg/L	0.005002 31.16%
Sn 189.927†	-121.6	-0.00806	mg/L	0.001212	-0.00806	mg/L	0.001212 15.03%
Sr 421.552†	4082.2	0.00524	mg/L	0.000047	0.00524	mg/L	0.000047 0.90%
Ti 334.903†	332.9	0.00565	mg/L	0.000786	0.00565	mg/L	0.000786 13.90%
Tl 190.801†	10.9	0.02248	mg/L	0.000783	0.02248	mg/L	0.000783 3.49%
V 292.402†	1337.2	-0.00372	mg/L	0.000539	-0.00372	mg/L	0.000539 14.48%
Zn 206.200†	-5.8	-0.00277	mg/L	0.000418	-0.00277	mg/L	0.000418 15.10%

Sequence No.: 46
 Sample ID: ICSAB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 3/21/2014 11:59:58 AM
 Data Type: Original

Nebulizer Parameters: ICSAB

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2365689.5	97.08 %	0.981			1.01%
ScR 361.383	303910.6	103.5 %	0.61			0.58%
Ag 328.068†	233588.4	1.054 mg/L	0.0013	1.054 mg/L	0.0013	0.13%
Al 308.215†	174536.0	198.2 mg/L	0.05	198.2 mg/L	0.05	0.02%
As 188.979†	1447.8	1.049 mg/L	0.0132	1.049 mg/L	0.0132	1.26%
B 249.677†	-45.6	-0.01075 mg/L	0.001496	-0.01075 mg/L	0.001496	13.93%
Ba 233.527†	5590.9	0.9988 mg/L	0.00459	0.9988 mg/L	0.00459	0.46%
Be 313.042†	480917.8	0.9184 mg/L	0.00335	0.9184 mg/L	0.00335	0.36%
Ca 317.933†	875756.7	98.63 mg/L	0.218	98.63 mg/L	0.218	0.22%
Cd 228.802†	22777.1	1.042 mg/L	0.0117	1.042 mg/L	0.0117	1.12%
Co 228.616†	32140.6	0.9837 mg/L	0.00929	0.9837 mg/L	0.00929	0.94%
Cr 267.716†	6694.9	1.001 mg/L	0.0041	1.001 mg/L	0.0041	0.41%
Cu 324.752†	240522.4	1.035 mg/L	0.0012	1.035 mg/L	0.0012	0.12%
Fe 273.955†	171434.7	190.7 mg/L	1.28	190.7 mg/L	1.28	0.67%
K 766.490†	-3.2	-0.00158 mg/L	0.013511	-0.00158 mg/L	0.013511	853.25%
Mg 279.077†	84256.8	98.81 mg/L	0.216	98.81 mg/L	0.216	0.22%
Mn 257.610†	30993.6	0.9087 mg/L	0.00515	0.9087 mg/L	0.00515	0.57%
Mo 202.031†	112.7	0.00475 mg/L	0.000197	0.00475 mg/L	0.000197	4.16%
Na 589.592†	77.9	0.00628 mg/L	0.002054	0.00628 mg/L	0.002054	32.72%
Na 330.237†	-25.0	-1.321 mg/L	0.3580	-1.321 mg/L	0.3580	27.10%
Ni 231.604†	3073.1	0.9494 mg/L	0.00704	0.9494 mg/L	0.00704	0.74%
Pb 220.353†	7485.9	0.9926 mg/L	0.01056	0.9926 mg/L	0.01056	1.06%
Sb 206.836†	2749.1	1.022 mg/L	0.0107	1.022 mg/L	0.0107	1.05%
Se 196.026†	1657.3	1.043 mg/L	0.0068	1.043 mg/L	0.0068	0.65%
Si 288.158†	-29.8	-0.02263 mg/L	0.002073	-0.02263 mg/L	0.002073	9.16%
Sn 189.927†	-131.0	-0.00940 mg/L	0.001042	-0.00940 mg/L	0.001042	11.08%
Sr 421.552†	4058.5	0.00521 mg/L	0.000055	0.00521 mg/L	0.000055	1.06%
Ti 334.903†	328.0	0.00519 mg/L	0.000139	0.00519 mg/L	0.000139	2.68%
Tl 190.801†	1632.3	0.9928 mg/L	0.00997	0.9928 mg/L	0.00997	1.00%
V 292.402†	144101.6	0.9677 mg/L	0.00216	0.9677 mg/L	0.00216	0.22%
Zn 206.200†	3595.5	0.9329 mg/L	0.00529	0.9329 mg/L	0.00529	0.57%

Sequence No.: 47
 Sample ID: CV 5
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/21/2014 12:04:47 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2507864.5	102.9	%	0.28				0.27%
ScR 361.383	303235.6	103.3	%	0.32				0.31%
Ag 328.068†	222158.3	1.002	mg/L	0.0010	1.002	mg/L	0.0010	0.10%
Al 308.215†	1836.6	2.054	mg/L	0.0170	2.054	mg/L	0.0170	0.83%
As 188.979†	2708.6	2.021	mg/L	0.0115	2.021	mg/L	0.0115	0.57%
B 249.677†	5196.0	0.9864	mg/L	0.00260	0.9864	mg/L	0.00260	0.26%
Ba 233.527†	5651.3	1.032	mg/L	0.0049	1.032	mg/L	0.0049	0.48%
Be 313.042†	495013.3	0.9453	mg/L	0.00459	0.9453	mg/L	0.00459	0.49%
Ca 317.933†	18433.4	2.076	mg/L	0.0100	2.076	mg/L	0.0100	0.48%
Cd 228.802†	22472.2	1.023	mg/L	0.0047	1.023	mg/L	0.0047	0.46%
Co 228.616†	32998.3	1.008	mg/L	0.0045	1.008	mg/L	0.0045	0.45%
Cr 267.716†	6907.7	1.032	mg/L	0.0038	1.032	mg/L	0.0038	0.36%
Cu 324.752†	232197.3	0.9903	mg/L	0.00112	0.9903	mg/L	0.00112	0.11%
Fe 273.955†	1826.8	2.026	mg/L	0.0083	2.026	mg/L	0.0083	0.41%
K 766.490†	40619.3	20.02	mg/L	0.051	20.02	mg/L	0.051	0.26%
Mg 279.077†	1713.7	2.019	mg/L	0.0015	2.019	mg/L	0.0015	0.07%
Mn 257.610†	32169.5	0.9451	mg/L	0.00592	0.9451	mg/L	0.00592	0.63%
Mo 202.031†	17527.8	0.9750	mg/L	0.00403	0.9750	mg/L	0.00403	0.41%
Na 589.592†	611930.0	49.31	mg/L	0.024	49.31	mg/L	0.024	0.05%
Na 330.237†	1232.1	51.93	mg/L	0.264	51.93	mg/L	0.264	0.51%
Ni 231.604†	3283.3	1.014	mg/L	0.0012	1.014	mg/L	0.0012	0.12%
Pb 220.353†	16184.0	1.985	mg/L	0.0078	1.985	mg/L	0.0078	0.39%
Sb 206.836†	5486.6	2.057	mg/L	0.0066	2.057	mg/L	0.0066	0.32%
Se 196.026†	3145.6	1.981	mg/L	0.0079	1.981	mg/L	0.0079	0.40%
Si 288.158†	2171.0	1.992	mg/L	0.0128	1.992	mg/L	0.0128	0.64%
Sn 189.927†	4494.5	0.9736	mg/L	0.00345	0.9736	mg/L	0.00345	0.35%
Sr 421.552†	755952.5	0.9698	mg/L	0.00107	0.9698	mg/L	0.00107	0.11%
Ti 334.903†	20950.2	0.9770	mg/L	0.00074	0.9770	mg/L	0.00074	0.08%
Tl 190.801†	3419.9	2.059	mg/L	0.0103	2.059	mg/L	0.0103	0.50%
V 292.402†	142629.4	0.9706	mg/L	0.00112	0.9706	mg/L	0.00112	0.12%
Zn 206.200†	3807.9	0.9895	mg/L	0.00398	0.9895	mg/L	0.00398	0.40%

Sequence No.: 48
 Sample ID: CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 12:08:36 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2466827.6	101.2	%	0.42				0.42%
ScR 361.383	304116.9	103.6	%	0.67				0.65%
Ag 328.068†	43.6	0.00020	mg/L	0.000323	0.00020	mg/L	0.000323	164.45%
Al 308.215†	8.3	0.00946	mg/L	0.002243	0.00946	mg/L	0.002243	23.70%
As 188.979†	1.2	0.00088	mg/L	0.001227	0.00088	mg/L	0.001227	139.48%
B 249.677†	2.5	0.00048	mg/L	0.000422	0.00048	mg/L	0.000422	88.39%
Ba 233.527†	2.2	0.00041	mg/L	0.000528	0.00041	mg/L	0.000528	129.23%
Be 313.042†	46.8	0.00009	mg/L	0.000017	0.00009	mg/L	0.000017	18.52%
Ca 317.933†	40.4	0.00455	mg/L	0.000892	0.00455	mg/L	0.000892	19.61%
Cd 228.802†	6.6	0.00030	mg/L	0.000158	0.00030	mg/L	0.000158	52.32%
Co 228.616†	0.5	0.00001	mg/L	0.000075	0.00001	mg/L	0.000075	545.84%
Cr 267.716†	-5.6	-0.00083	mg/L	0.000630	-0.00083	mg/L	0.000630	75.58%
Cu 324.752†	135.0	0.00058	mg/L	0.000116	0.00058	mg/L	0.000116	20.21%
Fe 273.955†	12.3	0.01370	mg/L	0.001209	0.01370	mg/L	0.001209	8.83%
K 766.490†	22.2	0.01097	mg/L	0.014822	0.01097	mg/L	0.014822	135.15%
Mg 279.077†	3.5	0.00413	mg/L	0.003177	0.00413	mg/L	0.003177	76.85%
Mn 257.610†	3.6	0.00011	mg/L	0.000044	0.00011	mg/L	0.000044	40.75%
Mo 202.031†	12.3	0.00069	mg/L	0.000171	0.00069	mg/L	0.000171	25.02%
Na 589.592†	73.7	0.00594	mg/L	0.004425	0.00594	mg/L	0.004425	74.47%
Na 330.237†	8.2	0.3448	mg/L	0.31635	0.3448	mg/L	0.31635	91.74%
Ni 231.604†	3.9	0.00121	mg/L	0.001178	0.00121	mg/L	0.001178	97.46%
Pb 220.353†	8.1	0.00100	mg/L	0.001336	0.00100	mg/L	0.001336	133.87%
Sb 206.836†	17.1	0.00644	mg/L	0.001372	0.00644	mg/L	0.001372	21.31%
Se 196.026†	6.9	0.00434	mg/L	0.001732	0.00434	mg/L	0.001732	39.89%
Si 288.158†	-1.1	-0.00098	mg/L	0.004497	-0.00098	mg/L	0.004497	458.47%
Sn 189.927†	5.9	0.00127	mg/L	0.000569	0.00127	mg/L	0.000569	44.80%
Sr 421.552†	43.7	0.00006	mg/L	0.000035	0.00006	mg/L	0.000035	62.03%
Ti 334.903†	12.5	0.00058	mg/L	0.000294	0.00058	mg/L	0.000294	50.65%
Tl 190.801†	0.7	0.00044	mg/L	0.002048	0.00044	mg/L	0.002048	466.00%
V 292.402†	1.7	0.00001	mg/L	0.000054	0.00001	mg/L	0.000054	755.77%
Zn 206.200†	1.4	0.00037	mg/L	0.000421	0.00037	mg/L	0.000421	112.54%

Sequence No.: 49

Autosampler Location: 334

Sample ID: YD35 MB1 SWC

Date Collected: 3/21/2014 12:12:51 PM

Analyst: ALA

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD35 MB1 SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YD35 MB1 SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2562134.1	105.1	%	0.57				0.54%
ScR 361.383	315993.0	107.6	%	0.63				0.59%
Ag 328.068†	-46.1	-0.00021	mg/L	0.000054	-0.00042	mg/L	0.000108	25.88%
Al 308.215†	2.3	0.00266	mg/L	0.002878	0.00533	mg/L	0.005757	108.04%
As 188.979†	-2.1	-0.00152	mg/L	0.002148	-0.00304	mg/L	0.004296	141.33%
B 249.677†	3.0	0.00058	mg/L	0.000480	0.00115	mg/L	0.000959	83.36%
Ba 233.527†	1.5	0.00027	mg/L	0.000190	0.00055	mg/L	0.000381	69.60%
Be 313.042†	-6.6	-0.00001	mg/L	0.000019	-0.00003	mg/L	0.000038	150.34%
Ca 317.933†	67.2	0.00757	mg/L	0.000819	0.01513	mg/L	0.001638	10.82%
Cd 228.802†	5.0	0.00024	mg/L	0.000136	0.00048	mg/L	0.000272	57.20%
Co 228.616†	6.9	0.00021	mg/L	0.000106	0.00042	mg/L	0.000212	50.16%
Cr 267.716†	9.6	0.00144	mg/L	0.000521	0.00288	mg/L	0.001041	36.20%
Cu 324.752†	109.8	0.00047	mg/L	0.000180	0.00094	mg/L	0.000359	38.28%
Fe 273.955†	16.3	0.01818	mg/L	0.002312	0.03636	mg/L	0.004625	12.72%
K 766.490†	-5.9	-0.00292	mg/L	0.015373	-0.00585	mg/L	0.030746	525.67%
Mg 279.077†	-9.8	-0.01156	mg/L	0.002664	-0.02312	mg/L	0.005328	23.04%
Mn 257.610†	16.2	0.00048	mg/L	0.000248	0.00095	mg/L	0.000496	52.13%
Mo 202.031†	1.5	0.00008	mg/L	0.000179	0.00017	mg/L	0.000359	211.85%
Na 589.592†	54.9	0.00443	mg/L	0.001396	0.00886	mg/L	0.002791	31.52%
Na 330.237†	-0.7	-0.03158	mg/L	0.250999	-0.06315	mg/L	0.501998	794.92%
Ni 231.604†	2.4	0.00076	mg/L	0.001618	0.00151	mg/L	0.003235	214.20%
Pb 220.353†	2.9	0.00036	mg/L	0.000485	0.00073	mg/L	0.000969	132.77%
Sb 206.836†	5.2	0.00193	mg/L	0.002088	0.00386	mg/L	0.004176	108.08%
Se 196.026†	10.1	0.00639	mg/L	0.000785	0.01278	mg/L	0.001570	12.29%
Si 288.158†	-0.9	-0.00078	mg/L	0.002530	-0.00157	mg/L	0.005060	323.19%
Sn 189.927†	6.3	0.00137	mg/L	0.000299	0.00274	mg/L	0.000599	21.83%
Sr 421.552†	4.4	0.00001	mg/L	0.000009	0.00001	mg/L	0.000017	152.16%
Ti 334.903†	-0.5	-0.00003	mg/L	0.000249	-0.00005	mg/L	0.000497	980.57%
Tl 190.801†	0.0	0.00001	mg/L	0.003157	0.00002	mg/L	0.006315	>999.9%
V 292.402†	1.8	0.00002	mg/L	0.000054	0.00003	mg/L	0.000108	312.54%
Zn 206.200†	3.8	0.00099	mg/L	0.000091	0.00198	mg/L	0.000183	9.26%

Sequence No.: 50
Sample ID: YD35 ADUP SWC
Analyst: ALA
Dilution: 2.000000X

Autosampler Location: 335
Date Collected: 3/21/2014 12:17:07 PM
Data Type: Original

Nebulizer Parameters: YD35 ADUP SWC
Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

Mean Data: YD35 ADUP SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2394986.7		98.28 %	0.258				0.26%
ScR 361.383	291576.5		99.29 %	0.375				0.38%
Ag 328.068†	-345.5	-0.00062	mg/L	0.000014	-0.00125	mg/L	0.000028	2.24%
Al 308.215†	71935.2	81.67	mg/L	0.794	163.3	mg/L	1.59	0.97%
As 188.979†	-150.4	0.05042	mg/L	0.001713	0.1008	mg/L	0.00343	3.40%
B 249.677†	293.2	0.05562	mg/L	0.001209	0.1112	mg/L	0.00242	2.17%
Ba 233.527†	818.8	0.1341	mg/L	0.00100	0.2682	mg/L	0.00200	0.75%
Be 313.042†	616.1	0.00105	mg/L	0.000029	0.00211	mg/L	0.000058	2.76%
Ca 317.933†	1168840.4	131.6	mg/L	0.20	263.3	mg/L	0.41	0.16%
Cd 228.802†	31.1	0.00225	mg/L	0.000023	0.00451	mg/L	0.000047	1.04%
Co 228.616†	1759.9	0.04476	mg/L	0.000163	0.08952	mg/L	0.000326	0.36%
Cr 267.716†	1848.9	0.2764	mg/L	0.00122	0.5528	mg/L	0.00244	0.44%
Cu 324.752†	25987.0	0.1157	mg/L	0.00031	0.2314	mg/L	0.00063	0.27%
Fe 273.955†	116954.4	130.1	mg/L	1.81	260.2	mg/L	3.62	1.39%
K 766.490†	15694.5	7.737	mg/L	0.0876	15.47	mg/L	0.175	1.13%
Mg 279.077†	49364.8	57.87	mg/L	0.671	115.7	mg/L	1.34	1.16%
Mn 257.610†	60122.0	1.765	mg/L	0.0253	3.529	mg/L	0.0505	1.43%
Mo 202.031†	183.9	0.00820	mg/L	0.000169	0.01639	mg/L	0.000337	2.06%
Na 589.592†	244603.9	19.71	mg/L	0.051	39.42	mg/L	0.101	0.26%
Na 330.237†	419.5	18.95	mg/L	0.203	37.91	mg/L	0.406	1.07%
Ni 231.604†	897.7	0.2773	mg/L	0.00346	0.5546	mg/L	0.00692	1.25%
Pb 220.353†	5.9	0.03473	mg/L	0.000607	0.06946	mg/L	0.001213	1.75%
Sb 206.836†	19.8	0.00866	mg/L	0.001385	0.01731	mg/L	0.002770	16.00%
Se 196.026†	53.4	0.03343	mg/L	0.002160	0.06686	mg/L	0.004319	6.46%
Si 288.158†	1769.9	1.620	mg/L	0.0132	3.240	mg/L	0.0264	0.81%
Sn 189.927†	-110.5	0.00150	mg/L	0.000975	0.00299	mg/L	0.001949	65.13%
Sr 421.552†	609107.8	0.7814	mg/L	0.00060	1.563	mg/L	0.0012	0.08%
Ti 334.903†	108626.1	5.059	mg/L	0.0552	10.12	mg/L	0.110	1.09%
Tl 190.801†	31.5	0.02344	mg/L	0.003359	0.04688	mg/L	0.006717	14.33%
V 292.402†	40481.1	0.2640	mg/L	0.00033	0.5279	mg/L	0.00066	0.12%
Zn 206.200†	1054.6	0.2726	mg/L	0.00291	0.5452	mg/L	0.00582	1.07%

Sequence No.: 51
 Sample ID: YD35 A SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 336
 Date Collected: 3/21/2014 12:21:08 PM
 Data Type: Original

Nebulizer Parameters: YD35 A SWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD35 A SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2434996.7	99.93	%	0.484			0.48%
ScR 361.383	297425.2	101.3	%	0.68			0.68%
Ag 328.068†	-546.3	-0.00127	mg/L	0.000334	-0.00254	mg/L	26.32%
Al 308.215†	70134.5	79.63	mg/L	0.827	159.3	mg/L	1.04%
As 188.979†	-157.4	0.04872	mg/L	0.007105	0.09745	mg/L	14.58%
B 249.677†	310.8	0.05896	mg/L	0.000351	0.1179	mg/L	0.59%
Ba 233.527†	743.7	0.1214	mg/L	0.00126	0.2427	mg/L	1.04%
Be 313.042†	656.9	0.00113	mg/L	0.000014	0.00226	mg/L	1.21%
Ca 317.933†	1521366.2	171.3	mg/L	1.02	342.7	mg/L	0.60%
Cd 228.802†	29.5	0.00220	mg/L	0.000154	0.00440	mg/L	6.99%
Co 228.616†	1749.6	0.04398	mg/L	0.000119	0.08796	mg/L	0.27%
Cr 267.716†	1542.8	0.2301	mg/L	0.00119	0.4601	mg/L	0.52%
Cu 324.752†	23124.3	0.1029	mg/L	0.00007	0.2058	mg/L	0.07%
Fe 273.955†	109332.6	121.6	mg/L	1.45	243.2	mg/L	1.19%
K 766.490†	14523.6	7.159	mg/L	0.0591	14.32	mg/L	0.83%
Mg 279.077†	46821.4	54.89	mg/L	0.600	109.8	mg/L	1.09%
Mn 257.610†	58184.5	1.708	mg/L	0.0196	3.415	mg/L	1.15%
Mo 202.031†	193.4	0.00811	mg/L	0.000257	0.01622	mg/L	3.17%
Na 589.592†	289342.6	23.32	mg/L	0.044	46.63	mg/L	0.19%
Na 330.237†	501.7	22.50	mg/L	0.275	45.00	mg/L	1.22%
Ni 231.604†	871.1	0.2691	mg/L	0.00155	0.5381	mg/L	0.58%
Pb 220.353†	3.7	0.03324	mg/L	0.000710	0.06648	mg/L	2.14%
Sb 206.836†	17.5	0.00853	mg/L	0.000595	0.01706	mg/L	6.98%
Se 196.026†	58.4	0.03663	mg/L	0.002243	0.07325	mg/L	6.12%
Si 288.158†	2055.2	1.881	mg/L	0.0101	3.762	mg/L	0.54%
Sn 189.927†	-115.8	0.00776	mg/L	0.000500	0.01553	mg/L	6.44%
Sr 421.552†	786851.8	1.009	mg/L	0.0032	2.019	mg/L	0.32%
Ti 334.903†	114240.2	5.317	mg/L	0.0592	10.63	mg/L	1.11%
Tl 190.801†	45.9	0.02793	mg/L	0.004449	0.05586	mg/L	15.93%
V 292.402†	39572.6	0.2580	mg/L	0.00063	0.5161	mg/L	0.24%
Zn 206.200†	918.0	0.2367	mg/L	0.00196	0.4733	mg/L	0.83%

Sequence No.: 52
 Sample ID: YD35 ASPK SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 337
 Date Collected: 3/21/2014 12:25:09 PM
 Data Type: Original

Nebulizer Parameters: YD35 ASPK SWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD35 ASPK SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2395806.5	98.32	%	0.196				0.20%
ScR 361.383	300920.5	102.5	%	1.13				1.10%
Ag 328.068†	113897.0	0.5151	mg/L	0.00382	1.030	mg/L	0.0076	0.74%
Al 308.215†	85272.8	96.81	mg/L	0.667	193.6	mg/L	1.33	0.69%
As 188.979†	2575.3	2.071	mg/L	0.0068	4.143	mg/L	0.0136	0.33%
B 249.677†	256.0	0.04748	mg/L	0.001590	0.09496	mg/L	0.003180	3.35%
Ba 233.527†	12355.9	2.241	mg/L	0.0271	4.482	mg/L	0.0543	1.21%
Be 313.042†	238645.3	0.4556	mg/L	0.00327	0.9112	mg/L	0.00653	0.72%
Ca 317.933†	1519721.5	171.2	mg/L	0.92	342.3	mg/L	1.84	0.54%
Cd 228.802†	11624.0	0.5252	mg/L	0.00079	1.050	mg/L	0.0016	0.15%
Co 228.616†	18258.3	0.5484	mg/L	0.00107	1.097	mg/L	0.0021	0.20%
Cr 267.716†	5118.4	0.7637	mg/L	0.01183	1.527	mg/L	0.0237	1.55%
Cu 324.752†	142257.3	0.6118	mg/L	0.00495	1.224	mg/L	0.0099	0.81%
Fe 273.955†	123734.6	137.6	mg/L	0.85	275.3	mg/L	1.70	0.62%
K 766.490†	40506.1	19.97	mg/L	0.073	39.93	mg/L	0.145	0.36%
Mg 279.077†	63766.2	74.78	mg/L	0.486	149.6	mg/L	0.97	0.65%
Mn 257.610†	78956.5	2.318	mg/L	0.0136	4.636	mg/L	0.0272	0.59%
Mo 202.031†	213.4	0.00923	mg/L	0.000485	0.01845	mg/L	0.000970	5.26%
Na 589.592†	384609.2	30.99	mg/L	0.210	61.98	mg/L	0.419	0.68%
Na 330.237†	680.1	29.99	mg/L	0.916	59.98	mg/L	1.832	3.05%
Ni 231.604†	2550.3	0.7873	mg/L	0.01459	1.575	mg/L	0.0292	1.85%
Pb 220.353†	15889.4	1.987	mg/L	0.0050	3.975	mg/L	0.0099	0.25%
Sb 206.836†	1749.4	0.6537	mg/L	0.00040	1.307	mg/L	0.0008	0.06%
Se 196.026†	3247.3	2.045	mg/L	0.0054	4.091	mg/L	0.0109	0.27%
Si 288.158†	1769.5	1.622	mg/L	0.0251	3.244	mg/L	0.0503	1.55%
Sn 189.927†	-128.0	0.00561	mg/L	0.000742	0.01121	mg/L	0.001483	13.22%
Sr 421.552†	1063956.2	1.365	mg/L	0.0086	2.730	mg/L	0.0173	0.63%
Ti 334.903†	123077.4	5.730	mg/L	0.0356	11.46	mg/L	0.071	0.62%
Tl 190.801†	3248.6	1.960	mg/L	0.0058	3.920	mg/L	0.0115	0.29%
V 292.402†	123841.6	0.8300	mg/L	0.00664	1.660	mg/L	0.0133	0.80%
Zn 206.200†	2862.8	0.7420	mg/L	0.01212	1.484	mg/L	0.0242	1.63%

Sequence No.: 53
 Sample ID: YD35 APOST SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 338
 Date Collected: 3/21/2014 12:28:58 PM
 Data Type: Original

Nebulizer Parameters: YD35 APOST SWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD35 APOST SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD	
	Intensity	Conc.			Conc.	Units		Std.Dev.
ScA 357.253	2385051.3	97.88	%	0.047			0.05%	
ScR 361.383	296052.2	100.8	%	0.55			0.54%	
Ag 328.068†	110964.5	0.5019	mg/L	0.00207	1.004	mg/L	0.0041	0.41%
Al 308.215†	70223.3	79.72	mg/L	0.304	159.4	mg/L	0.61	0.38%
As 188.979†	2714.1	2.151	mg/L	0.0036	4.302	mg/L	0.0072	0.17%
B 249.677†	305.5	0.05691	mg/L	0.000419	0.1138	mg/L	0.00084	0.74%
Ba 233.527†	12008.2	2.180	mg/L	0.0091	4.360	mg/L	0.0181	0.42%
Be 313.042†	237561.5	0.4536	mg/L	0.00248	0.9071	mg/L	0.00495	0.55%
Ca 317.933†	1611641.1	181.5	mg/L	0.38	363.0	mg/L	0.77	0.21%
Cd 228.802†	11777.2	0.5317	mg/L	0.00099	1.063	mg/L	0.0020	0.19%
Co 228.616†	17902.0	0.5385	mg/L	0.00037	1.077	mg/L	0.0007	0.07%
Cr 267.716†	4959.7	0.7399	mg/L	0.00268	1.480	mg/L	0.0054	0.36%
Cu 324.752†	144080.6	0.6188	mg/L	0.00128	1.238	mg/L	0.0026	0.21%
Fe 273.955†	107474.0	119.5	mg/L	0.38	239.1	mg/L	0.76	0.32%
K 766.490†	35757.6	17.63	mg/L	0.070	35.25	mg/L	0.139	0.40%
Mg 279.077†	54479.2	63.89	mg/L	0.193	127.8	mg/L	0.39	0.30%
Mn 257.610†	73066.5	2.145	mg/L	0.0055	4.290	mg/L	0.0110	0.26%
Mo 202.031†	203.9	0.00854	mg/L	0.000332	0.01708	mg/L	0.000664	3.89%
Na 589.592†	416711.1	33.58	mg/L	0.089	67.16	mg/L	0.177	0.26%
Na 330.237†	743.0	32.49	mg/L	0.179	64.98	mg/L	0.358	0.55%
Ni 231.604†	2454.9	0.7585	mg/L	0.00436	1.517	mg/L	0.0087	0.58%
Pb 220.353†	16153.5	2.013	mg/L	0.0018	4.026	mg/L	0.0037	0.09%
Sb 206.836†	5453.7	2.043	mg/L	0.0059	4.086	mg/L	0.0119	0.29%
Se 196.026†	3399.1	2.141	mg/L	0.0037	4.282	mg/L	0.0074	0.17%
Si 288.158†	1960.0	1.796	mg/L	0.0087	3.593	mg/L	0.0174	0.48%
Sn 189.927†	-124.8	0.00889	mg/L	0.000317	0.01778	mg/L	0.000635	3.57%
Sr 421.552†	1168187.9	1.499	mg/L	0.0065	2.997	mg/L	0.0131	0.44%
Ti 334.903†	110473.0	5.140	mg/L	0.0180	10.28	mg/L	0.036	0.35%
Tl 190.801†	3299.0	1.988	mg/L	0.0074	3.976	mg/L	0.0148	0.37%
V 292.402†	111772.0	0.7496	mg/L	0.00326	1.499	mg/L	0.0065	0.43%
Zn 206.200†	2780.0	0.7204	mg/L	0.00245	1.441	mg/L	0.0049	0.34%

Sequence No.: 54
 Sample ID: YD35 REF1 SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 339
 Date Collected: 3/21/2014 12:32:47 PM
 Data Type: Original

Nebulizer Parameters: YD35 REF1 SWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: YD35 REF1 SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2524483.1	103.6	%	0.62				0.59%
ScR 361.383	308108.6	104.9	%	0.64				0.61%
Ag 328.068†	140692.9	0.6352	mg/L ✓	0.00146	1.270	mg/L	0.0029	0.23%
Al 308.215†	83825.2	95.16	mg/L	0.327	190.3	mg/L	0.65	0.34%
As 188.979†	2551.3	1.924	mg/L ✓	0.0075	3.848	mg/L	0.0150	0.39%
B 249.677†	4639.1	0.8786	mg/L	0.00604	1.757	mg/L	0.0121	0.69%
Ba 233.527†	8240.3	1.490	mg/L	0.0111	2.981	mg/L	0.0221	0.74%
Be 313.042†	486911.6	0.9299	mg/L	0.00516	1.860	mg/L	0.0103	0.56%
Ca 317.933†	533799.7	60.12	mg/L	0.259	120.2	mg/L	0.52	0.43%
Cd 228.802†	13940.7	0.6321	mg/L ✓	0.00348	1.264	mg/L	0.0070	0.55%
Co 228.616†	52746.4	1.612	mg/L	0.0036	3.223	mg/L	0.0073	0.23%
Cr 267.716†	8688.9	1.302	mg/L ✓	0.0102	2.603	mg/L	0.0204	0.78%
Cu 324.752†	188281.3	0.8093	mg/L ✓	0.00170	1.619	mg/L	0.0034	0.21%
Fe 273.955†	115088.3	128.0	mg/L	1.50	256.0	mg/L	3.00	1.17%
K 766.490†	57841.4	28.51	mg/L	0.013	57.03	mg/L	0.026	0.05%
Mg 279.077†	23999.2	28.08	mg/L	0.176	56.15	mg/L	0.352	0.63%
Mn 257.610†	91929.1	2.699	mg/L	0.0291	5.399	mg/L	0.0582	1.08%
Mo 202.031†	6636.3	0.3682	mg/L	0.00195	0.7365	mg/L	0.00391	0.53%
Na 589.592†	53614.7	4.320	mg/L	0.0082	8.641	mg/L	0.0164	0.19%
Na 330.237†	87.0	3.518	mg/L	0.0855	7.036	mg/L	0.1711	2.43%
Ni 231.604†	4251.6	1.313	mg/L	0.0151	2.626	mg/L	0.0303	1.15%
Pb 220.353†	10879.6	1.373	mg/L ✓	0.0077	2.746	mg/L	0.0153	0.56%
Sb 206.836†	1274.3	0.4771	mg/L ✓	0.00559	0.9542	mg/L	0.01119	1.17%
Se 196.026†	1443.6	0.9083	mg/L	0.00611	1.817	mg/L	0.0122	0.67%
Si 288.158†	2551.7	2.339	mg/L	0.0217	4.677	mg/L	0.0433	0.93%
Sn 189.927†	6790.4	1.480	mg/L	0.0083	2.960	mg/L	0.0166	0.56%
Sr 421.552†	860818.5	1.104	mg/L	0.0021	2.209	mg/L	0.0041	0.19%
Ti 334.903†	35578.4	1.655	mg/L	0.0052	3.309	mg/L	0.0105	0.32%
Tl 190.801†	2437.4	1.471	mg/L	0.0093	2.942	mg/L	0.0185	0.63%
V 292.402†	145327.9	0.9810	mg/L	0.00033	1.962	mg/L	0.0007	0.03%
Zn 206.200†	7890.3	2.049	mg/L ✓	0.0171	4.099	mg/L	0.0342	0.83%

Sequence No.: 55
 Sample ID: YD35 MB1SPK SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 340
 Date Collected: 3/21/2014 12:36:36 PM
 Data Type: Original

Nebulizer Parameters: YD35 MB1SPK SWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD35 MB1SPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2479039.9	101.7	%	0.65				0.64%
ScR 361.383	310494.8	105.7	%	0.37				0.35%
Ag 328.068†	117755.6	0.5313	mg/L	0.00413	1.063	mg/L	0.0083	0.78%
Al 308.215†	1816.3	2.055	mg/L	0.0081	4.110	mg/L	0.0163	0.40%
As 188.979†	2820.2	2.071	mg/L	0.0046	4.142	mg/L	0.0092	0.22%
B 249.677†	9.4	0.00072	mg/L	0.001271	0.00144	mg/L	0.002542	176.34%
Ba 233.527†	10924.4	1.996	mg/L	0.0144	3.992	mg/L	0.0287	0.72%
Be 313.042†	245611.1	0.4690	mg/L	0.00277	0.9381	mg/L	0.00554	0.59%
Ca 317.933†	88326.5	9.948	mg/L	0.0621	19.90	mg/L	0.124	0.62%
Cd 228.802†	11347.1	0.5113	mg/L	0.00319	1.023	mg/L	0.0064	0.62%
Co 228.616†	16345.4	0.5001	mg/L	0.00212	1.000	mg/L	0.0042	0.42%
Cr 267.716†	3434.6	0.5126	mg/L	0.00163	1.025	mg/L	0.0033	0.32%
Cu 324.752†	115393.5	0.4923	mg/L	0.00379	0.9847	mg/L	0.00758	0.77%
Fe 273.955†	1846.4	2.050	mg/L	0.0083	4.101	mg/L	0.0166	0.41%
K 766.490†	20085.6	9.901	mg/L	0.0291	19.80	mg/L	0.058	0.29%
Mg 279.077†	8904.9	10.46	mg/L	0.030	20.92	mg/L	0.060	0.29%
Mn 257.610†	16117.0	0.4736	mg/L	0.00164	0.9472	mg/L	0.00328	0.35%
Mo 202.031†	28.8	0.00145	mg/L	0.000349	0.00289	mg/L	0.000699	24.15%
Na 589.592†	121352.1	9.779	mg/L	0.0343	19.56	mg/L	0.069	0.35%
Na 330.237†	252.4	10.50	mg/L	0.289	21.00	mg/L	0.579	2.75%
Ni 231.604†	1621.5	0.5011	mg/L	0.00290	1.002	mg/L	0.0058	0.58%
Pb 220.353†	16242.5	1.992	mg/L	0.0091	3.984	mg/L	0.0182	0.46%
Sb 206.836†	5541.6	2.074	mg/L	0.0067	4.148	mg/L	0.0135	0.33%
Se 196.026†	3222.2	2.030	mg/L	0.0075	4.060	mg/L	0.0151	0.37%
Si 288.158†	2.5	0.00458	mg/L	0.002115	0.00917	mg/L	0.004229	46.13%
Sn 189.927†	-22.6	-0.00182	mg/L	0.000375	-0.00364	mg/L	0.000749	20.57%
Sr 421.552†	369391.4	0.4739	mg/L	0.00071	0.9478	mg/L	0.00142	0.15%
Ti 334.903†	98.4	0.00349	mg/L	0.000137	0.00699	mg/L	0.000274	3.92%
Tl 190.801†	3393.5	2.045	mg/L	0.0129	4.091	mg/L	0.0258	0.63%
V 292.402†	73751.3	0.5017	mg/L	0.00356	1.003	mg/L	0.0071	0.71%
Zn 206.200†	1877.6	0.4878	mg/L	0.00244	0.9756	mg/L	0.00489	0.50%

Sequence No.: 56
 Sample ID: CV
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/21/2014 12:40:36 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2460973.9	101.0	%	0.21			0.21%
ScR 361.383	294739.7	100.4	%	1.35			1.34%
Ag 328.068†	227681.1	1.027	mg/L	0.0056	1.027	mg/L	0.54%
Al 308.215†	1872.4	2.094	mg/L	0.0415	2.094	mg/L	1.98%
As 188.979†	2755.0	2.056	mg/L	0.0028	2.056	mg/L	0.14%
B 249.677†	5317.2	1.009	mg/L	0.0164	1.009	mg/L	1.62%
Ba 233.527†	5726.4	1.046	mg/L	0.0142	1.046	mg/L	1.36%
Be 313.042†	504643.7	0.9637	mg/L	0.01272	0.9637	mg/L	1.32%
Ca 317.933†	18893.5	2.128	mg/L	0.0286	2.128	mg/L	1.34%
Cd 228.802†	22920.8	1.044	mg/L	0.0034	1.044	mg/L	0.32%
Co 228.616†	33548.4	1.025	mg/L	0.0016	1.025	mg/L	0.16%
Cr 267.716†	7070.6	1.057	mg/L	0.0170	1.057	mg/L	1.61%
Cu 324.752†	238535.3	1.017	mg/L	0.0049	1.017	mg/L	0.48%
Fe 273.955†	1875.2	2.079	mg/L	0.0326	2.079	mg/L	1.57%
K 766.490†	41393.9	20.41	mg/L	0.132	20.41	mg/L	0.65%
Mg 279.077†	1759.2	2.073	mg/L	0.0268	2.073	mg/L	1.29%
Mn 257.610†	32890.3	0.9663	mg/L	0.00634	0.9663	mg/L	0.66%
Mo 202.031†	17764.1	0.9882	mg/L	0.00173	0.9882	mg/L	0.18%
Na 589.592†	625636.5	50.41	mg/L	0.567	50.41	mg/L	1.12%
Na 330.237†	1260.1	53.11	mg/L	0.762	53.11	mg/L	1.43%
Ni 231.604†	3362.6	1.039	mg/L	0.0168	1.039	mg/L	1.62%
Pb 220.353†	16412.3	2.013	mg/L	0.0026	2.013	mg/L	0.13%
Sb 206.836†	5599.6	2.099	mg/L	0.0040	2.099	mg/L	0.19%
Se 196.026†	3185.7	2.006	mg/L	0.0009	2.006	mg/L	0.05%
Si 288.158†	2223.9	2.040	mg/L	0.0401	2.040	mg/L	1.97%
Sn 189.927†	4566.6	0.9892	mg/L	0.00090	0.9892	mg/L	0.09%
Sr 421.552†	771021.7	0.9891	mg/L	0.00986	0.9891	mg/L	1.00%
Ti 334.903†	21361.6	0.9961	mg/L	0.00845	0.9961	mg/L	0.85%
Tl 190.801†	3460.1	2.083	mg/L	0.0030	2.083	mg/L	0.14%
V 292.402†	146060.3	0.9939	mg/L	0.00619	0.9939	mg/L	0.62%
Zn 206.200†	3897.0	1.013	mg/L	0.0167	1.013	mg/L	1.65%

Sequence No.: 57
 Sample ID: CB(↓)
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 12:44:24 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2467674.1	101.3	%	0.23				0.23%
ScR 361.383	302969.8	103.2	%	0.29				0.28%
Ag 328.068†	-17.9	-0.00008	mg/L	0.000143	-0.00008	mg/L	0.000143	176.42%
Al 308.215†	-4.0	-0.00451	mg/L	0.002945	-0.00451	mg/L	0.002945	65.27%
As 188.979†	0.3	0.00021	mg/L	0.000768	0.00021	mg/L	0.000768	372.26%
B 249.677†	6.2	0.00118	mg/L	0.000793	0.00118	mg/L	0.000793	67.29%
Ba 233.527†	-0.1	-0.00002	mg/L	0.000213	-0.00002	mg/L	0.000213	>999.9%
Be 313.042†	34.7	0.00007	mg/L	0.000060	0.00007	mg/L	0.000060	89.72%
Ca 317.933†	29.7	0.00334	mg/L	0.000501	0.00334	mg/L	0.000501	15.00%
Cd 228.802†	5.9	0.00027	mg/L	0.000175	0.00027	mg/L	0.000175	64.74%
Co 228.616†	1.3	0.00004	mg/L	0.000092	0.00004	mg/L	0.000092	237.34%
Cr 267.716†	-4.2	-0.00062	mg/L	0.000112	-0.00062	mg/L	0.000112	17.88%
Cu 324.752†	177.4	0.00076	mg/L	0.000187	0.00076	mg/L	0.000187	24.70%
Fe 273.955†	4.1	0.00453	mg/L	0.001558	0.00453	mg/L	0.001558	34.40%
K 766.490†	25.9	0.01276	mg/L	0.013659	0.01276	mg/L	0.013659	107.03%
Mg 279.077†	-3.6	-0.00426	mg/L	0.005029	-0.00426	mg/L	0.005029	117.91%
Mn 257.610†	8.1	0.00024	mg/L	0.000044	0.00024	mg/L	0.000044	18.23%
Mo 202.031†	12.0	0.00067	mg/L	0.000315	0.00067	mg/L	0.000315	47.16%
Na 589.592†	76.8	0.00619	mg/L	0.003510	0.00619	mg/L	0.003510	56.76%
Na 330.237†	8.0	0.3385	mg/L	0.56877	0.3385	mg/L	0.56877	168.05%
Ni 231.604†	-0.0	-0.00001	mg/L	0.000033	-0.00001	mg/L	0.000033	332.12%
Pb 220.353†	0.5	0.00006	mg/L	0.000299	0.00006	mg/L	0.000299	493.77%
Sb 206.836†	21.0	0.00787	mg/L	0.002480	0.00787	mg/L	0.002480	31.50%
Se 196.026†	3.5	0.00223	mg/L	0.003150	0.00223	mg/L	0.003150	141.49%
Si 288.158†	10.5	0.00961	mg/L	0.002219	0.00961	mg/L	0.002219	23.08%
Sn 189.927†	3.3	0.00071	mg/L	0.000446	0.00071	mg/L	0.000446	62.98%
Sr 421.552†	72.9	0.00009	mg/L	0.000035	0.00009	mg/L	0.000035	36.93%
Ti 334.903†	1.1	0.00005	mg/L	0.000067	0.00005	mg/L	0.000067	127.93%
Tl 190.801†	0.6	0.00037	mg/L	0.003296	0.00037	mg/L	0.003296	881.99%
V 292.402†	-17.0	-0.00012	mg/L	0.000197	-0.00012	mg/L	0.000197	167.82%
Zn 206.200†	-3.3	-0.00086	mg/L	0.000213	-0.00086	mg/L	0.000213	24.76%

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Analysis Begun

Start Time: 3/21/2014 12:48:40 PM

Plasma On Time: 3/21/2014 7:29:05 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0321.sif

Batch ID:

Results Data Set: I2140321

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Sequence No.: 1

Autosampler Location: 341

Sample ID: YD19 MB1 DMN

Date Collected: 3/21/2014 12:48:41 PM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD19 MB1 DMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YD19 MB1 DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2490457.0	102.2	%	0.32			0.32%
ScR 361.383	305480.7	104.0	%	1.06			1.02%
Ag 328.068†	9.8	0.00004	mg/L	0.000097	0.00004 mg/L	0.000097	218.67%
Al 308.215†	-2.0	-0.00225	mg/L	0.005812	-0.00225 mg/L	0.005812	257.87%
As 188.979†	3.8	0.00279	mg/L	0.000412	0.00279 mg/L	0.000412	14.77%
B 249.677†	-0.3	-0.00005	mg/L	0.001351	-0.00005 mg/L	0.001351	>999.9%
Ba 233.527†	-1.9	-0.00035	mg/L	0.001046	-0.00035 mg/L	0.001046	295.07%
Be 313.042†	17.1	0.00003	mg/L	0.000034	0.00003 mg/L	0.000034	104.86%
Ca 317.933†	19.4	0.00219	mg/L	0.001088	0.00219 mg/L	0.001088	49.70%
Cd 228.802†	4.0	0.00017	mg/L	0.000154	0.00017 mg/L	0.000154	90.43%
Co 228.616†	11.4	0.00035	mg/L	0.000101	0.00035 mg/L	0.000101	28.83%
Cr 267.716†	-3.8	-0.00057	mg/L	0.000245	-0.00057 mg/L	0.000245	42.68%
Cu 324.752†	115.6	0.00049	mg/L	0.000067	0.00049 mg/L	0.000067	13.56%
Fe 273.955†	3.7	0.00414	mg/L	0.001462	0.00414 mg/L	0.001462	35.31%
K 766.490†	28.8	0.01418	mg/L	0.007323	0.01418 mg/L	0.007323	51.64%
Mg 279.077†	-4.3	-0.00509	mg/L	0.007652	-0.00509 mg/L	0.007652	150.45%
Mn 257.610†	1.3	0.00004	mg/L	0.000093	0.00004 mg/L	0.000093	248.81%
Mo 202.031†	-7.2	-0.00040	mg/L	0.000293	-0.00040 mg/L	0.000293	73.34%
Na 589.592†	49.8	0.00401	mg/L	0.000793	0.00401 mg/L	0.000793	19.78%
Na 330.237†	6.7	0.2817	mg/L	0.24247	0.2817 mg/L	0.24247	86.06%
Ni 231.604†	-0.1	-0.00004	mg/L	0.000704	-0.00004 mg/L	0.000704	>999.9%
Pb 220.353†	6.3	0.00078	mg/L	0.000697	0.00078 mg/L	0.000697	89.81%
Sb 206.836†	-8.6	-0.00321	mg/L	0.002181	-0.00321 mg/L	0.002181	67.91%
Se 196.026†	13.3	0.00837	mg/L	0.002716	0.00837 mg/L	0.002716	32.44%
Si 288.158†	-5.9	-0.00544	mg/L	0.001149	-0.00544 mg/L	0.001149	21.12%
Sn 189.927†	3.9	0.00084	mg/L	0.001156	0.00084 mg/L	0.001156	138.32%
Sr 421.552†	2.5	0.00000	mg/L	0.000026	0.00000 mg/L	0.000026	818.38%
Ti 334.903†	-10.0	-0.00047	mg/L	0.001223	-0.00047 mg/L	0.001223	261.27%
Tl 190.801†	5.7	0.00342	mg/L	0.002529	0.00342 mg/L	0.002529	73.95%
V 292.402†	-5.6	-0.00004	mg/L	0.000067	-0.00004 mg/L	0.000067	167.03%
Zn 206.200†	-0.0	-0.00000	mg/L	0.000231	-0.00000 mg/L	0.000231	>999.9%

Sequence No.: 2

Autosampler Location: 342

Sample ID: YD19 B DMN

Date Collected: 3/21/2014 12:52:57 PM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD19 B DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YD19 B DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2484887.1	102.0	%	0.59				0.58%
ScR 361.383	308274.9	105.0	%	1.38				1.31%
Ag 328.068†	-62.6	-0.00013	mg/L	0.000160	-0.00013	mg/L	0.000160	122.24%
Al 308.215†	-7.7	-0.00885	mg/L	0.003221	-0.00885	mg/L	0.003221	36.41%
As 188.979†	28.9	0.01790	mg/L	0.001127	0.01790	mg/L	0.001127	6.30%
B 249.677†	277.1	0.05266	mg/L	0.000592	0.05266	mg/L	0.000592	1.12%
Ba 233.527†	55.6	0.01015	mg/L	0.000723	0.01015	mg/L	0.000723	7.12%
Be 313.042†	18.1	0.00003	mg/L	0.000033	0.00003	mg/L	0.000033	96.47%
Ca 317.933†	204138.6	22.99	mg/L	0.037	22.99	mg/L	0.037	0.16%
Cd 228.802†	-0.4	-0.00013	mg/L	0.000138	-0.00013	mg/L	0.000138	109.83%
Co 228.616†	32.2	0.00098	mg/L	0.000122	0.00098	mg/L	0.000122	12.49%
Cr 267.716†	8.1	0.00033	mg/L	0.000140	0.00033	mg/L	0.000140	42.03%
Cu 324.752†	176.3	0.00060	mg/L	0.000132	0.00060	mg/L	0.000132	21.78%
Fe 273.955†	2.9	0.00317	mg/L	0.001699	0.00317	mg/L	0.001699	53.67%
K 766.490†	3670.0	1.809	mg/L	0.0219	1.809	mg/L	0.0219	1.21%
Mg 279.077†	7520.6	8.836	mg/L	0.0864	8.836	mg/L	0.0864	0.98%
Mn 257.610†	114.7	0.00319	mg/L	0.000141	0.00319	mg/L	0.000141	4.43%
Mo 202.031†	40.0	0.00187	mg/L	0.000121	0.00187	mg/L	0.000121	6.48%
Na 589.592†	203293.2	16.38	mg/L	0.051	16.38	mg/L	0.051	0.31%
Na 330.237†	391.2	16.50	mg/L	0.363	16.50	mg/L	0.363	2.20%
Ni 231.604†	3.7	0.00113	mg/L	0.000997	0.00113	mg/L	0.000997	88.01%
Pb 220.353†	-5.7	-0.00069	mg/L	0.000951	-0.00069	mg/L	0.000951	136.88%
Sb 206.836†	7.3	0.00266	mg/L	0.001366	0.00266	mg/L	0.001366	51.34%
Se 196.026†	27.5	0.01733	mg/L	0.002134	0.01733	mg/L	0.002134	12.31%
Sl 288.158†	11462.9	10.49	mg/L	0.071	10.49	mg/L	0.071	0.68%
Sn 189.927†	-38.8	-0.00411	mg/L	0.000457	-0.00411	mg/L	0.000457	11.10%
Sr 421.552†	168786.2	0.2165	mg/L	0.00039	0.2165	mg/L	0.00039	0.18%
Ti 334.903†	73.1	0.00110	mg/L	0.000545	0.00110	mg/L	0.000545	49.60%
Tl 190.801†	28.7	0.01549	mg/L	0.000928	0.01549	mg/L	0.000928	5.99%
V 292.402†	133.3	0.00091	mg/L	0.000060	0.00091	mg/L	0.000060	6.56%
Zn 206.200†	-4.9	0.00039	mg/L	0.000642	0.00039	mg/L	0.000642	164.40%

Sequence No.: 3
 Sample ID: YD19 C DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 343
 Date Collected: 3/21/2014 12:57:11 PM
 Data Type: Original

Nebulizer Parameters: YD19 C DMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD19 C DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2526390.2	103.7 %	0.19			0.18%
ScR 361.383	312078.6	106.3 %	1.37			1.29%
Ag 328.068†	-89.9	-0.00026 mg/L	0.000177	-0.00026 mg/L	0.000177	68.35%
Al 308.215†	0.3	0.00026 mg/L	0.003594	0.00026 mg/L	0.003594	>999.9%
As 188.979†	26.6	0.01628 mg/L	0.002522	0.01628 mg/L	0.002522	15.49%
B 249.677†	584.9	0.1111 mg/L	0.00093	0.1111 mg/L	0.00093	0.84%
Ba 233.527†	39.0	0.00708 mg/L	0.000048	0.00708 mg/L	0.000048	0.68%
Be 313.042†	30.1	0.00006 mg/L	0.000029	0.00006 mg/L	0.000029	51.10%
Ca 317.933†	197769.7	22.27 mg/L	0.198	22.27 mg/L	0.198	0.89%
Cd 228.802†	2.4	0.00027 mg/L	0.000099	0.00027 mg/L	0.000099	36.45%
Co 228.616†	29.5	0.00085 mg/L	0.000271	0.00085 mg/L	0.000271	31.76%
Cr 267.716†	19.9	0.00144 mg/L	0.000868	0.00144 mg/L	0.000868	60.06%
Cu 324.752†	337.8	0.00122 mg/L	0.000128	0.00122 mg/L	0.000128	10.50%
Fe 273.955†	5.7	0.00629 mg/L	0.002055	0.00629 mg/L	0.002055	32.65%
K 766.490†	5613.5	2.767 mg/L	0.0420	2.767 mg/L	0.0420	1.52%
Mg 279.077†	15427.1	18.12 mg/L	0.145	18.12 mg/L	0.145	0.80%
Mn 257.610†	215.7	0.00610 mg/L	0.000022	0.00610 mg/L	0.000022	0.36%
Mo 202.031†	52.1	0.00255 mg/L	0.000307	0.00255 mg/L	0.000307	12.02%
Na 589.592†	124790.2	10.06 mg/L	0.032	10.06 mg/L	0.032	0.32%
Na 330.237†	245.9	10.36 mg/L	0.181	10.36 mg/L	0.181	1.75%
Ni 231.604†	850.3	0.2626 mg/L	0.00442	0.2626 mg/L	0.00442	1.68%
Pb 220.353†	-9.5	-0.00113 mg/L	0.000307	-0.00113 mg/L	0.000307	27.17%
Sb 206.836†	-2.0	-0.00084 mg/L	0.002157	-0.00084 mg/L	0.002157	256.33%
Se 196.026†	32.0	0.02018 mg/L	0.001960	0.02018 mg/L	0.001960	9.71%
Si 288.158†	16293.0	14.91 mg/L	0.053	14.91 mg/L	0.053	0.35%
Sn 189.927†	-40.5	-0.00462 mg/L	0.000439	-0.00462 mg/L	0.000439	9.50%
Sr 421.552†	64434.8	0.08266 mg/L	0.000220	0.08266 mg/L	0.000220	0.27%
Ti 334.903†	80.0	0.00149 mg/L	0.000612	0.00149 mg/L	0.000612	41.07%
Tl 190.801†	28.8	0.01563 mg/L	0.001497	0.01563 mg/L	0.001497	9.58%
V 292.402†	179.8	0.00123 mg/L	0.000089	0.00123 mg/L	0.000089	7.27%
Zn 206.200†	156.1	0.04304 mg/L	0.000610	0.04304 mg/L	0.000610	1.42%

Sequence No.: 4
 Sample ID: YD19 D DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 344
 Date Collected: 3/21/2014 1:01:10 PM
 Data Type: Original

Nebulizer Parameters: YD19 D DMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD19 D DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2488502.4	102.1	%	0.44				0.43%
ScR 361.383	308089.0	104.9	%	1.28				1.22%
Ag 328.068†	-50.0	-0.00020	mg/L	0.000069	-0.00020	mg/L	0.000069	33.99%
Al 308.215†	-0.7	-0.00086	mg/L	0.007623	-0.00086	mg/L	0.007623	887.53%
As 188.979†	6.8	0.00440	mg/L	0.003193	0.00440	mg/L	0.003193	72.64%
B 249.677†	3689.3	0.7011	mg/L	0.00747	0.7011	mg/L	0.00747	1.07%
Ba 233.527†	34.2	0.00528	mg/L	0.000622	0.00528	mg/L	0.000622	11.78%
Be 313.042†	-3.8	-0.00001	mg/L	0.000024	-0.00001	mg/L	0.000024	323.44%
Ca 317.933†	31196.9	3.514	mg/L	0.0336	3.514	mg/L	0.0336	0.96%
Cd 228.802†	-163.3	0.00010	mg/L	0.000219	0.00010	mg/L	0.000219	227.59%
Co 228.616†	66.4	0.00080	mg/L	0.000145	0.00080	mg/L	0.000145	18.20%
Cr 267.716†	323.7	0.04832	mg/L	0.001199	0.04832	mg/L	0.001199	2.48%
Cu 324.752†	89.9	0.00037	mg/L	0.000270	0.00037	mg/L	0.000270	73.42%
Fe 273.955†	3.3	0.00377	mg/L	0.002814	0.00377	mg/L	0.002814	74.73%
K 766.490†	2668.6	1.316	mg/L	0.0139	1.316	mg/L	0.0139	1.06%
Mg 279.077†	582.7	0.6846	mg/L	0.02124	0.6846	mg/L	0.02124	3.10%
Mn 257.610†	948.0	0.02782	mg/L	0.000205	0.02782	mg/L	0.000205	0.74%
Mo 202.031†	3.0	0.00011	mg/L	0.000133	0.00011	mg/L	0.000133	116.10%
Na 589.592†	153992.8	12.41	mg/L	0.027	12.41	mg/L	0.027	0.22%
Na 330.237†	304.0	12.82	mg/L	0.147	12.82	mg/L	0.147	1.14%
Ni 231.604†	24878.8	7.685	mg/L	0.0476	7.685	mg/L	0.0476	0.62%
Pb 220.353†	-11.9	-0.00045	mg/L	0.000418	-0.00045	mg/L	0.000418	92.10%
Sb 206.836†	-7.3	-0.00338	mg/L	0.000411	-0.00338	mg/L	0.000411	12.16%
Se 196.026†	15.0	0.00945	mg/L	0.002173	0.00945	mg/L	0.002173	23.00%
Si 288.158†	9886.4	9.048	mg/L	0.0825	9.048	mg/L	0.0825	0.91%
Sn 189.927†	-8.8	-0.00126	mg/L	0.000812	-0.00126	mg/L	0.000812	64.69%
Sr 421.552†	52291.9	0.06708	mg/L	0.000108	0.06708	mg/L	0.000108	0.16%
Ti 334.903†	12.4	0.00022	mg/L	0.000557	0.00022	mg/L	0.000557	255.20%
Tl 190.801†	7.4	0.00413	mg/L	0.000583	0.00413	mg/L	0.000583	14.11%
V 292.402†	84.1	0.00077	mg/L	0.000073	0.00077	mg/L	0.000073	9.48%
Zn 206.200†	-9.1	-0.00071	mg/L	0.000288	-0.00071	mg/L	0.000288	40.32%

Sequence No.: 5

Autosampler Location: 345

Sample ID: YD19 E DMN

Date Collected: 3/21/2014 1:05:25 PM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD19 E DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YD19 E DMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2514644.9		103.2 %	0.52				0.51%
ScR 361.383	310502.5		105.7 %	0.51				0.48%
Ag 328.068†	-22.8	0.00002	mg/L	0.000060	0.00002	mg/L	0.000060	276.18%
Al 308.215†	6.6	0.00741	mg/L	0.005194	0.00741	mg/L	0.005194	70.12%
As 188.979†	25.5	0.01598	mg/L	0.003057	0.01598	mg/L	0.003057	19.13%
B 249.677†	405.7	0.07709	mg/L	0.001039	0.07709	mg/L	0.001039	1.35%
Ba 233.527†	43.0	0.00782	mg/L	0.000572	0.00782	mg/L	0.000572	7.32%
Be 313.042†	27.6	0.00005	mg/L	0.000026	0.00005	mg/L	0.000026	49.10%
Ca 317.933†	167847.7	18.90	mg/L	0.095	18.90	mg/L	0.095	0.50%
Cd 228.802†	-4.5	-0.00006	mg/L	0.000145	-0.00006	mg/L	0.000145	250.63%
Co 228.616†	46.5	0.00138	mg/L	0.000114	0.00138	mg/L	0.000114	8.27%
Cr 267.716†	27.1	0.00319	mg/L	0.000676	0.00319	mg/L	0.000676	21.21%
Cu 324.752†	927.8	0.00382	mg/L	0.000049	0.00382	mg/L	0.000049	1.29%
Fe 273.955†	6.4	0.00710	mg/L	0.000744	0.00710	mg/L	0.000744	10.49%
K 766.490†	2991.5	1.475	mg/L	0.0212	1.475	mg/L	0.0212	1.44%
Mg 279.077†	7976.5	9.371	mg/L	0.0780	9.371	mg/L	0.0780	0.83%
Mn 257.610†	231.2	0.00663	mg/L	0.000148	0.00663	mg/L	0.000148	2.23%
Mo 202.031†	33.3	0.00156	mg/L	0.000233	0.00156	mg/L	0.000233	14.90%
Na 589.592†	138948.3	11.20	mg/L	0.035	11.20	mg/L	0.035	0.32%
Na 330.237†	271.3	11.44	mg/L	0.349	11.44	mg/L	0.349	3.05%
Ni 231.604†	804.8	0.2486	mg/L	0.00079	0.2486	mg/L	0.00079	0.32%
Pb 220.353†	-12.5	-0.00150	mg/L	0.000850	-0.00150	mg/L	0.000850	56.62%
Sb 206.836†	1.4	0.00042	mg/L	0.002242	0.00042	mg/L	0.002242	531.03%
Se 196.026†	29.9	0.01882	mg/L	0.001851	0.01882	mg/L	0.001851	9.83%
Si 288.158†	12858.4	11.77	mg/L	0.106	11.77	mg/L	0.106	0.90%
Sn 189.927†	-34.1	-0.00387	mg/L	0.000734	-0.00387	mg/L	0.000734	18.95%
Sr 421.552†	111968.4	0.1436	mg/L	0.00055	0.1436	mg/L	0.00055	0.39%
Ti 334.903†	58.5	0.00083	mg/L	0.000863	0.00083	mg/L	0.000863	104.51%
Tl 190.801†	20.4	0.01081	mg/L	0.002064	0.01081	mg/L	0.002064	19.11%
V 292.402†	293.9	0.00201	mg/L	0.000251	0.00201	mg/L	0.000251	12.50%
Zn 206.200†	10.8	0.00477	mg/L	0.000500	0.00477	mg/L	0.000500	10.47%

Sequence No.: 6
 Sample ID: YD19 ADUP DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 346
 Date Collected: 3/21/2014 1:09:39 PM
 Data Type: Original

Nebulizer Parameters: YD19 ADUP DMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD19 ADUP DMN

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2472173.5	101.5	%	0.88			0.87%
ScR 361.383	310326.5	105.7	%	1.57			1.49%
Ag 328.068†	-90.4	-0.00030	mg/L	0.000237	-0.00030	mg/L	0.000237 79.49%
Al 308.215†	-7.0	-0.00798	mg/L	0.004763	-0.00798	mg/L	0.004763 59.71%
As 188.979†	23.1	0.01452	mg/L	0.001543	0.01452	mg/L	0.001543 10.62%
B 249.677†	240.6	0.04573	mg/L	0.000136	0.04573	mg/L	0.000136 0.30%
Ba 233.527†	38.2	0.00698	mg/L	0.001223	0.00698	mg/L	0.001223 17.53%
Be 313.042†	12.4	0.00002	mg/L	0.000038	0.00002	mg/L	0.000038 163.72%
Ca 317.933†	147840.3	16.65	mg/L	0.048	16.65	mg/L	0.048 0.29%
Cd 228.802†	3.3	0.00007	mg/L	0.000202	0.00007	mg/L	0.000202 295.53%
Co 228.616†	23.8	0.00072	mg/L	0.000086	0.00072	mg/L	0.000086 11.82%
Cr 267.716†	5.5	0.00021	mg/L	0.001093	0.00021	mg/L	0.001093 521.61%
Cu 324.752†	173.5	0.00064	mg/L	0.000395	0.00064	mg/L	0.000395 62.12%
Fe 273.955†	3.5	0.00391	mg/L	0.000615	0.00391	mg/L	0.000615 15.75%
K 766.490†	3524.6	1.737	mg/L	0.0369	1.737	mg/L	0.0369 2.12%
Mg 279.077†	5197.7	6.107	mg/L	0.0644	6.107	mg/L	0.0644 1.06%
Mn 257.610†	81.7	0.00227	mg/L	0.000042	0.00227	mg/L	0.000042 1.84%
Mo 202.031†	29.5	0.00138	mg/L	0.000363	0.00138	mg/L	0.000363 26.26%
Na 589.592†	164650.1	13.27	mg/L	0.006	13.27	mg/L	0.006 0.04%
Na 330.237†	320.3	13.51	mg/L	0.234	13.51	mg/L	0.234 1.73%
Ni 231.604†	9.3	0.00286	mg/L	0.000728	0.00286	mg/L	0.000728 25.46%
Pb 220.353†	-8.6	-0.00105	mg/L	0.000177	-0.00105	mg/L	0.000177 16.77%
Sb 206.836†	1.9	0.00068	mg/L	0.001171	0.00068	mg/L	0.001171 172.24%
Se 196.026†	24.7	0.01557	mg/L	0.001613	0.01557	mg/L	0.001613 10.36%
Si 288.158†	11404.3	10.44	mg/L	0.127	10.44	mg/L	0.127 1.22%
Sn 189.927†	-25.8	-0.00250	mg/L	0.000767	-0.00250	mg/L	0.000767 30.72%
Sr 421.552†	129946.8	0.1667	mg/L	0.00020	0.1667	mg/L	0.00020 0.12%
Ti 334.903†	50.2	0.00066	mg/L	0.000876	0.00066	mg/L	0.000876 131.74%
Tl 190.801†	18.6	0.00993	mg/L	0.001563	0.00993	mg/L	0.001563 15.74%
V 292.402†	132.0	0.00090	mg/L	0.000046	0.00090	mg/L	0.000046 5.13%
Zn 206.200†	-3.3	0.00089	mg/L	0.000239	0.00089	mg/L	0.000239 26.99%

Sequence No.: 7
 Sample ID: YD19 A DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 347
 Date Collected: 3/21/2014 1:13:55 PM
 Data Type: Original

Nebulizer Parameters: YD19 A DMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD19 A DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2485849.7	102.0	%	0.53			0.52%
ScR 361.383	311946.6	106.2	%	1.11			1.04%
Ag 328.068†	-25.3	-0.00000	mg/L	0.000066	-0.00000	mg/L	0.000066 >999.9%
Al 308.215†	-0.3	-0.00041	mg/L	0.007545	-0.00041	mg/L	0.007545 >999.9%
As 188.979†	24.5	0.01552	mg/L	0.001665	0.01552	mg/L	0.001665 10.73%
B 249.677†	246.1	0.04677	mg/L	0.000488	0.04677	mg/L	0.000488 1.04%
Ba 233.527†	40.6	0.00742	mg/L	0.000160	0.00742	mg/L	0.000160 2.15%
Be 313.042†	15.9	0.00003	mg/L	0.000029	0.00003	mg/L	0.000029 98.02%
Ca 317.933†	149458.1	16.83	mg/L	0.106	16.83	mg/L	0.106 0.63%
Cd 228.802†	0.9	-0.00005	mg/L	0.000141	-0.00005	mg/L	0.000141 286.61%
Co 228.616†	28.0	0.00085	mg/L	0.000111	0.00085	mg/L	0.000111 13.07%
Cr 267.716†	6.1	0.00029	mg/L	0.000375	0.00029	mg/L	0.000375 129.25%
Cu 324.752†	209.2	0.00079	mg/L	0.000236	0.00079	mg/L	0.000236 29.94%
Fe 273.955†	3.4	0.00379	mg/L	0.003301	0.00379	mg/L	0.003301 87.04%
K 766.490†	3560.3	1.755	mg/L	0.0347	1.755	mg/L	0.0347 1.98%
Mg 279.077†	5264.8	6.185	mg/L	0.0899	6.185	mg/L	0.0899 1.45%
Mn 257.610†	81.9	0.00228	mg/L	0.000097	0.00228	mg/L	0.000097 4.28%
Mo 202.031†	27.4	0.00127	mg/L	0.000618	0.00127	mg/L	0.000618 48.81%
Na 589.592†	165900.9	13.37	mg/L	0.030	13.37	mg/L	0.030 0.22%
Na 330.237†	330.9	13.95	mg/L	0.671	13.95	mg/L	0.671 4.81%
Ni 231.604†	11.2	0.00346	mg/L	0.000667	0.00346	mg/L	0.000667 19.29%
Pb 220.353†	-2.1	-0.00026	mg/L	0.000683	-0.00026	mg/L	0.000683 266.36%
Sb 206.836†	3.9	0.00142	mg/L	0.001084	0.00142	mg/L	0.001084 76.23%
Se 196.026†	24.4	0.01537	mg/L	0.001253	0.01537	mg/L	0.001253 8.16%
Si 288.158†	11528.6	10.55	mg/L	0.072	10.55	mg/L	0.072 0.68%
Sn 189.927†	-26.4	-0.00258	mg/L	0.000175	-0.00258	mg/L	0.000175 6.79%
Sr 421.552†	130954.1	0.1680	mg/L	0.00077	0.1680	mg/L	0.00077 0.46%
Ti 334.903†	42.7	0.00030	mg/L	0.000590	0.00030	mg/L	0.000590 198.60%
Tl 190.801†	22.0	0.01191	mg/L	0.002067	0.01191	mg/L	0.002067 17.35%
V 292.402†	106.9	0.00073	mg/L	0.000160	0.00073	mg/L	0.000160 21.95%
Zn 206.200†	-1.0	0.00149	mg/L	0.000931	0.00149	mg/L	0.000931 62.43%

Sequence No.: 8
 Sample ID: YD19 ASPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 348
 Date Collected: 3/21/2014 1:18:09 PM
 Data Type: Original

Nebulizer Parameters: YD19 ASPK DMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD19 ASPK DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2517621.4	103.3	%	0.81			0.78%
ScR 361.383	306269.5	104.3	%	1.25			1.20%
Ag 328.068†	94546.2	0.4267	mg/L	0.01126	0.4267	mg/L	0.01126 2.64%
Al 308.215†	1816.8	2.056	mg/L	0.0243	2.056	mg/L	0.0243 1.18%
As 188.979†	3011.2	2.209	mg/L	0.0108	2.209	mg/L	0.0108 0.49%
B 249.677†	233.7	0.04335	mg/L	0.001320	0.04335	mg/L	0.001320 3.04%
Ba 233.527†	11352.2	2.074	mg/L	0.0242	2.074	mg/L	0.0242 1.17%
Be 313.042†	238702.7	0.4559	mg/L	0.00077	0.4559	mg/L	0.00077 0.17%
Ca 317.933†	238550.1	26.87	mg/L	0.044	26.87	mg/L	0.044 0.16%
Cd 228.802†	11838.3	0.5332	mg/L	0.00369	0.5332	mg/L	0.00369 0.69%
Co 228.616†	16390.3	0.5015	mg/L	0.00391	0.5015	mg/L	0.00391 0.78%
Cr 267.716†	3480.8	0.5188	mg/L	0.00587	0.5188	mg/L	0.00587 1.13%
Cu 324.752†	116259.1	0.4959	mg/L	0.00377	0.4959	mg/L	0.00377 0.76%
Fe 273.955†	1828.0	2.030	mg/L	0.0230	2.030	mg/L	0.0230 1.13%
K 766.490†	24537.6	12.10	mg/L	0.045	12.10	mg/L	0.045 0.37%
Mg 279.077†	14522.3	17.06	mg/L	0.219	17.06	mg/L	0.219 1.28%
Mn 257.610†	17151.9	0.5039	mg/L	0.00634	0.5039	mg/L	0.00634 1.26%
Mo 202.031†	42.6	0.00195	mg/L	0.000067	0.00195	mg/L	0.000067 3.41%
Na 589.592†	290582.7	23.42	mg/L	0.099	23.42	mg/L	0.099 0.42%
Na 330.237†	576.7	24.17	mg/L	0.106	24.17	mg/L	0.106 0.44%
Ni 231.604†	1644.8	0.5072	mg/L	0.00713	0.5072	mg/L	0.00713 1.41%
Pb 220.353†	16456.9	2.018	mg/L	0.0088	2.018	mg/L	0.0088 0.43%
Sb 206.836†	15.9	0.00096	mg/L	0.001721	0.00096	mg/L	0.001721 179.36%
Se 196.026†	3733.1	2.352	mg/L	0.0115	2.352	mg/L	0.0115 0.49%
Si 288.158†	11770.3	10.77	mg/L	0.132	10.77	mg/L	0.132 1.22%
Sn 189.927†	-44.3	-0.00453	mg/L	0.000155	-0.00453	mg/L	0.000155 3.43%
Sr 421.552†	513710.3	0.6590	mg/L	0.00106	0.6590	mg/L	0.00106 0.16%
Ti 334.903†	80.9	0.00097	mg/L	0.000341	0.00097	mg/L	0.000341 35.15%
Tl 190.801†	3442.8	2.074	mg/L	0.0159	2.074	mg/L	0.0159 0.77%
V 292.402†	74539.4	0.5071	mg/L	0.00475	0.5071	mg/L	0.00475 0.94%
Zn 206.200†	1965.3	0.5124	mg/L	0.00575	0.5124	mg/L	0.00575 1.12%

Sequence No.: 9
 Sample ID: YD19 MB1SPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 349
 Date Collected: 3/21/2014 1:22:09 PM
 Data Type: Original

Nebulizer Parameters: YD19 MB1SPK DMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD19 MB1SPK DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2496606.6	102.5	%	0.45				0.44%
ScR 361.383	305165.2	103.9	%	0.98				0.94%
Ag 328.068†	67764.7	0.3058	mg/L	0.00867	0.3058	mg/L	0.00867	2.83%
Al 308.215†	1838.2	2.080	mg/L	0.0102	2.080	mg/L	0.0102	0.49%
As 188.979†	2944.4	2.162	mg/L	0.0036	2.162	mg/L	0.0036	0.17%
B 249.677†	2.7	-0.00055	mg/L	0.001074	-0.00055	mg/L	0.001074	193.86%
Ba 233.527†	11075.7	2.023	mg/L	0.0152	2.023	mg/L	0.0152	0.75%
Be 313.042†	238066.5	0.4546	mg/L	0.00267	0.4546	mg/L	0.00267	0.59%
Ca 317.933†	89989.8	10.14	mg/L	0.017	10.14	mg/L	0.017	0.17%
Cd 228.802†	11904.8	0.5365	mg/L	0.00246	0.5365	mg/L	0.00246	0.46%
Co 228.616†	16509.8	0.5052	mg/L	0.00148	0.5052	mg/L	0.00148	0.29%
Cr 267.716†	3509.8	0.5238	mg/L	0.00172	0.5238	mg/L	0.00172	0.33%
Cu 324.752†	116133.4	0.4955	mg/L	0.00232	0.4955	mg/L	0.00232	0.47%
Fe 273.955†	1846.7	2.051	mg/L	0.0090	2.051	mg/L	0.0090	0.44%
K 766.490†	20907.6	10.31	mg/L	0.049	10.31	mg/L	0.049	0.47%
Mg 279.077†	9201.1	10.81	mg/L	0.068	10.81	mg/L	0.068	0.63%
Mn 257.610†	16586.8	0.4874	mg/L	0.00386	0.4874	mg/L	0.00386	0.79%
Mo 202.031†	17.5	0.00082	mg/L	0.000373	0.00082	mg/L	0.000373	45.53%
Na 589.592†	125682.3	10.13	mg/L	0.027	10.13	mg/L	0.027	0.26%
Na 330.237†	257.5	10.71	mg/L	0.354	10.71	mg/L	0.354	3.31%
Ni 231.604†	1665.0	0.5134	mg/L	0.00326	0.5134	mg/L	0.00326	0.63%
Pb 220.353†	16615.2	2.038	mg/L	0.0102	2.038	mg/L	0.0102	0.50%
Sb 206.836†	0.1	-0.00498	mg/L	0.001877	-0.00498	mg/L	0.001877	37.70%
Se 196.026†	3701.3	2.332	mg/L	0.0009	2.332	mg/L	0.0009	0.04%
Si 288.158†	-5.0	-0.00217	mg/L	0.005146	-0.00217	mg/L	0.005146	236.76%
Sn 189.927†	-21.8	-0.00276	mg/L	0.000438	-0.00276	mg/L	0.000438	15.86%
Sr 421.552†	382485.7	0.4907	mg/L	0.00106	0.4907	mg/L	0.00106	0.22%
Ti 334.903†	32.8	0.00041	mg/L	0.000089	0.00041	mg/L	0.000089	21.81%
Tl 190.801†	3426.3	2.065	mg/L	0.0044	2.065	mg/L	0.0044	0.21%
V 292.402†	74769.0	0.5087	mg/L	0.00312	0.5087	mg/L	0.00312	0.61%
Zn 206.200†	1987.9	0.5165	mg/L	0.00285	0.5165	mg/L	0.00285	0.55%

Sequence No.: 10
 Sample ID: YD07 MB1SPD TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 350
 Date Collected: 3/21/2014 1:26:09 PM
 Data Type: Original

Nebulizer Parameters: YD07 MB1SPD TWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD07 MB1SPD TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2444247.2	100.3	%	0.48				0.48%
ScR 361.383	302285.3	102.9	%	0.54				0.53%
Ag 328.068†	144157.0	0.6504	mg/L	0.02468	0.6504	mg/L	0.02468	3.79%
Al 308.215†	1786.8	2.022	mg/L	0.0092	2.022	mg/L	0.0092	0.46%
As 188.979†	2817.8	2.069	mg/L	0.0087	2.069	mg/L	0.0087	0.42%
B 249.677†	11.7	0.00117	mg/L	0.001660	0.00117	mg/L	0.001660	141.96%
Ba 233.527†	10892.2	1.990	mg/L	0.0050	1.990	mg/L	0.0050	0.25%
Be 313.042†	246835.8	0.4714	mg/L	0.00070	0.4714	mg/L	0.00070	0.15%
Ca 317.933†	88285.9	9.943	mg/L	0.0135	9.943	mg/L	0.0135	0.14%
Cd 228.802†	11344.2	0.5112	mg/L	0.00264	0.5112	mg/L	0.00264	0.52%
Co 228.616†	16313.8	0.4992	mg/L	0.00520	0.4992	mg/L	0.00520	1.04%
Cr 267.716†	3438.0	0.5131	mg/L	0.00222	0.5131	mg/L	0.00222	0.43%
Cu 324.752†	115152.2	0.4913	mg/L	0.00391	0.4913	mg/L	0.00391	0.80%
Fe 273.955†	1817.2	2.018	mg/L	0.0061	2.018	mg/L	0.0061	0.30%
K 766.490†	20379.5	10.05	mg/L	0.035	10.05	mg/L	0.035	0.35%
Mg 279.077†	8903.7	10.46	mg/L	0.031	10.46	mg/L	0.031	0.30%
Mn 257.610†	16200.5	0.4761	mg/L	0.00116	0.4761	mg/L	0.00116	0.24%
Mo 202.031†	23.6	0.00116	mg/L	0.000230	0.00116	mg/L	0.000230	19.87%
Na 589.592†	122490.9	9.870	mg/L	0.0073	9.870	mg/L	0.0073	0.07%
Na 330.237†	255.8	10.65	mg/L	0.010	10.65	mg/L	0.010	0.09%
Ni 231.604†	1613.5	0.4975	mg/L	0.00286	0.4975	mg/L	0.00286	0.57%
Pb 220.353†	16298.4	1.999	mg/L	0.0108	1.999	mg/L	0.0108	0.54%
Sb 206.836†	21.3	0.00309	mg/L	0.001440	0.00309	mg/L	0.001440	46.54%
Se 196.026†	3237.6	2.040	mg/L	0.0090	2.040	mg/L	0.0090	0.44%
Si 288.158†	15.2	0.01619	mg/L	0.005912	0.01619	mg/L	0.005912	36.52%
Sn 189.927†	-18.0	-0.00197	mg/L	0.000733	-0.00197	mg/L	0.000733	37.27%
Sr 421.552†	372268.8	0.4776	mg/L	0.00062	0.4776	mg/L	0.00062	0.13%
Ti 334.903†	40.9	0.00081	mg/L	0.000141	0.00081	mg/L	0.000141	17.33%
Tl 190.801†	3385.3	2.040	mg/L	0.0106	2.040	mg/L	0.0106	0.52%
V 292.402†	73636.4	0.5010	mg/L	0.00393	0.5010	mg/L	0.00393	0.79%
Zn 206.200†	1879.2	0.4882	mg/L	0.00238	0.4882	mg/L	0.00238	0.49%

Sequence No.: 11
 Sample ID: CV-1
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/21/2014 1:30:08 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2438413.1	100.1 %	0.03			0.03%
ScR 361.383	295697.9	100.7 %	0.36			0.36%
Ag 328.068†	229047.6	1.033 mg/L	0.0052	1.033 mg/L	0.0052	0.50%
Al 308.215†	1874.1	2.096 mg/L	0.0120	2.096 mg/L	0.0120	0.57%
As 188.979†	2762.8	2.062 mg/L	0.0048	2.062 mg/L	0.0048	0.23%
B 249.677†	5315.6	1.009 mg/L	0.0030	1.009 mg/L	0.0030	0.30%
Ba 233.527†	5714.9	1.044 mg/L	0.0021	1.044 mg/L	0.0021	0.20%
Be 313.042†	512284.3	0.9783 mg/L	0.00341	0.9783 mg/L	0.00341	0.35%
Ca 317.933†	18917.3	2.131 mg/L	0.0070	2.131 mg/L	0.0070	0.33%
Cd 228.802†	23050.3	1.050 mg/L	0.0013	1.050 mg/L	0.0013	0.12%
Co 228.616†	33676.9	1.029 mg/L	0.0015	1.029 mg/L	0.0015	0.14%
Cr 267.716†	7095.1	1.060 mg/L	0.0022	1.060 mg/L	0.0022	0.21%
Cu 324.752†	240078.0	1.024 mg/L	0.0011	1.024 mg/L	0.0011	0.11%
Fe 273.955†	1884.4	2.090 mg/L	0.0070	2.090 mg/L	0.0070	0.34%
K 766.490†	41610.3	20.51 mg/L	0.079	20.51 mg/L	0.079	0.38%
Mg 279.077†	1757.7	2.071 mg/L	0.0036	2.071 mg/L	0.0036	0.17%
Mn 257.610†	33376.0	0.9806 mg/L	0.00046	0.9806 mg/L	0.00046	0.05%
Mo 202.031†	17864.3	0.9937 mg/L	0.00052	0.9937 mg/L	0.00052	0.05%
Na 589.592†	629155.1	50.70 mg/L	0.181	50.70 mg/L	0.181	0.36%
Na 330.237†	1267.1	53.41 mg/L	0.296	53.41 mg/L	0.296	0.55%
Ni 231.604†	3356.2	1.037 mg/L	0.0030	1.037 mg/L	0.0030	0.29%
Pb 220.353†	16493.4	2.023 mg/L	0.0040	2.023 mg/L	0.0040	0.20%
Sb 206.836†	5594.3	2.097 mg/L	0.0034	2.097 mg/L	0.0034	0.16%
Se 196.026†	3212.4	2.023 mg/L	0.0024	2.023 mg/L	0.0024	0.12%
Si 288.158†	2252.5	2.066 mg/L	0.0046	2.066 mg/L	0.0046	0.22%
Sn 189.927†	4611.8	0.9989 mg/L	0.00324	0.9989 mg/L	0.00324	0.32%
Sr 421.552†	777006.5	0.9968 mg/L	0.00155	0.9968 mg/L	0.00155	0.16%
Ti 334.903†	21561.8	1.005 mg/L	0.0029	1.005 mg/L	0.0029	0.29%
Tl 190.801†	3470.5	2.089 mg/L	0.0049	2.089 mg/L	0.0049	0.24%
V 292.402†	147035.8	1.001 mg/L	0.0032	1.001 mg/L	0.0032	0.32%
Zn 206.200†	3918.2	1.018 mg/L	0.0022	1.018 mg/L	0.0022	0.22%

Sequence No.: 12
 Sample ID: CB 7
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/21/2014 1:33:57 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2447869.2	100.5	%	0.56				0.55%
ScR 361.383	301405.1	102.6	%	0.71				0.69%
Ag 328.068†	488.4	0.00220	mg/L ✓	0.000209	0.00220	mg/L	0.000209	9.50%
Al 308.215†	-2.7	-0.00309	mg/L	0.001617	-0.00309	mg/L	0.001617	52.40%
As 188.979†	1.3	0.00095	mg/L	0.001261	0.00095	mg/L	0.001261	132.45%
B 249.677†	6.9	0.00131	mg/L	0.000721	0.00131	mg/L	0.000721	55.07%
Ba 233.527†	-1.5	-0.00027	mg/L	0.001005	-0.00027	mg/L	0.001005	366.77%
Be 313.042†	62.7	0.00012	mg/L	0.000012	0.00012	mg/L	0.000012	9.68%
Ca 317.933†	11.9	0.00133	mg/L	0.000837	0.00133	mg/L	0.000837	62.68%
Cd 228.802†	7.6	0.00035	mg/L	0.000046	0.00035	mg/L	0.000046	13.33%
Co 228.616†	0.1	0.00000	mg/L	0.000082	0.00000	mg/L	0.000082	>999.9%
Cr 267.716†	-5.9	-0.00088	mg/L	0.000269	-0.00088	mg/L	0.000269	30.53%
Cu 324.752†	203.8	0.00087	mg/L	0.000131	0.00087	mg/L	0.000131	15.08%
Fe 273.955†	2.6	0.00290	mg/L	0.001372	0.00290	mg/L	0.001372	47.30%
K 766.490†	30.7	0.01513	mg/L	0.010525	0.01513	mg/L	0.010525	69.58%
Mg 279.077†	-3.0	-0.00351	mg/L	0.013662	-0.00351	mg/L	0.013662	389.02%
Mn 257.610†	3.5	0.00010	mg/L	0.000018	0.00010	mg/L	0.000018	17.97%
Mo 202.031†	10.6	0.00059	mg/L	0.000171	0.00059	mg/L	0.000171	28.92%
Na 589.592†	49.6	0.00399	mg/L	0.003297	0.00399	mg/L	0.003297	82.58%
Na 330.237†	0.3	0.01466	mg/L	0.303300	0.01466	mg/L	0.303300	>999.9%
Ni 231.604†	0.6	0.00019	mg/L	0.001101	0.00019	mg/L	0.001101	574.55%
Pb 220.353†	-0.5	-0.00007	mg/L	0.000614	-0.00007	mg/L	0.000614	877.66%
Sb 206.836†	10.2	0.00385	mg/L	0.001668	0.00385	mg/L	0.001668	43.33%
Se 196.026†	5.7	0.00362	mg/L	0.003655	0.00362	mg/L	0.003655	100.88%
Si 288.158†	-2.1	-0.00190	mg/L	0.007984	-0.00190	mg/L	0.007984	420.57%
Sn 189.927†	0.5	0.00010	mg/L	0.000351	0.00010	mg/L	0.000351	346.16%
Sr 421.552†	59.0	0.00008	mg/L	0.000055	0.00008	mg/L	0.000055	72.70%
Ti 334.903†	12.0	0.00056	mg/L	0.001034	0.00056	mg/L	0.001034	184.37%
Tl 190.801†	0.2	0.00012	mg/L	0.000783	0.00012	mg/L	0.000783	638.38%
V 292.402†	5.8	0.00004	mg/L	0.000085	0.00004	mg/L	0.000085	240.06%
Zn 206.200†	-1.6	-0.00042	mg/L	0.000605	-0.00042	mg/L	0.000605	144.38%

Sequence No.: 13
 Sample ID: YD19 MB2 WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 351
 Date Collected: 3/21/2014 1:38:12 PM
 Data Type: Original

 Nebulizer Parameters: YD19 MB2 WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD19 MB2 WMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2524822.9	103.6 %	0.09			0.09%
ScR 361.383	302258.7	102.9 %	0.62			0.61%
Ag 328.068†	51.0	0.00023 mg/L	0.000264	0.00023 mg/L	0.000264	114.88%
Al 308.215†	-3.0	-0.00337 mg/L	0.002758	-0.00337 mg/L	0.002758	81.79%
As 188.979†	1.9	0.00136 mg/L	0.001537	0.00136 mg/L	0.001537	113.10%
B 249.677†	-2.5	-0.00047 mg/L	0.000813	-0.00047 mg/L	0.000813	172.84%
Ba 233.527†	-2.2	-0.00040 mg/L	0.000065	-0.00040 mg/L	0.000065	16.23%
Be 313.042†	43.7	0.00008 mg/L	0.000020	0.00008 mg/L	0.000020	23.97%
Ca 317.933†	18.2	0.00205 mg/L	0.000531	0.00205 mg/L	0.000531	25.90%
Cd 228.802†	2.4	0.00010 mg/L	0.000097	0.00010 mg/L	0.000097	95.95%
Co 228.616†	15.2	0.00047 mg/L	0.000147	0.00047 mg/L	0.000147	31.54%
Cr 267.716†	-3.2	-0.00047 mg/L	0.000414	-0.00047 mg/L	0.000414	87.81%
Cu 324.752†	71.8	0.00031 mg/L	0.000326	0.00031 mg/L	0.000326	106.11%
Fe 273.955†	2.6	0.00284 mg/L	0.000883	0.00284 mg/L	0.000883	31.03%
K 766.490†	-8.4	-0.00412 mg/L	0.021260	-0.00412 mg/L	0.021260	516.21%
Mg 279.077†	-2.9	-0.00339 mg/L	0.005438	-0.00339 mg/L	0.005438	160.27%
Mn 257.610†	-0.3	-0.00001 mg/L	0.000148	-0.00001 mg/L	0.000148	>999.9%
Mo 202.031†	-9.2	-0.00051 mg/L	0.000141	-0.00051 mg/L	0.000141	27.55%
Na 589.592†	20.3	0.00164 mg/L	0.000827	0.00164 mg/L	0.000827	50.47%
Na 330.237†	-0.5	-0.02633 mg/L	0.291320	-0.02633 mg/L	0.291320	>999.9%
Ni 231.604†	-2.5	-0.00077 mg/L	0.001267	-0.00077 mg/L	0.001267	164.56%
Pb 220.353†	9.4	0.00115 mg/L	0.000269	0.00115 mg/L	0.000269	23.33%
Sb 206.836†	-9.1	-0.00341 mg/L	0.001676	-0.00341 mg/L	0.001676	49.18%
Se 196.026†	13.8	0.00867 mg/L	0.001768	0.00867 mg/L	0.001768	20.40%
Si 288.158†	-10.8	-0.00992 mg/L	0.001454	-0.00992 mg/L	0.001454	14.66%
Sn 189.927†	2.1	0.00045 mg/L	0.000366	0.00045 mg/L	0.000366	81.38%
Sr 421.552†	36.2	0.00005 mg/L	0.000040	0.00005 mg/L	0.000040	87.28%
Ti 334.903†	-10.4	-0.00048 mg/L	0.001515	-0.00048 mg/L	0.001515	312.84%
Tl 190.801†	8.2	0.00497 mg/L	0.000441	0.00497 mg/L	0.000441	8.87%
V 292.402†	4.1	0.00003 mg/L	0.000142	0.00003 mg/L	0.000142	547.39%
Zn 206.200†	60.8	0.01579 mg/L	0.000506	0.01579 mg/L	0.000506	3.20%

Sequence No.: 14
 Sample ID: YD19 G WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 352
 Date Collected: 3/21/2014 1:42:28 PM
 Data Type: Original

Nebulizer Parameters: YD19 G WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD19 G WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc.	Units		
ScA 357.253	2487920.5		102.1 %	0.60				0.59%
ScR 361.383	314240.6		107.0 %	3.93				3.68%
Ag 328.068†	-67.8	-0.00016	mg/L	0.000141	-0.00016	mg/L	0.000141	90.64%
Al 308.215†	-2.4	-0.00274	mg/L	0.010236	-0.00274	mg/L	0.010236	374.24%
As 188.979†	26.5	0.01616	mg/L	0.002466	0.01616	mg/L	0.002466	15.26%
B 249.677†	271.5	0.05160	mg/L	0.002152	0.05160	mg/L	0.002152	4.17%
Ba 233.527†	55.8	0.01020	mg/L	0.000886	0.01020	mg/L	0.000886	8.69%
Be 313.042†	4.5	0.00001	mg/L	0.000037	0.00001	mg/L	0.000037	446.64%
Ca 317.933†	203257.6	22.89	mg/L	0.572	22.89	mg/L	0.572	2.50%
Cd 228.802†	1.7	-0.00002	mg/L	0.000149	-0.00002	mg/L	0.000149	643.07%
Co 228.616†	29.6	0.00090	mg/L	0.000076	0.00090	mg/L	0.000076	8.49%
Cr 267.716†	10.8	0.00074	mg/L	0.001786	0.00074	mg/L	0.001786	242.08%
Cu 324.752†	214.0	0.00077	mg/L	0.000231	0.00077	mg/L	0.000231	30.15%
Fe 273.955†	5.3	0.00585	mg/L	0.001078	0.00585	mg/L	0.001078	18.44%
K 766.490†	3649.4	1.799	mg/L	0.0652	1.799	mg/L	0.0652	3.63%
Mg 279.077†	7496.8	8.808	mg/L	0.3109	8.808	mg/L	0.3109	3.53%
Mn 257.610†	116.4	0.00324	mg/L	0.000036	0.00324	mg/L	0.000036	1.10%
Mo 202.031†	40.2	0.00188	mg/L	0.000411	0.00188	mg/L	0.000411	21.82%
Na 589.592†	202360.7	16.31	mg/L	0.376	16.31	mg/L	0.376	2.30%
Na 330.237†	391.7	16.52	mg/L	0.647	16.52	mg/L	0.647	3.92%
Ni 231.604†	0.4	0.00011	mg/L	0.001271	0.00011	mg/L	0.001271	>999.9%
Pb 220.353†	-11.3	-0.00139	mg/L	0.000364	-0.00139	mg/L	0.000364	26.21%
Sb 206.836†	1.2	0.00036	mg/L	0.001127	0.00036	mg/L	0.001127	310.25%
Se 196.026†	24.9	0.01571	mg/L	0.002286	0.01571	mg/L	0.002286	14.56%
Si 288.158†	11466.3	10.49	mg/L	0.315	10.49	mg/L	0.315	3.00%
Sn 189.927†	-36.7	-0.00369	mg/L	0.000765	-0.00369	mg/L	0.000765	20.74%
Sr 421.552†	167369.0	0.2147	mg/L	0.00507	0.2147	mg/L	0.00507	2.36%
Ti 334.903†	69.5	0.00094	mg/L	0.001036	0.00094	mg/L	0.001036	110.41%
Tl 190.801†	25.6	0.01360	mg/L	0.002378	0.01360	mg/L	0.002378	17.49%
V 292.402†	115.9	0.00079	mg/L	0.000178	0.00079	mg/L	0.000178	22.44%
Zn 206.200†	-2.6	0.00100	mg/L	0.000253	0.00100	mg/L	0.000253	25.23%

Sequence No.: 15
 Sample ID: YD19 H WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 353
 Date Collected: 3/21/2014 1:46:43 PM
 Data Type: Original

Nebulizer Parameters: YD19 H WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YD19 H WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2505965.8	102.8	%	0.76			0.74%
ScR 361.383	310259.8	105.7	%	2.19			2.07%
Ag 328.068†	-93.0	-0.00027	mg/L	0.000121	-0.00027 mg/L	0.000121	44.17%
Al 308.215†	-4.4	-0.00505	mg/L	0.006869	-0.00505 mg/L	0.006869	136.10%
As 188.979†	30.1	0.01888	mg/L	0.003384	0.01888 mg/L	0.003384	17.93%
B 249.677†	576.0	0.1095	mg/L	0.00257	0.1095 mg/L	0.00257	2.34%
Ba 233.527†	38.1	0.00692	mg/L	0.000862	0.00692 mg/L	0.000862	12.46%
Be 313.042†	32.3	0.00006	mg/L	0.000045	0.00006 mg/L	0.000045	74.14%
Ca 317.933†	197701.6	22.27	mg/L	0.271	22.27 mg/L	0.271	1.22%
Cd 228.802†	1.9	0.00024	mg/L	0.000086	0.00024 mg/L	0.000086	36.39%
Co 228.616†	38.2	0.00112	mg/L	0.000058	0.00112 mg/L	0.000058	5.20%
Cr 267.716†	18.2	0.00119	mg/L	0.000428	0.00119 mg/L	0.000428	36.01%
Cu 324.752†	453.3	0.00171	mg/L	0.000160	0.00171 mg/L	0.000160	9.35%
Fe 273.955†	4.8	0.00537	mg/L	0.002443	0.00537 mg/L	0.002443	45.50%
K 766.490†	5669.7	2.795	mg/L	0.0371	2.795 mg/L	0.0371	1.33%
Mg 279.077†	15490.7	18.20	mg/L	0.267	18.20 mg/L	0.267	1.47%
Mn 257.610†	213.2	0.00602	mg/L	0.000161	0.00602 mg/L	0.000161	2.67%
Mo 202.031†	60.8	0.00304	mg/L	0.000246	0.00304 mg/L	0.000246	8.10%
Na 589.592†	125344.9	10.10	mg/L	0.097	10.10 mg/L	0.097	0.96%
Na 330.237†	253.0	10.66	mg/L	0.137	10.66 mg/L	0.137	1.28%
Ni 231.604†	854.4	0.2639	mg/L	0.00681	0.2639 mg/L	0.00681	2.58%
Pb 220.353†	-10.2	-0.00122	mg/L	0.000273	-0.00122 mg/L	0.000273	22.33%
Sb 206.836†	-3.0	-0.00123	mg/L	0.002308	-0.00123 mg/L	0.002308	187.38%
Se 196.026†	28.1	0.01773	mg/L	0.003352	0.01773 mg/L	0.003352	18.91%
Si 288.158†	16329.0	14.94	mg/L	0.189	14.94 mg/L	0.189	1.26%
Sn 189.927†	-37.3	-0.00392	mg/L	0.000399	-0.00392 mg/L	0.000399	10.16%
Sr 421.552†	64658.7	0.08295	mg/L	0.000791	0.08295 mg/L	0.000791	0.95%
Ti 334.903†	71.4	0.00109	mg/L	0.000435	0.00109 mg/L	0.000435	39.92%
Tl 190.801†	27.5	0.01483	mg/L	0.002852	0.01483 mg/L	0.002852	19.22%
V 292.402†	186.9	0.00128	mg/L	0.000085	0.00128 mg/L	0.000085	6.67%
Zn 206.200†	157.8	0.04350	mg/L	0.000831	0.04350 mg/L	0.000831	1.91%

Sequence No.: 16
 Sample ID: YD19 I WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 354
 Date Collected: 3/21/2014 1:50:42 PM
 Data Type: Original

Nebulizer Parameters: YD19 I WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD19 I WMN

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2518867.6	103.4 %	0.59				0.57%
ScR 361.383	318147.2	108.3 %	1.09				1.01%
Ag 328.068†	-33.8	-0.00013 mg/L	0.000092	-0.00013 mg/L	0.000092	71.33%	
Al 308.215†	-3.8	-0.00427 mg/L	0.002349	-0.00427 mg/L	0.002349	54.99%	
As 188.979†	10.0	0.00669 mg/L	0.001037	0.00669 mg/L	0.001037	15.50%	
B 249.677†	3512.5	0.6675 mg/L	0.00666	0.6675 mg/L	0.00666	1.00%	
Ba 233.527†	33.1	0.00508 mg/L	0.000469	0.00508 mg/L	0.000469	9.23%	
Be 313.042†	21.2	0.00004 mg/L	0.000056	0.00004 mg/L	0.000056	138.16%	
Ca 317.933†	31760.8	3.577 mg/L	0.0316	3.577 mg/L	0.0316	0.88%	
Cd 228.802†	-163.2	-0.00004 mg/L	0.000047	-0.00004 mg/L	0.000047	112.91%	
Co 228.616†	77.5	0.00116 mg/L	0.000254	0.00116 mg/L	0.000254	21.86%	
Cr 267.716†	314.5	0.04694 mg/L	0.000912	0.04694 mg/L	0.000912	1.94%	
Cu 324.752†	205.4	0.00086 mg/L	0.000068	0.00086 mg/L	0.000068	7.85%	
Fe 273.955†	6.2	0.00699 mg/L	0.003427	0.00699 mg/L	0.003427	49.04%	
K 766.490†	2670.6	1.316 mg/L	0.0295	1.316 mg/L	0.0295	2.24%	
Mg 279.077†	596.3	0.7006 mg/L	0.00980	0.7006 mg/L	0.00980	1.40%	
Mn 257.610†	953.6	0.02798 mg/L	0.000234	0.02798 mg/L	0.000234	0.83%	
Mo 202.031†	1.9	0.00005 mg/L	0.000090	0.00005 mg/L	0.000090	171.05%	
Na 589.592†	153490.6	12.37 mg/L	0.098	12.37 mg/L	0.098	0.79%	
Na 330.237†	307.5	12.97 mg/L	0.580	12.97 mg/L	0.580	4.47%	
Ni 231.604†	24459.4	7.556 mg/L	0.0875	7.556 mg/L	0.0875	1.16%	
Pb 220.353†	-16.3	-0.00102 mg/L	0.000298	-0.00102 mg/L	0.000298	29.15%	
Sb 206.836†	-9.4	-0.00413 mg/L	0.001506	-0.00413 mg/L	0.001506	36.42%	
Se 196.026†	14.6	0.00921 mg/L	0.001274	0.00921 mg/L	0.001274	13.84%	
Si 288.158†	9741.7	8.916 mg/L	0.0742	8.916 mg/L	0.0742	0.83%	
Sn 189.927†	-5.2	-0.00047 mg/L	0.000161	-0.00047 mg/L	0.000161	34.22%	
Sr 421.552†	52547.3	0.06741 mg/L	0.000396	0.06741 mg/L	0.000396	0.59%	
Ti 334.903†	-9.6	-0.00082 mg/L	0.000234	-0.00082 mg/L	0.000234	28.56%	
Tl 190.801†	14.2	0.00828 mg/L	0.001336	0.00828 mg/L	0.001336	16.14%	
V 292.402†	72.8	0.00069 mg/L	0.000112	0.00069 mg/L	0.000112	16.24%	
Zn 206.200†	-4.8	0.00039 mg/L	0.000324	0.00039 mg/L	0.000324	82.17%	

Sequence No.: 17
 Sample ID: YD19 J WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 355
 Date Collected: 3/21/2014 1:54:56 PM
 Data Type: Original

Nebulizer Parameters: YD19 J WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD19 J WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2491763.1	102.3	%	0.41				0.40%
ScR 361.383	310783.2	105.8	%	2.12				2.00%
Ag 328.068†	-89.8	-0.00028	mg/L	0.000106	-0.00028	mg/L	0.000106	38.01%
Al 308.215†	0.7	0.00076	mg/L	0.004396	0.00076	mg/L	0.004396	582.18%
As 188.979†	25.9	0.01624	mg/L	0.002333	0.01624	mg/L	0.002333	14.36%
B 249.677†	396.1	0.07527	mg/L	0.002790	0.07527	mg/L	0.002790	3.71%
Ba 233.527†	45.2	0.00822	mg/L	0.000803	0.00822	mg/L	0.000803	9.77%
Be 313.042†	10.3	0.00002	mg/L	0.000056	0.00002	mg/L	0.000056	295.41%
Ca 317.933†	168586.5	18.99	mg/L	0.340	18.99	mg/L	0.340	1.79%
Cd 228.802†	-2.1	0.00006	mg/L	0.000165	0.00006	mg/L	0.000165	296.39%
Co 228.616†	42.0	0.00124	mg/L	0.000082	0.00124	mg/L	0.000082	6.58%
Cr 267.716†	29.8	0.00357	mg/L	0.000931	0.00357	mg/L	0.000931	26.05%
Cu 324.752†	1051.5	0.00435	mg/L	0.000064	0.00435	mg/L	0.000064	1.47%
Fe 273.955†	3.5	0.00388	mg/L	0.001027	0.00388	mg/L	0.001027	26.47%
K 766.490†	3014.4	1.486	mg/L	0.0382	1.486	mg/L	0.0382	2.57%
Mg 279.077†	8058.5	9.468	mg/L	0.2050	9.468	mg/L	0.2050	2.17%
Mn 257.610†	240.3	0.00690	mg/L	0.000190	0.00690	mg/L	0.000190	2.76%
Mo 202.031†	34.0	0.00160	mg/L	0.000124	0.00160	mg/L	0.000124	7.77%
Na 589.592†	139977.2	11.28	mg/L	0.162	11.28	mg/L	0.162	1.44%
Na 330.237†	275.3	11.61	mg/L	0.467	11.61	mg/L	0.467	4.02%
Ni 231.604†	819.4	0.2531	mg/L	0.00549	0.2531	mg/L	0.00549	2.17%
Pb 220.353†	-3.5	-0.00040	mg/L	0.000894	-0.00040	mg/L	0.000894	222.38%
Sb 206.836†	2.7	0.00091	mg/L	0.000068	0.00091	mg/L	0.000068	7.48%
Se 196.026†	21.5	0.01358	mg/L	0.001668	0.01358	mg/L	0.001668	12.29%
Si 288.158†	13004.1	11.90	mg/L	0.254	11.90	mg/L	0.254	2.14%
Sn 189.927†	-32.4	-0.00347	mg/L	0.000715	-0.00347	mg/L	0.000715	20.59%
Sr 421.552†	112688.3	0.1446	mg/L	0.00203	0.1446	mg/L	0.00203	1.41%
Ti 334.903†	48.8	0.00036	mg/L	0.000579	0.00036	mg/L	0.000579	159.75%
Tl 190.801†	25.0	0.01356	mg/L	0.001312	0.01356	mg/L	0.001312	9.67%
V 292.402†	286.7	0.00196	mg/L	0.000064	0.00196	mg/L	0.000064	3.25%
Zn 206.200†	10.8	0.00480	mg/L	0.000345	0.00480	mg/L	0.000345	7.19%

Sequence No.: 18

Autosampler Location: 356

Sample ID: YD19 FDUP WMN

Date Collected: 3/21/2014 1:59:10 PM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD19 FDUP WMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YD19 FDUP WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2504623.4	102.8	%	0.13				0.13%
ScR 361.383	307729.0	104.8	%	2.36				2.25%
Ag 328.068†	-34.2	-0.00004	mg/L	0.000052	-0.00004	mg/L	0.000052	124.51%
Al 308.215†	0.3	0.00034	mg/L	0.007085	0.00034	mg/L	0.007085	>999.9%
As 188.979†	24.0	0.01513	mg/L	0.002218	0.01513	mg/L	0.002218	14.65%
B 249.677†	245.2	0.04660	mg/L	0.000656	0.04660	mg/L	0.000656	1.41%
Ba 233.527†	42.6	0.00777	mg/L	0.000428	0.00777	mg/L	0.000428	5.51%
Be 313.042†	11.3	0.00002	mg/L	0.000020	0.00002	mg/L	0.000020	93.48%
Ca 317.933†	151815.6	17.10	mg/L	0.753	17.10	mg/L	0.753	4.40%
Cd 228.802†	2.0	0.00000	mg/L	0.000244	0.00000	mg/L	0.000244	>999.9%
Co 228.616†	25.9	0.00079	mg/L	0.000040	0.00079	mg/L	0.000040	5.13%
Cr 267.716†	14.1	0.00148	mg/L	0.000653	0.00148	mg/L	0.000653	44.25%
Cu 324.752†	197.0	0.00073	mg/L	0.000102	0.00073	mg/L	0.000102	13.90%
Fe 273.955†	5.8	0.00647	mg/L	0.003186	0.00647	mg/L	0.003186	49.24%
K 766.490†	3529.3	1.740	mg/L	0.0688	1.740	mg/L	0.0688	3.95%
Mg 279.077†	5308.8	6.237	mg/L	0.2175	6.237	mg/L	0.2175	3.49%
Mn 257.610†	80.2	0.00223	mg/L	0.000032	0.00223	mg/L	0.000032	1.46%
Mo 202.031†	30.4	0.00143	mg/L	0.000254	0.00143	mg/L	0.000254	17.77%
Na 589.592†	168889.7	13.61	mg/L	0.611	13.61	mg/L	0.611	4.49%
Na 330.237†	322.8	13.62	mg/L	0.268	13.62	mg/L	0.268	1.97%
Ni 231.604†	10.5	0.00323	mg/L	0.000841	0.00323	mg/L	0.000841	26.07%
Pb 220.353†	-11.6	-0.00142	mg/L	0.000352	-0.00142	mg/L	0.000352	24.77%
Sb 206.836†	-2.1	-0.00087	mg/L	0.000949	-0.00087	mg/L	0.000949	108.98%
Se 196.026†	18.3	0.01155	mg/L	0.000807	0.01155	mg/L	0.000807	6.99%
Si 288.158†	11669.2	10.68	mg/L	0.337	10.68	mg/L	0.337	3.16%
Sn 189.927†	-26.2	-0.00249	mg/L	0.001255	-0.00249	mg/L	0.001255	50.36%
Sr 421.552†	133476.8	0.1712	mg/L	0.00770	0.1712	mg/L	0.00770	4.50%
Ti 334.903†	53.7	0.00078	mg/L	0.000968	0.00078	mg/L	0.000968	123.58%
Tl 190.801†	21.8	0.01180	mg/L	0.001480	0.01180	mg/L	0.001480	12.54%
V 292.402†	112.8	0.00077	mg/L	0.000133	0.00077	mg/L	0.000133	17.26%
Zn 206.200†	-4.9	0.00049	mg/L	0.000840	0.00049	mg/L	0.000840	170.05%

Sequence No.: 19
 Sample ID: YD19 F WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 357
 Date Collected: 3/21/2014 2:03:24 PM
 Data Type: Original

Nebulizer Parameters: YD19 F WMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD19 F WMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2514344.9	103.2 %	0.68			
ScR 361.383	312958.7	106.6 %	1.76			1.66%
Ag 328.068†	-77.5	-0.00024 mg/L	0.000104	-0.00024 mg/L	0.000104	43.43%
Al 308.215†	-0.2	-0.00022 mg/L	0.002085	-0.00022 mg/L	0.002085	936.35%
As 188.979†	22.6	0.01416 mg/L	0.001752	0.01416 mg/L	0.001752	12.37%
B 249.677†	238.8	0.04539 mg/L	0.000573	0.04539 mg/L	0.000573	1.26%
Ba 233.527†	40.8	0.00745 mg/L	0.000233	0.00745 mg/L	0.000233	3.12%
Be 313.042†	8.0	0.00001 mg/L	0.000035	0.00001 mg/L	0.000035	235.02%
Ca 317.933†	149940.1	16.89 mg/L	0.064	16.89 mg/L	0.064	0.38%
Cd 228.802†	1.9	0.00000 mg/L	0.000095	0.00000 mg/L	0.000095	>999.9%
Co 228.616†	24.8	0.00075 mg/L	0.000028	0.00075 mg/L	0.000028	3.67%
Cr 267.716†	8.3	0.00062 mg/L	0.000342	0.00062 mg/L	0.000342	55.19%
Cu 324.752†	139.3	0.00049 mg/L	0.000315	0.00049 mg/L	0.000315	64.51%
Fe 273.955†	8.4	0.00929 mg/L	0.002469	0.00929 mg/L	0.002469	26.59%
K 766.490†	3512.5	1.731 mg/L	0.0273	1.731 mg/L	0.0273	1.58%
Mg 279.077†	5303.5	6.231 mg/L	0.0717	6.231 mg/L	0.0717	1.15%
Mn 257.610†	81.6	0.00227 mg/L	0.000034	0.00227 mg/L	0.000034	1.48%
Mo 202.031†	26.4	0.00121 mg/L	0.000105	0.00121 mg/L	0.000105	8.72%
Na 589.592†	166016.5	13.38 mg/L	0.025	13.38 mg/L	0.025	0.19%
Na 330.237†	329.7	13.90 mg/L	0.299	13.90 mg/L	0.299	2.15%
Ni 231.604†	10.5	0.00324 mg/L	0.000384	0.00324 mg/L	0.000384	11.87%
Pb 220.353†	-9.8	-0.00120 mg/L	0.000403	-0.00120 mg/L	0.000403	33.48%
Sb 206.836†	1.5	0.00052 mg/L	0.002735	0.00052 mg/L	0.002735	524.34%
Se 196.026†	25.8	0.01627 mg/L	0.003250	0.01627 mg/L	0.003250	19.97%
Si 288.158†	11677.9	10.69 mg/L	0.101	10.69 mg/L	0.101	0.94%
Sn 189.927†	-29.3	-0.00321 mg/L	0.000914	-0.00321 mg/L	0.000914	28.46%
Sr 421.552†	131626.0	0.1689 mg/L	0.00027	0.1689 mg/L	0.00027	0.16%
Ti 334.903†	44.7	0.00039 mg/L	0.000531	0.00039 mg/L	0.000531	137.54%
Tl 190.801†	21.4	0.01159 mg/L	0.003274	0.01159 mg/L	0.003274	28.25%
V 292.402†	124.2	0.00085 mg/L	0.000254	0.00085 mg/L	0.000254	30.05%
Zn 206.200†	-3.6	0.00083 mg/L	0.000367	0.00083 mg/L	0.000367	43.95%

Sequence No.: 19
 Sample ID: YD19 F WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 357
 Date Collected: 3/21/2014 2:03:24 PM
 Data Type: Original

Nebulizer Parameters: YD19 F WMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD19 F WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2514344.9	103.2	%	0.68				0.66%
ScR 361.383	312958.7	106.6	%	1.76				1.66%
Ag 328.068†	-77.5	-0.00024	mg/L	0.000104	-0.00024	mg/L	0.000104	43.43%
Al 308.215†	-0.2	-0.00022	mg/L	0.002085	-0.00022	mg/L	0.002085	936.35%
As 188.979†	22.6	0.01416	mg/L	0.001752	0.01416	mg/L	0.001752	12.37%
B 249.677†	238.8	0.04539	mg/L	0.000573	0.04539	mg/L	0.000573	1.26%
Ba 233.527†	40.8	0.00745	mg/L	0.000233	0.00745	mg/L	0.000233	3.12%
Be 313.042†	8.0	0.00001	mg/L	0.000035	0.00001	mg/L	0.000035	235.02%
Ca 317.933†	149940.1	16.89	mg/L	0.064	16.89	mg/L	0.064	0.38%
Cd 228.802†	1.9	0.00000	mg/L	0.000095	0.00000	mg/L	0.000095	>999.9%
Co 228.616†	24.8	0.00075	mg/L	0.000028	0.00075	mg/L	0.000028	3.67%
Cr 267.716†	8.3	0.00062	mg/L	0.000342	0.00062	mg/L	0.000342	55.19%
Cu 324.752†	139.3	0.00049	mg/L	0.000315	0.00049	mg/L	0.000315	64.51%
Fe 273.955†	8.4	0.00929	mg/L	0.002469	0.00929	mg/L	0.002469	26.59%
K 766.490†	3512.5	1.731	mg/L	0.0273	1.731	mg/L	0.0273	1.58%
Mg 279.077†	5303.5	6.231	mg/L	0.0717	6.231	mg/L	0.0717	1.15%
Mn 257.610†	81.6	0.00227	mg/L	0.000034	0.00227	mg/L	0.000034	1.48%
Mo 202.031†	26.4	0.00121	mg/L	0.000105	0.00121	mg/L	0.000105	8.72%
Na 589.592†	166016.5	13.38	mg/L	0.025	13.38	mg/L	0.025	0.19%
Na 330.237†	329.7	13.90	mg/L	0.299	13.90	mg/L	0.299	2.15%
Ni 231.604†	10.5	0.00324	mg/L	0.000384	0.00324	mg/L	0.000384	11.87%
Pb 220.353†	-9.8	-0.00120	mg/L	0.000403	-0.00120	mg/L	0.000403	33.48%
Sb 206.836†	1.5	0.00052	mg/L	0.002735	0.00052	mg/L	0.002735	524.34%
Se 196.026†	25.8	0.01627	mg/L	0.003250	0.01627	mg/L	0.003250	19.97%
Si 288.158†	11677.9	10.69	mg/L	0.101	10.69	mg/L	0.101	0.94%
Sn 189.927†	-29.3	-0.00321	mg/L	0.000914	-0.00321	mg/L	0.000914	28.46%
Sr 421.552†	131626.0	0.1689	mg/L	0.00027	0.1689	mg/L	0.00027	0.16%
Ti 334.903†	44.7	0.00039	mg/L	0.000531	0.00039	mg/L	0.000531	137.54%
Tl 190.801†	21.4	0.01159	mg/L	0.003274	0.01159	mg/L	0.003274	28.25%
V 292.402†	124.2	0.00085	mg/L	0.000254	0.00085	mg/L	0.000254	30.05%
Zn 206.200†	-3.6	0.00083	mg/L	0.000367	0.00083	mg/L	0.000367	43.95%

Sequence No.: 20
 Sample ID: YD19 FSPK WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 358
 Date Collected: 3/21/2014 2:07:38 PM
 Data Type: Original

Nebulizer Parameters: YD19 FSPK WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YD19 FSPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2498075.3	102.5	%	0.67				0.65%
ScR 361.383	307317.1	104.7	%	0.75				0.71%
Ag 328.068†	97897.8	0.4419	mg/L	0.00470	0.4419	mg/L	0.00470	1.06%
Al 308.215†	1805.2	2.042	mg/L	0.0147	2.042	mg/L	0.0147	0.72%
As 188.979†	3021.7	2.216	mg/L	0.0054	2.216	mg/L	0.0054	0.25%
B 249.677†	241.6	0.04484	mg/L	0.001527	0.04484	mg/L	0.001527	3.41%
Ba 233.527†	11282.1	2.061	mg/L	0.0070	2.061	mg/L	0.0070	0.34%
Be 313.042†	241219.2	0.4607	mg/L	0.00167	0.4607	mg/L	0.00167	0.36%
Ca 317.933†	241247.2	27.17	mg/L	0.035	27.17	mg/L	0.035	0.13%
Cd 228.802†	11912.8	0.5365	mg/L	0.00215	0.5365	mg/L	0.00215	0.40%
Co 228.616†	16535.4	0.5060	mg/L	0.00149	0.5060	mg/L	0.00149	0.30%
Cr 267.716†	3470.2	0.5173	mg/L	0.00357	0.5173	mg/L	0.00357	0.69%
Cu 324.752†	117094.5	0.4995	mg/L	0.00402	0.4995	mg/L	0.00402	0.81%
Fe 273.955†	1826.8	2.029	mg/L	0.0128	2.029	mg/L	0.0128	0.63%
K 766.490†	24642.6	12.15	mg/L	0.028	12.15	mg/L	0.028	0.23%
Mg 279.077†	14527.2	17.07	mg/L	0.119	17.07	mg/L	0.119	0.70%
Mn 257.610†	17138.6	0.5035	mg/L	0.00359	0.5035	mg/L	0.00359	0.71%
Mo 202.031†	41.7	0.00190	mg/L	0.000101	0.00190	mg/L	0.000101	5.32%
Na 589.592†	294049.3	23.69	mg/L	0.030	23.69	mg/L	0.030	0.13%
Na 330.237†	581.2	24.36	mg/L	0.449	24.36	mg/L	0.449	1.84%
Ni 231.604†	1641.7	0.5062	mg/L	0.00533	0.5062	mg/L	0.00533	1.05%
Pb 220.353†	16569.7	2.032	mg/L	0.0149	2.032	mg/L	0.0149	0.74%
Sb 206.836†	15.0	0.00065	mg/L	0.001077	0.00065	mg/L	0.001077	164.76%
Se 196.026†	3779.5	2.381	mg/L	0.0119	2.381	mg/L	0.0119	0.50%
Si 288.158†	11894.7	10.89	mg/L	0.068	10.89	mg/L	0.068	0.62%
Sn 189.927†	-43.2	-0.00421	mg/L	0.000267	-0.00421	mg/L	0.000267	6.33%
Sr 421.552†	517061.6	0.6633	mg/L	0.00017	0.6633	mg/L	0.00017	0.03%
Ti 334.903†	88.6	0.00130	mg/L	0.000271	0.00130	mg/L	0.000271	20.84%
Tl 190.801†	3466.9	2.088	mg/L	0.0056	2.088	mg/L	0.0056	0.27%
V 292.402†	74863.7	0.5093	mg/L	0.00317	0.5093	mg/L	0.00317	0.62%
Zn 206.200†	1955.9	0.5100	mg/L	0.00198	0.5100	mg/L	0.00198	0.39%

Sequence No.: 21

Sample ID: YD19 MB2SPK WMN

Analyst: ALA

Dilution: 1.000000X

Autosampler Location: 359

Date Collected: 3/21/2014 2:11:38 PM

Data Type: Original

Nebulizer Parameters: YD19 MB2SPK WMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YD19 MB2SPK WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2499113.5	102.6	%	0.23				0.22%
ScR 361.383	307015.9	104.5	%	0.33				0.31%
Ag 328.068†	100412.6	0.4531	mg/L	0.02187	0.4531	mg/L	0.02187	4.83%
Al 308.215†	1853.7	2.097	mg/L	0.0129	2.097	mg/L	0.0129	0.62%
As 188.979†	2975.5	2.185	mg/L	0.0053	2.185	mg/L	0.0053	0.24%
B 249.677†	4.2	-0.00028	mg/L	0.000639	-0.00028	mg/L	0.000639	229.34%
Ba 233.527†	11223.3	2.050	mg/L	0.0150	2.050	mg/L	0.0150	0.73%
Be 313.042†	242285.5	0.4627	mg/L	0.00213	0.4627	mg/L	0.00213	0.46%
Ca 317.933†	91523.4	10.31	mg/L	0.014	10.31	mg/L	0.014	0.13%
Cd 228.802†	11960.2	0.5389	mg/L	0.00314	0.5389	mg/L	0.00314	0.58%
Co 228.616†	16760.2	0.5128	mg/L	0.00313	0.5128	mg/L	0.00313	0.61%
Cr 267.716†	3564.9	0.5320	mg/L	0.00131	0.5320	mg/L	0.00131	0.25%
Cu 324.752†	116871.5	0.4987	mg/L	0.00184	0.4987	mg/L	0.00184	0.37%
Fe 273.955†	1882.8	2.091	mg/L	0.0077	2.091	mg/L	0.0077	0.37%
K 766.490†	21190.9	10.45	mg/L	0.047	10.45	mg/L	0.047	0.45%
Mg 279.077†	9314.0	10.94	mg/L	0.035	10.94	mg/L	0.035	0.32%
Mn 257.610†	16738.1	0.4919	mg/L	0.00156	0.4919	mg/L	0.00156	0.32%
Mo 202.031†	20.1	0.00096	mg/L	0.000201	0.00096	mg/L	0.000201	20.93%
Na 589.592†	127188.4	10.25	mg/L	0.051	10.25	mg/L	0.051	0.50%
Na 330.237†	261.2	10.87	mg/L	0.283	10.87	mg/L	0.283	2.60%
Ni 231.604†	1689.5	0.5210	mg/L	0.00211	0.5210	mg/L	0.00211	0.40%
Pb 220.353†	16805.9	2.061	mg/L	0.0121	2.061	mg/L	0.0121	0.59%
Sb 206.836†	7.2	-0.00240	mg/L	0.000770	-0.00240	mg/L	0.000770	32.10%
Se 196.026†	3716.8	2.342	mg/L	0.0018	2.342	mg/L	0.0018	0.08%
Si 288.158†	-7.8	-0.00469	mg/L	0.002424	-0.00469	mg/L	0.002424	51.67%
Sn 189.927†	-23.7	-0.00313	mg/L	0.000227	-0.00313	mg/L	0.000227	7.25%
Sr 421.552†	386426.1	0.4957	mg/L	0.00162	0.4957	mg/L	0.00162	0.33%
Ti 334.903†	33.2	0.00041	mg/L	0.000284	0.00041	mg/L	0.000284	69.27%
Tl 190.801†	3468.2	2.090	mg/L	0.0077	2.090	mg/L	0.0077	0.37%
V 292.402†	75293.9	0.5123	mg/L	0.00243	0.5123	mg/L	0.00243	0.47%
Zn 206.200†	2017.7	0.5242	mg/L	0.00179	0.5242	mg/L	0.00179	0.34%

Sequence No.: 22
Sample ID: CV
Analyst: ALA
Dilution: 1.000000X

Autosampler Location: 7
Date Collected: 3/21/2014 2:15:38 PM
Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2464228.4	101.1	%	0.74				0.73%
ScR 361.383	296000.8	100.8	%	0.87				0.87%
Ag 328.068†	244723.0	1.104	mg/L	0.0035	1.104	mg/L	0.0035	0.32%
Al 308.215†	1882.4	2.105	mg/L	0.0223	2.105	mg/L	0.0223	1.06%
As 188.979†	2793.6	2.085	mg/L	0.0179	2.085	mg/L	0.0179	0.86%
B 249.677†	5381.7	1.022	mg/L	0.0132	1.022	mg/L	0.0132	1.30%
Ba 233.527†	5730.4	1.047	mg/L	0.0121	1.047	mg/L	0.0121	1.16%
Be 313.042†	516935.6	0.9872	mg/L	0.00265	0.9872	mg/L	0.00265	0.27%
Ca 317.933†	19127.2	2.154	mg/L	0.0272	2.154	mg/L	0.0272	1.26%
Cd 228.802†	23224.7	1.058	mg/L	0.0087	1.058	mg/L	0.0087	0.82%
Co 228.616†	33763.8	1.032	mg/L	0.0058	1.032	mg/L	0.0058	0.57%
Cr 267.716†	7181.1	1.073	mg/L	0.0152	1.073	mg/L	0.0152	1.41%
Cu 324.752†	240109.6	1.024	mg/L	0.0022	1.024	mg/L	0.0022	0.21%
Fe 273.955†	1912.0	2.120	mg/L	0.0327	2.120	mg/L	0.0327	1.54%
K 766.490†	41813.8	20.61	mg/L	0.076	20.61	mg/L	0.076	0.37%
Mg 279.077†	1770.8	2.086	mg/L	0.0312	2.086	mg/L	0.0312	1.50%
Mn 257.610†	33620.7	0.9878	mg/L	0.00557	0.9878	mg/L	0.00557	0.56%
Mo 202.031†	17985.3	1.000	mg/L	0.0074	1.000	mg/L	0.0074	0.74%
Na 589.592†	631049.5	50.85	mg/L	0.106	50.85	mg/L	0.106	0.21%
Na 330.237†	1276.5	53.80	mg/L	0.850	53.80	mg/L	0.850	1.58%
Ni 231.604†	3400.5	1.051	mg/L	0.0149	1.051	mg/L	0.0149	1.42%
Pb 220.353†	16630.4	2.040	mg/L	0.0175	2.040	mg/L	0.0175	0.86%
Sb 206.836†	5622.6	2.107	mg/L	0.0154	2.107	mg/L	0.0154	0.73%
Se 196.026†	3249.9	2.047	mg/L	0.0145	2.047	mg/L	0.0145	0.71%
Si 288.158†	2279.0	2.091	mg/L	0.0274	2.091	mg/L	0.0274	1.31%
Sn 189.927†	4665.4	1.011	mg/L	0.0093	1.011	mg/L	0.0093	0.92%
Sr 421.552†	781027.8	1.002	mg/L	0.0018	1.002	mg/L	0.0018	0.18%
Ti 334.903†	21681.6	1.011	mg/L	0.0022	1.011	mg/L	0.0022	0.22%
Tl 190.801†	3478.5	2.094	mg/L	0.0133	2.094	mg/L	0.0133	0.64%
V 292.402†	147092.1	1.001	mg/L	0.0019	1.001	mg/L	0.0019	0.19%
Zn 206.200†	3967.5	1.031	mg/L	0.0164	1.031	mg/L	0.0164	1.59%

Sequence No.: 23
Sample ID: CB
Analyst: ALA
Dilution: 1.000000X

Autosampler Location: 1
Date Collected: 3/21/2014 2:19:27 PM
Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2438044.6	100.1	%	0.42				0.42%
ScR 361.383	298560.7	101.7	%	0.13				0.12%
Ag 328.068†	43.8	0.00020	mg/L	0.000166	0.00020	mg/L	0.000166	83.85%
Al 308.215†	5.5	0.00622	mg/L	0.002163	0.00622	mg/L	0.002163	34.79%
As 188.979†	-0.2	-0.00013	mg/L	0.002592	-0.00013	mg/L	0.002592	>999.9%
B 249.677†	0.7	0.00012	mg/L	0.000860	0.00012	mg/L	0.000860	690.75%
Ba 233.527†	2.3	0.00043	mg/L	0.000477	0.00043	mg/L	0.000477	111.89%
Be 313.042†	72.7	0.00014	mg/L	0.000029	0.00014	mg/L	0.000029	21.05%
Ca 317.933†	12.8	0.00144	mg/L	0.000774	0.00144	mg/L	0.000774	53.63%
Cd 228.802†	4.5	0.00021	mg/L	0.000080	0.00021	mg/L	0.000080	38.47%
Co 228.616†	5.7	0.00017	mg/L	0.000114	0.00017	mg/L	0.000114	65.19%
Cr 267.716†	-4.4	-0.00065	mg/L	0.000671	-0.00065	mg/L	0.000671	102.83%
Cu 324.752†	134.8	0.00058	mg/L	0.000109	0.00058	mg/L	0.000109	19.04%
Fe 273.955†	2.5	0.00280	mg/L	0.002017	0.00280	mg/L	0.002017	72.09%
K 766.490†	28.0	0.01382	mg/L	0.011645	0.01382	mg/L	0.011645	84.27%
Mg 279.077†	-3.0	-0.00351	mg/L	0.002398	-0.00351	mg/L	0.002398	68.26%
Mn 257.610†	3.4	0.00010	mg/L	0.000070	0.00010	mg/L	0.000070	70.11%
Mo 202.031†	13.1	0.00073	mg/L	0.000297	0.00073	mg/L	0.000297	40.66%
Na 589.592†	49.0	0.00395	mg/L	0.001558	0.00395	mg/L	0.001558	39.45%
Na 330.237†	2.7	0.1140	mg/L	0.27700	0.1140	mg/L	0.27700	243.08%
Ni 231.604†	3.2	0.00099	mg/L	0.000654	0.00099	mg/L	0.000654	66.29%
Pb 220.353†	0.3	0.00004	mg/L	0.000809	0.00004	mg/L	0.000809	>999.9%
Sb 206.836†	13.4	0.00506	mg/L	0.002443	0.00506	mg/L	0.002443	48.29%
Se 196.026†	2.7	0.00173	mg/L	0.001943	0.00173	mg/L	0.001943	112.37%
Si 288.158†	1.5	0.00137	mg/L	0.003427	0.00137	mg/L	0.003427	249.92%
Sn 189.927†	3.9	0.00085	mg/L	0.000603	0.00085	mg/L	0.000603	71.28%
Sr 421.552†	94.0	0.00012	mg/L	0.000043	0.00012	mg/L	0.000043	35.49%
Ti 334.903†	-1.7	-0.00008	mg/L	0.000928	-0.00008	mg/L	0.000928	>999.9%
Tl 190.801†	-0.4	-0.00027	mg/L	0.004359	-0.00027	mg/L	0.004359	>999.9%
V 292.402†	-1.5	-0.00001	mg/L	0.000116	-0.00001	mg/L	0.000116	948.55%
Zn 206.200†	1.3	0.00035	mg/L	0.000675	0.00035	mg/L	0.000675	193.07%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YD19

HEXAVALENT CHROMIUM BENCHSHEET						Date / Time:	3/17/14 17:15
Diphenyl carbazide colorimetric (SW-846 7196A)						Analyst:	CDE
REAGENTS			ID		pH METER		
Sulfuric Acid: _____			10317C		Meter ID: ACCUMET AR60		
Acetone: _____					Electrode ID: 1320016P 16		
Diphenylcarbazide: _____			C001179				
CALIBRATION							
Cr+6 Curve Standard		ARI ID: C000892		Date Prepared:			
Stock	0.0709	g K2Cr2O7 to	500	mL =	50.1	mg/L Cr+6	
Intermediate	5	mL Stock to	50	mL =	5.01	mg/L Cr+6	
Standard Curve Data				final volume of prepared standards = 50 mL			
TIME: 17:53		Instrument Used: SPEC 1					
ml Intermediate	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk Corr Abs		Regression Data	
		1	2			Conc = (abs-intercept)/slope	
0.0	0.00	0.000		0.000	= blank abs	intercept = 0.0015	
0.1	0.01	0.008		0.008	E 0.01	slope = 0.8061	
0.5	0.05	0.041		0.041	0.05	r = 1.000	
1.0	0.10	0.082		0.082	0.10	Comment: Calibration OK!	
5.0	0.50	0.411		0.411	0.51	maxabs = 0.807	
10.0	1.00	0.807		0.807	1.00		
Calibration Verification Standard							
Source	ERA # 160412/ B001620			Stock Conc	1,000 mg/L Cr+6		
DQL Int. =	0.10	ml stock to	10	mL pH2 =	10.00 mg/L Cr+6		
DQL =	0.20	ml DQL Int. to	50	mL pH2 =	0.04 mg/L Cr+6		
CVS =	0.025	ml stock to	100	mL pH2 =	0.25 mg/L Cr+6		
Prep Check Standard							
Dilution	0.50	ml stock to	40.00	mL DI =	0.63 mg/L Cr+6		
SAMPLE DATA Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL							
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)							
SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data			Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm (mg/L)		
ICB		1.000	1		0.000	-0.002	< 0.01 Blk OK
ICV		1.000	1		0.206	0.254	101.48%
Prep Blk		1.250	1		0.000	-0.002	< 0.01 Blk OK
Prep Chk		1.250	1		0.405	0.626	99.86%
DQL		1.250	1		0.015	0.021	0.021
YD19 A1		1.250	1		0.001	-0.001	< 0.01
YD19 A1 dup		1.250	1		0.000	-0.002	< 0.01 RPD NA
YD19 A1 ms		1.250	1		0.053	0.080	0.080 % Rec= 79.7
Spike at	0.100	mL Int. to	5	mLsample=	0.100	mg/L	Error, dilute
YD19 B1		1.250	1		0.001	-0.001	< 0.01
YD19 C1		1.250	1		0.000	-0.002	< 0.01
YD19 D1		1.250	1	0.000	0.030	0.044	0.044
YD19 E1		1.250	1		0.002	0.001	< 0.01
CCB		1.000	1		-0.001	-0.003	< 0.01 Blk OK
CCV		1.000	1		0.207	0.255	101.97%
CCB		1.000	1		-0.001	-0.003	< 0.01 Blk OK
CCV		1.000	1		0.205	0.252	100.98%

HEXAVALENT CHROMIUM BENCHSHEET

Date / Time: 3-17-14 17:15
 Analyst: CPL

Diphenyl carbazide colorimetric (SW-846 7196A)

REAGENTS ID
 Sulfuric Acid: 10317c
 Acetone: _____
 Diphenylcarbazide: C001179

pH METER
 Meter ID: ACCUMET AR60
 Electrode ID: 1320016 P16

CALIBRATION

Cr+6 Curve Standard		ARI ID: <u>C000892</u>	Date Prepared:
Stock	<u>0.0709</u>	g K2Cr2O7 to	<u>500</u> mL = <u>50.1</u> mg/L Cr+6
Intermediate	<u>5</u>	mL Stock to	<u>50</u> mL = <u>5.01</u> mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL
 TIME: 17:53 Instrument Used: SPEC 1

ml Intermediate	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk Corr Abs
		1	2	
0.0	0.00	<u>0.000</u>		= blank abs
0.1	0.01	<u>0.003</u>		
0.5	0.05	<u>0.041</u>		
1.0	0.10	<u>0.082</u>		
5.0	0.50	<u>0.411</u>		
10.0	1.00	<u>0.807</u>		

Regression Data
 Conc = (abs-intercept)/slope
 intercept =
 slope =
 r =
 Comment:
 maxabs =

Calibration Verification Standard

Source	<u>ERA # 160412/ B001620</u>		Stock Conc	<u>1,000</u> mg/L Cr+6
DQL Int. =	<u>0.10</u> ml stock to	<u>10</u>	mL pH2 =	<u>10.00</u> mg/L Cr+6
DQL =	<u>0.20</u> ml DQL Int. to	<u>50</u>	mL pH2 =	<u>0.04</u> mg/L Cr+6
CVS =	<u>0.025</u> ml stock to	<u>100</u>	mL pH2 =	<u>0.25</u> mg/L Cr+6

Prep Check Standard

Dilution 0.50 ml stock to 40.00 mL DI = 0.63 mg/L Cr+6

SAMPLE DATA Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL

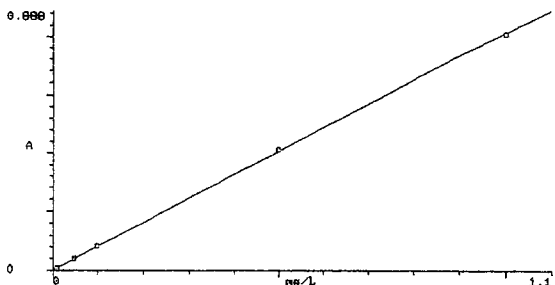
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 20)

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data				Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm	(mg/L)		
ICB		1.000	1		<u>0.000</u>			
ICV		1.000	1		<u>0.206</u>			
Prep Blk		1.250	1		<u>0.000</u>			
Prep Chk		1.250	1		<u>0.405</u>			
DQL		1.250	1		<u>0.015</u>			
YD19 A'		1.250	1		<u>0.001</u>			
A'		1.250	1		<u>0.000</u>			
A'ms		1.250	1		<u>0.053</u>		<u>0.053</u> at 1.250 sample	
B'		1.250	1		<u>0.001</u>		Post sp. ka @ 1.250	
C'		1.250	1		<u>0.000</u>		Sample	
D'		1.250	1	<u>0.000</u>	<u>0.030</u>		Chk	
E'		1.250	1		<u>0.002</u>			
CCB		1.000	1		<u>-0.001</u>			
CCV		1.000	1		<u>0.207</u>			
CCB		1.250	1		<u>-0.001</u>			
CCV		1.250	1		<u>0.205</u>			
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
CCB		1.000	1					
CCV		1.000	1					

3 0.000
 4 0.405
 5 0.015
 6 0.001
 7 0.000
 8 0.053
 9 0.001
 10 0.000
 11 0.030
 12 0.002
 13 -0.001
 14 0.207
 15 0.000
 16 -0.001
 17 0.205

TEST SETUP
 GENESYS 10 v2.021 2G2G048006

Standard Curve 17:53 17Mar14
 Test Name CHROME 6
 Date Standards Measured 17Mar14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.809
 Intercept 0.00111
 Std Dev 0.003
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.041
0.100	0.082
0.500	0.411
1.000	0.807

*3-17-14
 CW*

TEST SETUP
 GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C 17:59 17Mar14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On

ID#	Abs 540nm
1	0.000

*D1
 Background*

2 0.206



ARI Job No.: 9019

Client ID: _____

Parameter: Cr⁶⁺

Client Project: _____

List problems, concerns, corrective actions and any other pertinent information

MS. for the Netdu was missed during setup
Remainder of the sample was preserved for Metals
Lab so insufficient volume to reprep.
a post spike was performed on pH adjusted
sample

Analyst Initials: CPH

Date: 3-17-14



ARI Job No.: YD19

Client ID: _____

Parameter: Cr (VI)

Client Project: _____

List problems, concerns, corrective actions and any other pertinent information

Chromium (VI) spike to acidified sample did not return recovery within the range of 85-115% - Recovery was 79.7%.

This would be acceptable for recovery of spike to the original sample (75-125%) but since this was a spike to the pH adjusted sample it becomes a Method 7196A verification spike which requires recovery in the range of 85-115% - no corrective action was taken at the time of original analysis. The result implies a possible matrix interference

Analyst Initials:

M. J. [Signature]

Date:

3/21/2014

Table of Contents: ARI Job YD51

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

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 EC
Signature

March-27-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

March 28, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YD51

Dear Ian:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro".

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YD51

Enclosures

Chain of Custody Documentation

ARI Job ID: YD51

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **YD 51**
 Turn-around Requested: _____
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Sample ID	Date	Time	Matrix	No. Containers
MW 7s-140319	3/19	952	W	3
MW 5s-140319	3/19	1220	W	3

Comments/Special Instructions: 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by (Signature)	Received by (Signature)
Printed Name: Paul Robinette	Printed Name
Company: GET	Company
Date & Time: 3/19/14 2:40	Date & Time: 3/19/14 1440

Date: **3/19** of _____
 Page: **1**
 No. of Coolers: _____ Cooler Temps: _____

Analysis Requested				Notes/Comments			
Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C					
X	X	X					
X	X	X					

Permits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: GeoEng
 COC No(s): _____
 Assigned ARI Job No: YD51 NA

Project Name: Aladden Plating
 Delivered by Fed-Ex UPS Courier Hand Delivered Other _____
 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
 Time: 1520 5.4

If cooler temperature is out of compliance fill out form 00070F
 Temp Gun ID#: 90877952

Cooler Accepted by: _____ Date: 3/19/14 Time: 1440

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Was Sample Split by ARI: YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: TS Date: 32014 Time: 1113

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

 Small Air Bubbles -2mm	 Peabubbles 2-4 mm	 LARGE Air Bubbles > 4 mm	Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YD51



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YD51

Sample Receipt

Two water samples were received on March 19, 2014 under ARI job YD51. The cooler temperature measured by IR thermometer following ARI SOP was 5.4°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total and Dissolved Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters (Hexavalent Chromium)

The sample and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blank was clean at the reporting limit. The SRM percent recovery was within control limits.

The matrix spike and replicate RPD were within control limits.

Sample ID Cross Reference Report



ARI Job No: YD51
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW7s-140319	YD51A	14-4885	Water	03/19/14 09:52	03/19/14 14:40
2. MW5s-140319	YD51B	14-4886	Water	03/19/14 12:20	03/19/14 14:40
3. MW7s-140319	YD51C	14-4887	Water	03/19/14 09:52	03/19/14 14:40
4. MW5s-140319	YD51D	14-4888	Water	03/19/14 12:20	03/19/14 14:40
5. MW7s-140319	YD51E	14-4889	Water	03/19/14 09:52	03/19/14 14:40
6. MW5s-140319	YD51F	14-4890	Water	03/19/14 12:20	03/19/14 14:40



Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	RPD
Met Diss 6010C (EPA 6010C) in Water							
Preservation: pH<2; HNO ₃ , Cool <6°C							
Container: HDPE NM, 500 mL							
				Amount Required: 500 mL		Hold Time: 180 days	
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120



Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	RPD
Met 6010C (EPA 6010C) in Water							
Preservation: pH<2; HNO3, Cool <6°C							
Container: HDPE NM, 500 mL							
Amount Required: 500 mL				Hold Time: 180 days			
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120
Silica as SiO2	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120



Spike Recovery Control Limits for Conventional Wet Chemistry
Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. <http://www.arilabs.com/portal/downloads/ARI-CLs.zip>

Sample Matrix:	ARI's Control Limits	
	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YD51

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW7s-140319	YD51A	14-4885	
MW7s-140319D	YD51ADUP	14-4885	
MW7s-140319S	YD51ASPK	14-4885	
MW5s-140319	YD51B	14-4886	
PBW	YD51MB1	14-4886	
LCSW	YD51MB1SPK	14-4886	
MW7s-140319	YD51C	14-4887	
MW7s-140319D	YD51CDUP	14-4887	
MW7s-140319S	YD51CSPK	14-4887	
MW5s-140319	YD51D	14-4888	
PBW	YD51MB2	14-4888	
LCSW	YD51MB2SPK	14-4888	
MW7s-140319	YD51E	14-4889	
MW7s-140319D	YD51EDUP	14-4889	
MW7s-140319S	YD51ESPK	14-4889	
MW5s-140319	YD51F	14-4890	
PBW	YD51MB3	14-4890	
LCSW	YD51MB3SPK	14-4890	

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn

Date: 3/27/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

**Sample ID: MW7s-140319
SAMPLE**

Lab Sample ID: YD51A

LIMS ID: 14-4885

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/24/14	6010C	03/26/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

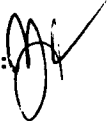
Sample ID: MW5s-140319

SAMPLE

Lab Sample ID: YD51B

LIMS ID: 14-4886

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/24/14	6010C	03/26/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: MW7s-140319

SAMPLE

Lab Sample ID: YD51C

LIMS ID: 14-4887

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

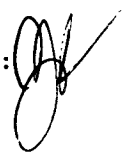
Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/24/14	6010C	03/26/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/24/14	6010C	03/26/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW5s-140319
SAMPLE

Lab Sample ID: YD51D
LIMS ID: 14-4888
Matrix: Water
Data Release Authorized: 
Reported: 03/27/14

QC Report No: YD51-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/24/14	6010C	03/26/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/24/14	6010C	03/26/14	7439-92-1	Lead	0.02	0.02	U

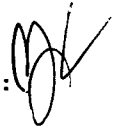
U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW7s-140319
MATRIX SPIKE

Lab Sample ID: YD51A
LIMS ID: 14-4885
Matrix: Water
Data Release Authorized: 
Reported: 03/27/14

QC Report No: YD51-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Nickel	6010C	0.01 U	0.52	0.500	104%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW7s-140319
DUPLICATE

Lab Sample ID: YD51A

LIMS ID: 14-4885

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

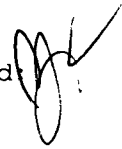
*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW7s-140319
MATRIX SPIKE

Lab Sample ID: YD51C
LIMS ID: 14-4887
Matrix: Water
Data Release Authorized
Reported: 03/27/14



QC Report No: YD51-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.525	0.500	105%	
Lead	6010C	0.02 U	2.06	2.00	103%	

Reported in mg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW7s-140319
DUPLICATE

Lab Sample ID: YD51C
LIMS ID: 14-4887
Matrix: Water
Data Release Authorized:
Reported: 03/27/14



QC Report No: YD51-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YD51LCS

LIMS ID: 14-4886

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Nickel	6010C	0.53	0.50	106%	


Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: YD51MB
LIMS ID: 14-4886
Matrix: Water
Data Release Authorized: 
Reported: 03/27/14

QC Report No: YD51-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/24/14	6010C	03/26/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YD51LCS

LIMS ID: 14-4888

Matrix: Water

Data Release Authorized

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.529	0.500	106%	
Lead	6010C	2.12	2.00	106%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YD51MB
LIMS ID: 14-4888
Matrix: Water
Data Release Authorized
Reported: 03/27/14



QC Report No: YD51-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/24/14	6010C	03/26/14	7440-47-3	Chromium	0.005	0.005	U
6010C	03/24/14	6010C	03/26/14	7439-92-1	Lead	0.02	0.02	U

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: MW7s-140319

SAMPLE

Lab Sample ID: YD51E

LIMS ID: 14-4889

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/24/14	6010C	03/26/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/24/14	6010C	03/26/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/24/14	6010C	03/26/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit



INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: MW5s-140319

SAMPLE

Lab Sample ID: YD51F

LIMS ID: 14-4890

Matrix: Water

Data Release Authorized

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/24/14	6010C	03/26/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/24/14	6010C	03/26/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/24/14	6010C	03/26/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

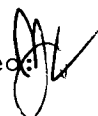
Page 1 of 1

Sample ID: MW7s-140319
MATRIX SPIKE

Lab Sample ID: YD51E

LIMS ID: 14-4889

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.524	0.500	105%	
Lead	6010C	0.02 U	2.06	2.00	103%	
Nickel	6010C	0.01 U	0.51	0.50	102%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: MW7s-140319

DUPLICATE

Lab Sample ID: YD51E

LIMS ID: 14-4889

Matrix: Water

Data Release Authorized

Reported: 03/27/14



QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/19/14

Date Received: 03/19/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YD51LCS

LIMS ID: 14-4890

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.537	0.500	107%	
Lead	6010C	2.06	2.00	103%	
Nickel	6010C	0.52	0.50	104%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: YD51MB

LIMS ID: 14-4890

Matrix: Water

Data Release Authorized: 

Reported: 03/27/14

QC Report No: YD51-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/24/14	6010C	03/26/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/24/14	6010C	03/26/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/24/14	6010C	03/26/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP032671	1000.0	1052.79	105.3	1000.0	1061.31	106.1	1074.94	107.5	1082.00	108.2	1079.82	108.0	1087.53	108.8
Lead	PB	ICP	IP032671	2000.0	2009.45	100.5	2000.0	2028.99	101.4	2046.01	102.3	2057.55	102.9	2092.08	104.6	2077.61	103.9
Nickel	NI	ICP	IP032671	1000.0	1032.48	103.2	1000.0	1038.91	103.9	1054.63	105.5	1062.60	106.3	1060.15	106.0	1063.85	106.4

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YD51

UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP032671	1000.0	1082.17	108.2	1076.28	107.6	1063.80	106.4	1074.54	107.5				
Lead	PB	ICP	IP032671	2000.0	2074.52	103.7	2076.90	103.8	2024.79	101.2	2087.73	104.4				
Nickel	NI	ICP	IP032671	1000.0	1059.02	105.9	1054.57	105.5	1040.68	104.1	1053.80	105.4				

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP032671	5.0		5.24	104.8	4.32	86.4								
Lead	PB	ICP	IP032671	20.0		19.20	96.0	20.18	100.9								
Nickel	NI	ICP	IP032671	10.0		9.49	94.9	10.26	102.6								

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	CCB1	CCB2	CCB3	CCB4	CCB5
Chromium	CR	ICP	IP032671	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead	PB	ICP	IP032671	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Nickel	NI	ICP	IP032671	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Calibration Blanks



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YD51

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP032671	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP032671	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP032671	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP032671

SDG: YD51

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	199068.9	200803.1	100.4	200557.5	201676.7	100.8			
Antimony	1000	1000	22.1	1034.8	103.5	21.7	1031.1	103.1			
Arsenic	1000	1000	20.3	1027.4	102.7	23.4	1034.1	103.4			
Barium	1000	1000	-0.9	1004.2	100.4	-1.5	1011.7	101.2			
Beryllium	1000	1000	0.1	998.2	99.8	0.1	1010.0	101.0			
Boron			-2.9	-5.7		26.6	22.2				
Cadmium	1000	1000	-0.5	1031.3	103.1	-0.4	1040.4	104.0			
Calcium	100000	100000	100117.5	101207.4	101.2	102269.9	102911.7	102.9			
Chromium	1000	1000	-1.5	1014.3	101.4	-1.5	1031.4	103.1			
Cobalt	1000	1000	2.1	947.4	94.7	2.4	962.2	96.2			
Copper	1000	1000	-0.5	1060.8	106.1	-0.4	1064.7	106.5			
Iron	200000	200000	198223.5	199827.7	99.9	202019.0	204416.8	102.2			
Lead	1000	1000	-2.3	982.2	98.2	-3.2	996.5	99.7			
Magnesium	100000	100000	100999.5	98555.2	98.6	102950.0	100241.1	100.2			
Manganese	1000	1000	-1.3	997.0	99.7	-1.2	1014.8	101.5			
Molybdenum			1.8	1.6		1.6	1.6				
Nickel	1000	1000	-0.3	961.6	96.2	-0.6	981.5	98.2			
Potassium			20.7	15.6		61.0	67.0				
Selenium	1000	1000	26.3	1025.9	102.6	25.9	1034.5	103.5			
Silicon			-17.1	-12.2		-6.4	-9.0				
Silver	1000	1000	-0.5	1070.7	107.1	-0.7	1078.2	107.8			
Sodium			8.8	8.7		107.2	89.8				
Strontium			5.5	5.5		5.5	5.5				
Thallium	1000	1000	-1.1	941.4	94.1	1.3	943.6	94.4			
Tin			-11.0	-13.4		-12.7	-11.9				
Titanium			2.5	1.7		1.6	1.3				
Vanadium	1000	1000	-1.2	989.8	99.0	-1.2	1002.5	100.3			
Zinc	1000	1000	3.2	960.4	96.0	2.3	981.5	98.2			

YD51 : 00036

**IDLs and ICP
Linear Ranges**



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	13.0001730	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.1504760	0.0000000	-1.1418810	1.4701580	0.0000000	-0.0444180
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1914790	0.0000000	0.0000000	0.1015620
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.67	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.1178670	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	5.1456370	0.0000000	0.0000000	0.0000000	0.0000000	0.1519640	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0105370	0.0000000	0.0000000	0.0000000	0.0000000	-0.0364800
Cobalt	228.62	0.0000000	0.0000000	0.0956050	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0031370	0.0000000	-0.1731660	0.0000000	0.0000000	-0.0479580
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.3572290	0.0000000	0.0000000
Lead	220.35	-0.3197610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.8955100	1.3683810	0.0487330
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6154620	-1.2018020	0.0000000	0.7453470
Manganese	257.61	0.0085510	0.0000000	0.0000000	0.0000000	0.0051490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0154460	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.4704930	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.8483140	0.0000000	-0.6009380	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	-0.0065610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0801700	0.0000000	5.8939530	0.4135750	0.0000000	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1855780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.1006900	0.0000000	0.0000000	0.1910190	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1255090	0.0000000	0.0251090
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0126620	0.0000000	0.0000000	-0.2680380	0.0000000	0.0000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.0000000	0.0000000	0.0000000	2.0154950	0.0000000	14.6504130	0.0000000
Antimony	206.84	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7865220	0.0000000	-3.6308690	0.0000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.0000000	0.0000000	0.0000000	-35.7069030	0.0000000	0.0000000	0.0000000
Barium	233.53	0.000000	0.000000	0.0000000	0.1263190	0.0000000	0.0000000	0.0000000	0.0000000	0.2049710	0.0000000
Beryllium	313.04	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0109650	0.0000000	0.2471980	0.0000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.000000	0.000000	0.0000000	-0.9924980	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0519140	0.0000000
Chromium	267.72	0.0714330	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.0000000	0.0000000	1.7865010	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.0000000	0.0000000	0.0000000	0.1968290	0.0000000	0.0000000	0.0000000
Iron	273.96	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.0715790	0.0000000
Lead	220.35	0.000000	0.000000	0.0000000	0.1183620	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0068080	0.000000	0.0000000	0.0000000	-0.2132560	0.0000000	0.0000000	0.0000000	-0.0238460	0.0000000
Molybdenum	202.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.000000	0.000000	0.0000000	0.0000000	0.0000000	-0.5233870	0.0000000	0.4243640	0.0000000	0.0000000
Selenium	196.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6221340	0.0000000
Silver	328.07	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2593400	0.0000000
Thallium	190.80	0.000000	0.000000	-1.6229180	0.0000000	0.0000000	0.0000000	65.0683530	0.0000000	0.0000000	88.8015530
Tin	189.93	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.6063050	0.0000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.0000000	-0.0356520	-0.5555490	-0.1890930	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.0000000	-0.0717780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

YD51 : 000039

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: DMN

SDG: YD51

PREPDATE: 3/24/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW7s-140319	YD51A	0.000	50.0	50.0
MW7s-140319D	YD51ADUP	0.000	50.0	50.0
MW7s-140319S	YD51ASPK	0.000	50.0	50.0
MW5s-140319	YD51B	0.000	50.0	50.0
PBW	YD51MB1	0.000	50.0	50.0
LCSW	YD51MB1SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YD51

ANALYSIS METHOD: ICP
ARI PREP CODE: TWC
PREPDATE: 3/24/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW7s-140319	YD51E	0.000	50.0	50.0
MW7s-140319D	YD51EDUP	0.000	50.0	50.0
MW7s-140319S	YD51ESPK	0.000	50.0	50.0
MW5s-140319	YD51F	0.000	50.0	50.0
PBW	YD51MB3	0.000	50.0	50.0
LCSW	YD51MB3SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: WMN

SDG: YD51

PREPDATE: 3/24/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW7s-140319	YD51C	0.000	50.0	50.0
MW7s-140319D	YD51CDUP	0.000	50.0	50.0
MW7s-140319S	YD51CSPK	0.000	50.0	50.0
MW5s-140319	YD51D	0.000	50.0	50.0
PBW	YD51MB2	0.000	50.0	50.0
LCSW	YD51MB2SPK	0.000	50.0	50.0

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YD51

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP032671 METHOD: ICP

START DATE: 3/26/2014

END DATE: 3/26/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	EG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
CRI	GRIF	1.00	1230																																	
ICSA	ICSAF	1.00	1234																																	
ICSAB	ICSABF	1.00	1238																																	
CCV	CCV4	1.00	1242																																	
CCB	CCB4	1.00	1246																																	
ZZZZZZ	YD50MB1	1.00	1250																																	
ZZZZZZ	YD50ADUP	1.00	1254																																	
ZZZZZZ	YD50A	1.00	1258																																	
ZZZZZZ	YD50ASPK	1.00	1302																																	
ZZZZZZ	YD50B	1.00	1306																																	
ZZZZZZ	YD50C	1.00	1310																																	
ZZZZZZ	YD50D	1.00	1314																																	
ZZZZZZ	YD50E	1.00	1318																																	
ZZZZZZ	YD50F	1.00	1322																																	
ZZZZZZ	YD50MB1SPK	1.00	1326																																	
CCV	CCV5	1.00	1330																																	
CCB	CCB5	1.00	1334																																	
ZZZZZZ	YD50MB2	1.00	1338																																	
ZZZZZZ	YD50G	1.00	1342																																	
ZZZZZZ	YD50I	1.00	1347																																	
ZZZZZZ	YD50J	1.00	1351																																	
ZZZZZZ	YD50K	1.00	1355																																	
ZZZZZZ	YD50L	1.00	1359																																	
ZZZZZZ	YD50HDUP	1.00	1403																																	
ZZZZZZ	YD50H	1.00	1408																																	
ZZZZZZ	YD50HSPK	1.00	1412																																	
ZZZZZZ	YD50MB2SPK	1.00	1416																																	
CCV	CCV6	1.00	1420																																	
CCB	CCB6	1.00	1424																																	
PBW	YD51MB1	1.00	1428																																	
ZZZZZZ	YE28MB2	1.00	1432																																	
ZZZZZZ	YD50M	1.00	1436																																	
ZZZZZZ	YD82A	50.00	1440																																	
ZZZZZZ	YE28B	1.00	1445																																	
MW7s-140319D	YD51ADUP	1.00	1449																																	

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YD51

SAMPLE RESULTS-CONVENTIONALS
YD51-GeoEngineers



Matrix: Water
Data Release Authorized
Reported: 03/21/14

A handwritten signature in black ink, appearing to be 'M. J.' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

Client ID: MW7s-140319
ARI ID: 14-4885 YD51A

Analyte	Date Batch	Method	Units	RL	Sample
Hexavalent Chromium	03/19/14 031914#1	SW7196A	mg/L	0.010	< 0.010 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
YD51-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/21/14

A handwritten signature in black ink, appearing to be 'JK' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

Client ID: MW5s-140319
ARI ID: 14-4886 YD51B

Analyte	Date Batch	Method	Units	RL	Sample
Hexavalent Chromium	03/19/14 031914#1	SW7196A	mg/L	0.010	< 0.010 U

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
YD51-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/21/14

A handwritten signature in black ink, appearing to be 'M' or 'W', written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YD51A Client ID: MW7s-140319							
Hexavalent Chromium	SW7196A	03/19/14	mg/L	< 0.010	0.061	0.063	96.8%

REPLICATE RESULTS-CONVENTIONALS
YD51-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/21/14

A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized:' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/19/14
Date Received: 03/19/14

Analyte	Method	Date	Units	Sample	Replicate (s)	RPD/RSD
ARI ID: YD51A Client ID: MW7s-140319						
Hexavalent Chromium	SW7196A	03/19/14	mg/L	< 0.010	< 0.010	NA

METHOD BLANK RESULTS-CONVENTIONALS
YD51-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/21/14

A handwritten signature in black ink, appearing to be 'JK' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Hexavalent Chromium	SW7196A	03/19/14	mg/L	< 0.010 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
YD51-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/21/14

A handwritten signature in black ink, appearing to be 'J. A.', written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Hexavalent Chromium ERA #160412	SW7196A	03/19/14	mg/L	0.640	0.630	101.6%

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YD51



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Sample ID YD51, ESPL, MBSPK

Analyst: CB

Final Volume 500

Date: 3-24-14

Final Volume (Hg): _____

Precode	T _{ICP}	ICP Routine	ICP No GFA	GFA
Spike Solution:	ICP Routine			GFA
Standard No	ICP 101615			
Vol Added (mL):	0.50			
Ag	50			2.0
Al	200	200		
As	200			10
Ba	200	200		
Be	50	50		
Ca	1000	1000		
Cd	50			2.0
Co	50	50		
Cr	50	50		
Cu	50	50		
Fe	200	200		
K	1000	1000		
Mg	1000	1000		
Mn	50	50		
Na	1000	1000		
Ni	50	50		
Pb	200	200		10
Se	200			10
Sr	50	50		
Tl	200			10
V	50	50		
Zn	50	50		

ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25	
Al		500
As	25	
Ba	25	
Be	25	
Ca		500
Cd	25	
Co	25	
Cr	25	
Cu	25	
Fe		500
K		500
Mg		500
Mn	25	
Mo		
Na		500
Ni	25	
Pb	25	
Sb		25
Se	80	
Tl	25	
U	25	
V	25	
Zn	80	

Element	Precode	Analysis	Stock Conc	Stock Added	Std No
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Precode	Analysis	Stock Conc.	Stock Added	Std. No.



Digestion Log

Analyst: LB Date: 3-24-14 Time: 0920

Matrix: WATER Block ID: 43 Block Temp: 95°C Thermometer: mp64

ARI Sample ID	Btl #	pH<2	Prep Code: <u>714</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
-1082 A	1	-	500	500			Preserved in 15.6
"	-	-					
"	-	-					
-1072 A	1	2					
"	1	2					
"	1	2					
"	-	-					
"	-	-					
-1066 A	7	-					Preserved in 15.6
"	7	-					
"	7	-					
"	7	-					
"	-	-					
"	-	-					
-1051 E	1	2					
"	1	2					
"	1	2					
"	1	2					
"	-	-					
"	-	-	500	500			
			LB 3-24-14				

Chemical/Reagent ID: HNO3: 10082
np2572

HL: 01274

Tube lot #: 1309271



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: CB Date: 3-24-14 Time: 0930
 Matrix: WATER Block ID: - Block Temp: - Thermometer: -

ARI Sample ID	Btl #	pH<2	Prep Code: <u>Om</u>		Prep Code: <u>wmv</u>		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
<u>Y066 C</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>			Filter in lab
<u>" D</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>			
<u>" mB2</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
<u>" mB507</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
<u>Y051 A</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>CB</u>	
<u>" A20</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>3-24-14</u>	
<u>" A505</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>			
<u>" B</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>			
<u>" mB1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
<u>" mB507</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
<u>" C</u>	<u>1</u>	<u>↓</u>					
<u>" C20</u>	<u>1</u>	<u>↓</u>					
<u>" C505</u>	<u>1</u>	<u>↓</u>					
<u>" D</u>	<u>1</u>	<u>↓</u>					
<u>Y067 A</u>	<u>8</u>	<u>↓</u>		<u>CB</u>			
<u>" B</u>	<u>8</u>	<u>↓</u>		<u>3-24-14</u>			
<u>" D</u>	<u>8</u>	<u>↓</u>					
<u>" V</u>	<u>8</u>	<u>↓</u>					
<u>" W</u>	<u>8</u>	<u>↓</u>					
<u>" W20</u>	<u>8</u>	<u>↓</u>					
<u>" W505</u>	<u>8</u>	<u>↓</u>					
			<u>CB</u>				
			<u>3-24-14</u>				

Chemical/Reagent ID: HNO3
M2542
5061F



Conventional Laboratory Analyst Notes

ARI Job No.: YD51

Client ID: _____

Parameter: Cu

Client Project: _____

List problems, concerns, corrective actions and any other pertinent information

Filtered & preserved for Metals upon arrival to the lab.

Analyst Initials:

CC

Date:

03/19/14

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YD51

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 3-26-14

I2	Analyst BA 3-27-14	Peer H321	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	See log
ICB/CCB	✓	✓	↓
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	See log
Method QC:			
CRI/CRA	✓	✓	See log
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	YD56
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	✓	✓	CAF-YD56



IEC Date: 3-26-14

Analysis Date: 3-26-14

Analyst: BA

LR Date: 1-3-14

Page: 1 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1281
		↓ 2			C1264
		3			C1265
		4			C1266
		↓ 5			C1267
		ICV			B2567
		ICB			STD 0
		CBI			C1072
		ICSA			C532
		ICSAB			C533
		CCV1			ICV
		CCB1			STD 0
		YD56 MBI TWC			
		↓ A		↓	
		B			
		C			
		D			
		E			
		F			
		G			
		I			
		↓ MBISPK		↓	✓
		CCV2			
		CCB2			



IEC Date: - Analysis Date: 3-26-14 Analyst: BA
LR Date: - Page: 2 of 4

All corrections made by analyst unless otherwise noted. BA 3-26-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YD82 MB	TWC		
		YD56 H-L		5	✓
		H			
		HDUP			✓ CA ↑ RPD (CAF)
		HSPK			✓
222		HPOST			
	✓	YD82 A		10	B = LR
		BIK			
		YD82 MBSPK	TWC		✓
		CCV3			B↑ (C.O.)
		CCB3			↓
		CRI			
		ICSA			
		ICSAB			
		CCV4			
		CCB4			B↑ End YD56
		YD50 MBI	TWC		
		ADUP			✓
		A			
		ASPK			✓
		B			
		C			
		D			
		↓ E	↓		



IEC Date:

Analysis Date: 3-26-14

Analyst: BA

LR Date:

Page: 3 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YD50 F	TWC		
		↓ MBSPK	↓		✓
		CCV5			
		CCB5			
✓		YD50 MB2	WMN		CCV issue
✓		↓ G	TWC		↓
✓		↓ I	WMN		
✓		↓ J			
✓		↓ K			
✓		↓ L			
✓		↓ HDUP			✓
✓		↓ H			
✓		↓ HSPK			✓ 0.08 mL ICP Spk B1845 0.010 mL 100ppm Sb B464
✓		↓ MB2SPK	↓		↓
		CCV6			Ag ↑
		CCB6			
		YD51 MB2	DMN		
		YE28 MB2	↓		
✓		YD50 M	WMN		CCV issue
		YD82 A	TWC	50	
		YE28 B	DMN		
		YD51 ADUP			✓
		↓ A			
		↓ ASPK	↓		✓ 0.08 mL ICP Spk B1845



IEC Date: Analysis Date: 3-26-14 Analyst: BA
LR Date: Page: 4 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YD51 MB1SPK	DMN		✓ 0.08 mL ICP Spk B1845
		YE28 MB2SPK	↓		↓
		CCV7			
		CCB7			
		YD51 MB2	WMN		
		↓ B	DMN		
		↓ D	WMN		
		↓ CDUP	↓		✓
		↓ C			
		↓ CSPK	↓		✓ 0.08 mL ICP Spk B1845
		↓ MB2SPK	↓		↓
		CCV8			Ag↑
		CCB8			
		YD51 MB3	TWC		
		↓ EDUP	↓		✓
		↓ E			
		↓ ESPK	↓		✓
222		222222 EPOST			
		↓ F	↓		
		↓ MB3SPK	↓		✓
		CCV9			
		CCB9			
		Rinse/DI			
		BA } 3/26/14			

End Pkg (YD51)

=====
Analysis Begun

Start Time: 3/26/2014 10:08:06 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 3/26/2014 7:09:54 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140326

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Method Loaded

Method Name: 7300bcESI2FAST

Method Last Saved: 8/13/2012 7:13:22 AM

IEC File: IEC010314C.iec

MSF File:

Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 3/26/2014 10:08:08 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2834244.7	8341.35	0.29%	100.0	%
ScR 361.383	246500.3	169.72	0.07%	100.0	%
Ag 328.068†	120.0	9.98	8.31%	[0.00]	mg/L
Al 308.215†	92.6	0.81	0.87%	[0.00]	mg/L
As 188.979†	-9.6	1.34	14.04%	[0.00]	mg/L
B 249.677†	31.1	5.49	17.65%	[0.00]	mg/L

Ba 233.527†	12.7	1.24	9.77%	[0.00]	mg/L
Be 313.042†	675.2	3.60	0.53%	[0.00]	mg/L
Ca 317.933†	-132.0	11.78	8.92%	[0.00]	mg/L
Cd 228.802†	312.4	4.31	1.38%	[0.00]	mg/L
Co 228.616†	-70.8	2.83	3.99%	[0.00]	mg/L
Cr 267.716†	-68.2	2.98	4.37%	[0.00]	mg/L
Cu 324.752†	4113.1	41.03	1.00%	[0.00]	mg/L
Fe 273.955†	46.0	0.74	1.60%	[0.00]	mg/L
K 766.490†	562.1	7.12	1.27%	[0.00]	mg/L
Mg 279.077†	62.9	4.73	7.51%	[0.00]	mg/L
Mn 257.610†	123.5	1.35	1.09%	[0.00]	mg/L
Mo 202.031†	57.0	5.77	10.13%	[0.00]	mg/L
Na 589.592†	-371.6	16.86	4.54%	[0.00]	mg/L
Na 330.237†	-142.0	3.56	2.51%	[0.00]	mg/L
Ni 231.604†	-17.6	3.13	17.75%	[0.00]	mg/L
Pb 220.353†	55.8	6.07	10.88%	[0.00]	mg/L
Sb 206.836†	79.0	4.89	6.20%	[0.00]	mg/L
Se 196.026†	-34.0	4.44	13.05%	[0.00]	mg/L
Si 288.158†	68.8	7.11	10.34%	[0.00]	mg/L
Sn 189.927†	-3.4	1.67	49.53%	[0.00]	mg/L
Sr 421.552†	313.8	22.52	7.18%	[0.00]	mg/L
Ti 334.903†	-29.2	6.37	21.79%	[0.00]	mg/L
Tl 190.801†	-36.5	1.42	3.90%	[0.00]	mg/L
V 292.402†	66.0	15.33	23.22%	[0.00]	mg/L
Zn 206.200†	11.7	1.08	9.19%	[0.00]	mg/L

Sequence No.: 2
Sample ID: STD2

Autosampler Location: 2
Date Collected: 3/26/2014 10:12:09 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units	Calib
ScA 357.253	2825707.5	15031.95	0.53%	99.70	%	
ScR 361.383	244860.3	1083.64	0.44%	99.33	%	
Ba 233.527†	37604.1	196.81	0.52%	[10]	mg/L	
Cd 228.802†	331203.5	766.39	0.23%	[10]	mg/L	
Co 228.616†	381925.0	1024.22	0.27%	[10]	mg/L	
Cr 267.716†	49136.7	270.66	0.55%	[10]	mg/L	
Cu 324.752†	2819306.4	9998.63	0.35%	[10]	mg/L	
Mn 257.610†	305127.9	885.94	0.29%	[10]	mg/L	
V 292.402†	1507757.5	4053.82	0.27%	[10]	mg/L	

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 3/26/2014 10:13:56 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units	Calib
ScA 357.253	2794873.2	11512.71	0.41%	98.61	%	
ScR 361.383	244588.0	1004.77	0.41%	99.22	%	
Ag 328.068†	192759.3	742.66	0.39%	[1.0]	mg/L	
As 188.979†	17569.1	196.48	1.12%	[10]	mg/L	
B 249.677†	56544.3	232.40	0.41%	[10]	mg/L	
Be 313.042†	2534264.3	5909.13	0.23%	[5.0]	mg/L	
Na 589.592†	664363.2	854.44	0.13%	[50]	mg/L	
Ni 231.604†	32773.0	146.06	0.45%	[10]	mg/L	

Pb 220.353†	82635.5	277.80	0.34%	[10] mg/L
Se 196.026†	14308.9	157.17	1.10%	[10] mg/L
Sr 421.552†	4160606.4	5001.53	0.12%	[5] mg/L
Tl 190.801†	21896.4	231.26	1.06%	[10] mg/L
Zn 206.200†	33528.8	114.09	0.34%	[10] mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 3/26/2014 10:16:15 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2873127.0	17912.53	0.62%	101.4	%
ScR 361.383	248829.0	1573.22	0.63%	100.9	%
Mo 202.031†	192079.9	787.89	0.41%	[10]	mg/L
Sb 206.836†	31905.6	178.23	0.56%	[10]	mg/L
Si 288.158†	16600.7	219.12	1.32%	[10]	mg/L
Sn 189.927†	35829.5	310.53	0.87%	[10]	mg/L
Ti 334.903†	164830.1	701.69	0.43%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 3/26/2014 10:18:30 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2659663.1	5614.62	0.21%	93.84	%
ScR 361.383	243881.2	4166.59	1.71%	98.94	%
Al 308.215†	39347.5	644.94	1.64%	[30]	mg/L
Ca 317.933†	295647.4	4599.95	1.56%	[30]	mg/L
Fe 273.955†	112329.4	1601.35	1.43%	[100]	mg/L
K 766.490†	225970.6	2576.03	1.14%	[100]	mg/L
Mg 279.077†	34621.3	716.79	2.07%	[30]	mg/L
Na 330.237†	2104.2	30.13	1.43%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	192800	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1312	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1757	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5654	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3760	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	506900	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9855	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	33120	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	38190	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4914	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	281900	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1123	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2260	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1154	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	30510	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	19210	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13290	0.00000	1.000000	

Na	330.237	1	Lin Thru 0	0.0	21.04	0.00000	1.000000
Ni	231.604	1	Lin Thru 0	0.0	3277	0.00000	1.000000
Pb	220.353	1	Lin Thru 0	0.0	8264	0.00000	1.000000
Sb	206.836	1	Lin Thru 0	0.0	3191	0.00000	1.000000
Se	196.026	1	Lin Thru 0	0.0	1431	0.00000	1.000000
Si	288.158	1	Lin Thru 0	0.0	1660	0.00000	1.000000
Sn	189.927	1	Lin Thru 0	0.0	3583	0.00000	1.000000
Sr	421.552	1	Lin Thru 0	0.0	832100	0.00000	1.000000
Ti	334.903	1	Lin Thru 0	0.0	16480	0.00000	1.000000
Tl	190.801	1	Lin Thru 0	0.0	2190	0.00000	1.000000
V	292.402	1	Lin Thru 0	0.0	150800	0.00000	1.000000
Zn	206.200	1	Lin Thru 0	0.0	3353	0.00000	1.000000

=====
Analysis Begun

Start Time: 3/26/2014 10:24:18 AM

Plasma On Time: 3/26/2014 7:09:54 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0326.sif

Batch ID:

Results Data Set: I2140326

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 7

Sample ID: CV

Date Collected: 3/26/2014 10:24:20 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2816067.8	99.36	%	0.955			0.96%
ScR 361.383	242206.0	98.26	%	0.233			0.24%
Ag 328.068†	203900.6	1.058	mg/L	0.0112	1.058 mg/L	0.0112	1.05%
Al 308.215†	2734.0	2.052	mg/L	0.0074	2.052 mg/L	0.0074	0.36%
As 188.979†	3562.5	2.060	mg/L	0.0162	2.060 mg/L	0.0162	0.79%
B 249.677†	5820.5	1.028	mg/L	0.0066	1.028 mg/L	0.0066	0.64%
Ba 233.527†	3869.3	1.028	mg/L	0.0054	1.028 mg/L	0.0054	0.53%
Be 313.042†	513537.4	1.013	mg/L	0.0038	1.013 mg/L	0.0038	0.38%
Ca 317.933†	20719.2	2.102	mg/L	0.0096	2.102 mg/L	0.0096	0.46%
Cd 228.802†	34993.5	1.047	mg/L	0.0102	1.047 mg/L	0.0102	0.98%
Co 228.616†	38425.8	1.004	mg/L	0.0102	1.004 mg/L	0.0102	1.02%
Cr 267.716†	5175.6	1.053	mg/L	0.0056	1.053 mg/L	0.0056	0.53%
Cu 324.752†	287042.4	1.018	mg/L	0.0062	1.018 mg/L	0.0062	0.61%
Fe 273.955†	2360.8	2.095	mg/L	0.0094	2.095 mg/L	0.0094	0.45%
K 766.490†	45865.2	20.30	mg/L	0.019	20.30 mg/L	0.019	0.10%
Mg 279.077†	2307.8	2.006	mg/L	0.0036	2.006 mg/L	0.0036	0.18%
Mn 257.610†	30305.8	0.9936	mg/L	0.00130	0.9936 mg/L	0.00130	0.13%
Mo 202.031†	18726.3	0.9749	mg/L	0.00997	0.9749 mg/L	0.00997	1.02%
Na 589.592†	682112.5	51.34	mg/L	0.068	51.34 mg/L	0.068	0.13%
Na 330.237†	1097.1	52.10	mg/L	0.452	52.10 mg/L	0.452	0.87%
Ni 231.604†	3383.0	1.032	mg/L	0.0046	1.032 mg/L	0.0046	0.45%
Pb 220.353†	16595.7	2.009	mg/L	0.0182	2.009 mg/L	0.0182	0.91%
Sb 206.836†	6720.4	2.105	mg/L	0.0157	2.105 mg/L	0.0157	0.74%
Se 196.026†	2886.0	2.016	mg/L	0.0162	2.016 mg/L	0.0162	0.80%
Si 288.158†	3397.3	2.051	mg/L	0.0265	2.051 mg/L	0.0265	1.29%
Sn 189.927†	3553.2	0.9934	mg/L	0.00539	0.9934 mg/L	0.00539	0.54%
Sr 421.552†	852189.5	1.024	mg/L	0.0012	1.024 mg/L	0.0012	0.12%
Ti 334.903†	16487.0	0.9990	mg/L	0.00163	0.9990 mg/L	0.00163	0.16%
Tl 190.801†	4527.7	2.060	mg/L	0.0150	2.060 mg/L	0.0150	0.73%
V 292.402†	154422.3	1.029	mg/L	0.0079	1.029 mg/L	0.0079	0.77%
Zn 206.200†	3425.2	1.022	mg/L	0.0037	1.022 mg/L	0.0037	0.36%

Sequence No.: 2

Sample ID: ICB

Autosampler Location: 1

Date Collected: 3/26/2014 10:28:23 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2828731.3	99.81	%	0.716			0.72%
ScR 361.383	246748.5	100.1	%	0.70			0.70%
Ag 328.068†	-7.3	-0.00004	mg/L	0.000055	-0.00004 mg/L	0.000055	145.75%
Al 308.215†	11.1	0.00848	mg/L	0.006914	0.00848 mg/L	0.006914	81.56%
As 188.979†	0.9	0.00049	mg/L	0.001155	0.00049 mg/L	0.001155	233.86%
B 249.677†	23.2	0.00410	mg/L	0.001198	0.00410 mg/L	0.001198	29.23%
Ba 233.527†	1.2	0.00032	mg/L	0.000218	0.00032 mg/L	0.000218	68.95%
Be 313.042†	42.5	0.00008	mg/L	0.000038	0.00008 mg/L	0.000038	45.74%
Ca 317.933†	-2.9	-0.00030	mg/L	0.000516	-0.00030 mg/L	0.000516	174.79%
Cd 228.802†	0.6	0.00002	mg/L	0.000035	0.00002 mg/L	0.000035	210.30%
Co 228.616†	2.6	0.00007	mg/L	0.000017	0.00007 mg/L	0.000017	24.87%
Cr 267.716†	3.5	0.00072	mg/L	0.000555	0.00072 mg/L	0.000555	77.35%
Cu 324.752†	-29.0	-0.00010	mg/L	0.000250	-0.00010 mg/L	0.000250	242.42%
Fe 273.955†	-1.6	-0.00146	mg/L	0.002905	-0.00146 mg/L	0.002905	199.26%
K 766.490†	-10.1	-0.00448	mg/L	0.009294	-0.00448 mg/L	0.009294	207.63%
Mg 279.077†	-2.3	-0.00199	mg/L	0.001180	-0.00199 mg/L	0.001180	59.28%
Mn 257.610†	3.3	0.00011	mg/L	0.000034	0.00011 mg/L	0.000034	31.22%
Mo 202.031†	15.4	0.00080	mg/L	0.000252	0.00080 mg/L	0.000252	31.49%
Na 589.592†	114.1	0.00859	mg/L	0.002210	0.00859 mg/L	0.002210	25.74%
Na 330.237†	-5.6	-0.2660	mg/L	0.17242	-0.2660 mg/L	0.17242	64.81%
Ni 231.604†	0.3	0.00009	mg/L	0.000999	0.00009 mg/L	0.000999	>999.9%
Pb 220.353†	-8.1	-0.00098	mg/L	0.000469	-0.00098 mg/L	0.000469	48.05%
Sb 206.836†	16.1	0.00502	mg/L	0.001929	0.00502 mg/L	0.001929	38.45%
Se 196.026†	3.0	0.00210	mg/L	0.000487	0.00210 mg/L	0.000487	23.18%
Si 288.158†	-8.3	-0.00500	mg/L	0.003670	-0.00500 mg/L	0.003670	73.39%
Sn 189.927†	-3.4	-0.00095	mg/L	0.000265	-0.00095 mg/L	0.000265	27.86%
Sr 421.552†	86.8	0.00010	mg/L	0.000052	0.00010 mg/L	0.000052	49.72%
Ti 334.903†	4.4	0.00026	mg/L	0.000205	0.00026 mg/L	0.000205	77.82%
Tl 190.801†	1.7	0.00076	mg/L	0.001934	0.00076 mg/L	0.001934	254.51%
V 292.402†	7.7	0.00005	mg/L	0.000235	0.00005 mg/L	0.000235	430.88%
Zn 206.200†	2.6	0.00077	mg/L	0.000300	0.00077 mg/L	0.000300	38.97%

Sequence No.: 3

Autosampler Location: 301

Sample ID: CRI

Date Collected: 3/26/2014 10:32:23 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2817531.4	99.41	%	0.447			0.45%
ScR 361.383	244431.2	99.16	%	0.222			0.22%
Ag 328.068†	575.8	0.00299	mg/L	0.000120	0.00299 mg/L	0.000120	4.01%
Al 308.215†	73.6	0.05602	mg/L	0.003748	0.05602 mg/L	0.003748	6.69%
As 188.979†	91.6	0.05231	mg/L	0.000375	0.05231 mg/L	0.000375	0.72%
B 249.677†	121.5	0.02149	mg/L	0.001387	0.02149 mg/L	0.001387	6.45%
Ba 233.527†	13.0	0.00345	mg/L	0.000327	0.00345 mg/L	0.000327	9.50%
Be 313.042†	533.7	0.00105	mg/L	0.000006	0.00105 mg/L	0.000006	0.54%
Ca 317.933†	462.8	0.04696	mg/L	0.001311	0.04696 mg/L	0.001311	2.79%
Cd 228.802†	74.8	0.00200	mg/L	0.000070	0.00200 mg/L	0.000070	3.52%
Co 228.616†	115.6	0.00302	mg/L	0.000206	0.00302 mg/L	0.000206	6.84%
Cr 267.716†	25.8	0.00524	mg/L	0.000976	0.00524 mg/L	0.000976	18.61%
Cu 324.752†	500.3	0.00177	mg/L	0.000098	0.00177 mg/L	0.000098	5.55%
Fe 273.955†	58.6	0.05214	mg/L	0.001363	0.05214 mg/L	0.001363	2.61%
K 766.490†	1131.0	0.5005	mg/L	0.01912	0.5005 mg/L	0.01912	3.82%
Mg 279.077†	57.0	0.04937	mg/L	0.004437	0.04937 mg/L	0.004437	8.99%
Mn 257.610†	32.2	0.00106	mg/L	0.000056	0.00106 mg/L	0.000056	5.29%
Mo 202.031†	94.2	0.00490	mg/L	0.000230	0.00490 mg/L	0.000230	4.70%
Na 589.592†	6716.2	0.5055	mg/L	0.00324	0.5055 mg/L	0.00324	0.64%
Na 330.237†	3.7	0.1737	mg/L	0.14007	0.1737 mg/L	0.14007	80.66%
Ni 231.604†	31.1	0.00949	mg/L	0.000921	0.00949 mg/L	0.000921	9.70%
Pb 220.353†	158.5	0.01920	mg/L	0.000780	0.01920 mg/L	0.000780	4.06%
Sb 206.836†	169.4	0.05311	mg/L	0.001192	0.05311 mg/L	0.001192	2.25%
Se 196.026†	69.9	0.04881	mg/L	0.005859	0.04881 mg/L	0.005859	12.00%
Si 288.158†	88.7	0.05344	mg/L	0.002125	0.05344 mg/L	0.002125	3.98%
Sn 189.927†	34.1	0.00954	mg/L	0.000387	0.00954 mg/L	0.000387	4.06%
Sr 421.552†	833.9	0.00100	mg/L	0.000018	0.00100 mg/L	0.000018	1.84%
Ti 334.903†	81.9	0.00496	mg/L	0.000482	0.00496 mg/L	0.000482	9.71%
Tl 190.801†	107.7	0.04915	mg/L	0.001851	0.04915 mg/L	0.001851	3.77%
V 292.402†	477.0	0.00318	mg/L	0.000111	0.00318 mg/L	0.000111	3.48%
Zn 206.200†	31.5	0.00941	mg/L	0.000207	0.00941 mg/L	0.000207	2.20%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 3/26/2014 10:36:24 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2738884.6	96.64	%	0.429			0.44%
ScR 361.383	240127.3	97.41	%	1.237			1.27%
Ag 328.068†	-222.2	-0.00055	mg/L	0.000136	-0.00055 mg/L	0.000136	24.99%
Al 308.215†	261095.7	199.1	mg/L	0.30	199.1 mg/L	0.30	0.15%
As 188.979†	50.5	0.02027	mg/L	0.003699	0.02027 mg/L	0.003699	18.25%
B 249.677†	-16.3	-0.00288	mg/L	0.000477	-0.00288 mg/L	0.000477	16.58%
Ba 233.527†	111.7	-0.00091	mg/L	0.001162	-0.00091 mg/L	0.001162	127.82%
Be 313.042†	34.0	0.00006	mg/L	0.000011	0.00006 mg/L	0.000011	17.37%
Ca 317.933†	986649.3	100.1	mg/L	0.40	100.1 mg/L	0.40	0.40%
Cd 228.802†	45.8	-0.00049	mg/L	0.000096	-0.00049 mg/L	0.000096	19.66%
Co 228.616†	80.8	0.00210	mg/L	0.000117	0.00210 mg/L	0.000117	5.59%
Cr 267.716†	10.1	-0.00149	mg/L	0.000747	-0.00149 mg/L	0.000747	49.98%
Cu 324.752†	-2457.5	-0.00050	mg/L	0.000066	-0.00050 mg/L	0.000066	13.22%
Fe 273.955†	222663.4	198.2	mg/L	0.69	198.2 mg/L	0.69	0.35%
K 766.490†	46.7	0.02068	mg/L	0.013437	0.02068 mg/L	0.013437	64.98%
Mg 279.077†	116716.3	101.0	mg/L	1.82	101.0 mg/L	1.82	1.81%
Mn 257.610†	34.3	-0.00133	mg/L	0.000196	-0.00133 mg/L	0.000196	14.77%
Mo 202.031†	64.9	0.00182	mg/L	0.000159	0.00182 mg/L	0.000159	8.72%
Na 589.592†	117.0	0.00880	mg/L	0.001197	0.00880 mg/L	0.001197	13.60%
Na 330.237†	7.5	-0.2551	mg/L	0.41982	-0.2551 mg/L	0.41982	164.55%
Ni 231.604†	-1.0	-0.00028	mg/L	0.000765	-0.00028 mg/L	0.000765	268.64%
Pb 220.353†	-352.8	-0.00232	mg/L	0.000932	-0.00232 mg/L	0.000932	40.14%
Sb 206.836†	71.0	0.02210	mg/L	0.002139	0.02210 mg/L	0.002139	9.68%
Se 196.026†	37.7	0.02634	mg/L	0.003281	0.02634 mg/L	0.003281	12.46%
Si 288.158†	-48.3	-0.01706	mg/L	0.001789	-0.01706 mg/L	0.001789	10.49%
Sn 189.927†	-83.0	-0.01103	mg/L	0.001535	-0.01103 mg/L	0.001535	13.91%
Sr 421.552†	4567.1	0.00549	mg/L	0.000122	0.00549 mg/L	0.000122	2.21%
Ti 334.903†	157.5	0.00249	mg/L	0.000973	0.00249 mg/L	0.000973	39.16%
Tl 190.801†	-52.4	-0.00112	mg/L	0.001500	-0.00112 mg/L	0.001500	133.97%
V 292.402†	1511.0	-0.00116	mg/L	0.000388	-0.00116 mg/L	0.000388	33.53%
Zn 206.200†	10.8	0.00320	mg/L	0.000492	0.00320 mg/L	0.000492	15.37%

Sequence No.: 5
 Sample ID: ICSAB

Autosampler Location: 303
 Date Collected: 3/26/2014 10:40:39 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2692866.9	95.01	%	0.400			0.42%
ScR 361.383	237370.4	96.30	%	0.520			0.54%
Ag 328.068†	206224.8	1.071	mg/L	0.0053	1.071 mg/L	0.0053	0.49%
Al 308.215†	263389.2	200.8	mg/L	0.13	200.8 mg/L	0.13	0.06%
As 188.979†	1820.8	1.027	mg/L	0.0050	1.027 mg/L	0.0050	0.49%
B 249.677†	-20.7	-0.00566	mg/L	0.000274	-0.00566 mg/L	0.000274	4.84%
Ba 233.527†	3893.0	1.004	mg/L	0.0060	1.004 mg/L	0.0060	0.60%
Be 313.042†	506066.4	0.9982	mg/L	0.00643	0.9982 mg/L	0.00643	0.64%
Ca 317.933†	997390.2	101.2	mg/L	0.30	101.2 mg/L	0.30	0.30%
Cd 228.802†	34365.1	1.031	mg/L	0.0065	1.031 mg/L	0.0065	0.63%
Co 228.616†	36193.8	0.9474	mg/L	0.00589	0.9474 mg/L	0.00589	0.62%
Cr 267.716†	5001.8	1.014	mg/L	0.0035	1.014 mg/L	0.0035	0.34%
Cu 324.752†	296687.4	1.061	mg/L	0.0057	1.061 mg/L	0.0057	0.54%
Fe 273.955†	224472.8	199.8	mg/L	1.24	199.8 mg/L	1.24	0.62%
K 766.490†	35.3	0.01564	mg/L	0.014663	0.01564 mg/L	0.014663	93.76%
Mg 279.077†	113893.6	98.56	mg/L	0.338	98.56 mg/L	0.338	0.34%
Mn 257.610†	30488.0	0.9970	mg/L	0.00587	0.9970 mg/L	0.00587	0.59%
Mo 202.031†	60.4	0.00157	mg/L	0.000078	0.00157 mg/L	0.000078	4.95%
Na 589.592†	115.0	0.00865	mg/L	0.003055	0.00865 mg/L	0.003055	35.31%
Na 330.237†	15.2	-0.1695	mg/L	0.19250	-0.1695 mg/L	0.19250	113.54%
Ni 231.604†	3151.0	0.9616	mg/L	0.00156	0.9616 mg/L	0.00156	0.16%
Pb 220.353†	7774.7	0.9822	mg/L	0.00437	0.9822 mg/L	0.00437	0.44%
Sb 206.836†	3332.9	1.035	mg/L	0.0080	1.035 mg/L	0.0080	0.78%
Se 196.026†	1469.4	1.026	mg/L	0.0073	1.026 mg/L	0.0073	0.71%
Si 288.158†	-47.3	-0.01218	mg/L	0.002190	-0.01218 mg/L	0.002190	17.98%
Sn 189.927†	-94.2	-0.01344	mg/L	0.002601	-0.01344 mg/L	0.002601	19.35%
Sr 421.552†	4552.8	0.00547	mg/L Cont.	0.000022	0.00547 mg/L	0.000022	0.41%
Ti 334.903†	148.8	0.00168	mg/L	0.000159	0.00168 mg/L	0.000159	9.45%
Tl 190.801†	2031.8	0.9414	mg/L	0.00544	0.9414 mg/L	0.00544	0.58%
V 292.402†	150276.6	0.9898	mg/L	0.00340	0.9898 mg/L	0.00340	0.34%
Zn 206.200†	3218.9	0.9604	mg/L	0.00278	0.9604 mg/L	0.00278	0.29%

Sequence No.: 6

Sample ID: CV 8

Autosampler Location: 7

Date Collected: 3/26/2014 10:45:43 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2802227.4	98.87	%	0.454				0.46%
ScR 361.383	241900.6	98.13	%	0.124				0.13%
Ag 328.068†	206315.1	1.071	mg/L	0.0103	1.071	mg/L	0.0103	0.96%
Al 308.215†	2775.0	2.083	mg/L	0.0146	2.083	mg/L	0.0146	0.70%
As 188.979†	3620.0	2.092	mg/L	0.0035	2.092	mg/L	0.0035	0.17%
B 249.677†	5847.0	1.033	mg/L	0.0025	1.033	mg/L	0.0025	0.24%
Ba 233.527†	3911.3	1.040	mg/L	0.0058	1.040	mg/L	0.0058	0.56%
Be 313.042†	516855.5	1.019	mg/L	0.0069	1.019	mg/L	0.0069	0.68%
Ca 317.933†	20951.5	2.126	mg/L	0.0045	2.126	mg/L	0.0045	0.21%
Cd 228.802†	35272.0	1.055	mg/L	0.0103	1.055	mg/L	0.0103	0.98%
Co 228.616†	38699.0	1.011	mg/L	0.0124	1.011	mg/L	0.0124	1.22%
Cr 267.716†	5217.5	1.061	mg/L	0.0020	1.061	mg/L	0.0020	0.19%
Cu 324.752†	289525.7	1.027	mg/L	0.0040	1.027	mg/L	0.0040	0.39%
Fe 273.955†	2392.4	2.123	mg/L	0.0042	2.123	mg/L	0.0042	0.20%
K 766.490†	45863.2	20.30	mg/L	0.079	20.30	mg/L	0.079	0.39%
Mg 279.077†	2335.0	2.030	mg/L	0.0078	2.030	mg/L	0.0078	0.38%
Mn 257.610†	30516.3	1.001	mg/L	0.0065	1.001	mg/L	0.0065	0.65%
Mo 202.031†	18870.5	0.9824	mg/L	0.01235	0.9824	mg/L	0.01235	1.26%
Na 589.592†	685830.5	51.62	mg/L	0.307	51.62	mg/L	0.307	0.59%
Na 330.237†	1102.5	52.35	mg/L	0.156	52.35	mg/L	0.156	0.30%
Ni 231.604†	3404.0	1.039	mg/L	0.0019	1.039	mg/L	0.0019	0.19%
Pb 220.353†	16757.1	2.029	mg/L	0.0255	2.029	mg/L	0.0255	1.26%
Sb 206.836†	6843.8	2.143	mg/L	0.0068	2.143	mg/L	0.0068	0.32%
Se 196.026†	2932.9	2.049	mg/L	0.0019	2.049	mg/L	0.0019	0.09%
Si 288.158†	3407.7	2.058	mg/L	0.0088	2.058	mg/L	0.0088	0.43%
Sn 189.927†	3619.3	1.012	mg/L	0.0041	1.012	mg/L	0.0041	0.41%
Sr 421.552†	856354.3	1.029	mg/L	0.0052	1.029	mg/L	0.0052	0.51%
Ti 334.903†	16595.5	1.006	mg/L	0.0059	1.006	mg/L	0.0059	0.59%
Tl 190.801†	4581.9	2.084	mg/L	0.0058	2.084	mg/L	0.0058	0.28%
V 292.402†	156580.1	1.043	mg/L	0.0135	1.043	mg/L	0.0135	1.29%
Zn 206.200†	3457.3	1.032	mg/L	0.0012	1.032	mg/L	0.0012	0.12%

Sequence No.: 7

Autosampler Location: 1

Sample ID: CB j

Date Collected: 3/26/2014 10:49:48 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2821161.7	99.54	%	0.639			0.64%
ScR 361.383	244204.4	99.07	%	0.184			0.19%
Ag 328.068†	32.6	0.00017	mg/L	0.000255	0.00017 mg/L	0.000255	150.88%
Al 308.215†	5.2	0.00398	mg/L	0.002886	0.00398 mg/L	0.002886	72.57%
As 188.979†	-1.7	-0.00095	mg/L	0.002235	-0.00095 mg/L	0.002235	235.36%
B 249.677†	16.0	0.00283	mg/L	0.000759	0.00283 mg/L	0.000759	26.83%
Ba 233.527†	0.2	0.00004	mg/L	0.000332	0.00004 mg/L	0.000332	754.80%
Be 313.042†	63.4	0.00013	mg/L	0.000042	0.00013 mg/L	0.000042	33.32%
Ca 317.933†	8.5	0.00086	mg/L	0.001497	0.00086 mg/L	0.001497	173.93%
Cd 228.802†	-2.7	-0.00008	mg/L	0.000075	-0.00008 mg/L	0.000075	97.49%
Co 228.616†	0.3	0.00001	mg/L	0.000032	0.00001 mg/L	0.000032	355.87%
Cr 267.716†	-0.0	-0.00001	mg/L	0.001101	-0.00001 mg/L	0.001101	>999.9%
Cu 324.752†	-42.3	-0.00015	mg/L	0.000042	-0.00015 mg/L	0.000042	28.27%
Fe 273.955†	6.0	0.00535	mg/L	0.001027	0.00535 mg/L	0.001027	19.21%
K 766.490†	17.6	0.00780	mg/L	0.010677	0.00780 mg/L	0.010677	136.83%
Mg 279.077†	5.8	0.00500	mg/L	0.005477	0.00500 mg/L	0.005477	109.43%
Mn 257.610†	5.4	0.00018	mg/L	0.000061	0.00018 mg/L	0.000061	34.27%
Mo 202.031†	12.9	0.00067	mg/L	0.000253	0.00067 mg/L	0.000253	37.73%
Na 589.592†	110.7	0.00833	mg/L	0.000561	0.00833 mg/L	0.000561	6.74%
Na 330.237†	-4.6	-0.2202	mg/L	0.16013	-0.2202 mg/L	0.16013	72.71%
Ni 231.604†	0.4	0.00013	mg/L	0.000293	0.00013 mg/L	0.000293	222.62%
Pb 220.353†	-0.6	-0.00007	mg/L	0.000531	-0.00007 mg/L	0.000531	710.55%
Sb 206.836†	17.8	0.00559	mg/L	0.002224	0.00559 mg/L	0.002224	39.79%
Se 196.026†	-0.9	-0.00060	mg/L	0.004138	-0.00060 mg/L	0.004138	691.38%
Si 288.158†	-10.1	-0.00608	mg/L	0.005308	-0.00608 mg/L	0.005308	87.30%
Sn 189.927†	1.1	0.00031	mg/L	0.000238	0.00031 mg/L	0.000238	77.71%
Sr 421.552†	91.3	0.00011	mg/L	0.000051	0.00011 mg/L	0.000051	46.71%
Ti 334.903†	1.0	0.00006	mg/L	0.000008	0.00006 mg/L	0.000008	13.98%
Tl 190.801†	7.4	0.00336	mg/L	0.000795	0.00336 mg/L	0.000795	23.66%
V 292.402†	-7.2	-0.00005	mg/L	0.000030	-0.00005 mg/L	0.000030	63.46%
Zn 206.200†	0.9	0.00026	mg/L	0.000730	0.00026 mg/L	0.000730	286.34%

Sequence No.: 8
Sample ID: YD56 MB1 TWC

Autosampler Location: 304
Date Collected: 3/26/2014 10:53:48 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 MB1 TWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YD56 MB1 TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2833824.0	99.99 %	%	1.248			1.25%
ScR 361.383	246554.4	100.0 %	%	0.75			0.75%
Ag 328.068†	16.9	0.00009 mg/L	mg/L	0.000153	0.00009 mg/L	0.000153	174.84%
Al 308.215†	12.1	0.00920 mg/L	mg/L	0.004020	0.00920 mg/L	0.004020	43.70%
As 188.979†	1.7	0.00097 mg/L	mg/L	0.001172	0.00097 mg/L	0.001172	120.78%
B 249.677†	5.0	0.00088 mg/L	mg/L	0.000676	0.00088 mg/L	0.000676	76.76%
Ba 233.527†	4.0	0.00106 mg/L	mg/L	0.000242	0.00106 mg/L	0.000242	22.91%
Be 313.042†	25.4	0.00005 mg/L	mg/L	0.000017	0.00005 mg/L	0.000017	34.75%
Ca 317.933†	40.2	0.00408 mg/L	mg/L	0.000308	0.00408 mg/L	0.000308	7.55%
Cd 228.802†	-2.4	-0.00008 mg/L	mg/L	0.000046	-0.00008 mg/L	0.000046	57.69%
Co 228.616†	2.4	0.00006 mg/L	mg/L	0.000136	0.00006 mg/L	0.000136	216.50%
Cr 267.716†	1.1	0.00023 mg/L	mg/L	0.000813	0.00023 mg/L	0.000813	356.71%
Cu 324.752†	41.5	0.00015 mg/L	mg/L	0.000139	0.00015 mg/L	0.000139	94.11%
Fe 273.955†	1.5	0.00133 mg/L	mg/L	0.001150	0.00133 mg/L	0.001150	86.69%
K 766.490†	26.4	0.01170 mg/L	mg/L	0.008307	0.01170 mg/L	0.008307	71.01%
Mg 279.077†	-8.3	-0.00716 mg/L	mg/L	0.006678	-0.00716 mg/L	0.006678	93.29%
Mn 257.610†	-0.9	-0.00003 mg/L	mg/L	0.000053	-0.00003 mg/L	0.000053	176.49%
Mo 202.031†	1.4	0.00008 mg/L	mg/L	0.000012	0.00008 mg/L	0.000012	15.80%
Na 589.592†	44.3	0.00333 mg/L	mg/L	0.002466	0.00333 mg/L	0.002466	73.95%
Na 330.237†	-2.4	-0.1143 mg/L	mg/L	0.09654	-0.1143 mg/L	0.09654	84.49%
Ni 231.604†	-3.2	-0.00097 mg/L	mg/L	0.001030	-0.00097 mg/L	0.001030	105.66%
Pb 220.353†	-6.2	-0.00075 mg/L	mg/L	0.000472	-0.00075 mg/L	0.000472	62.68%
Sb 206.836†	1.6	0.00052 mg/L	mg/L	0.001226	0.00052 mg/L	0.001226	236.57%
Se 196.026†	-2.8	-0.00193 mg/L	mg/L	0.003521	-0.00193 mg/L	0.003521	182.34%
Si 288.158†	10.2	0.00611 mg/L	mg/L	0.004709	0.00611 mg/L	0.004709	77.01%
Sn 189.927†	2.7	0.00074 mg/L	mg/L	0.000312	0.00074 mg/L	0.000312	42.10%
Sr 421.552†	37.4	0.00004 mg/L	mg/L	0.000034	0.00004 mg/L	0.000034	74.64%
Ti 334.903†	-0.5	-0.00003 mg/L	mg/L	0.000344	-0.00003 mg/L	0.000344	>999.9%
Tl 190.801†	0.7	0.00032 mg/L	mg/L	0.000872	0.00032 mg/L	0.000872	272.80%
V 292.402†	5.4	0.00004 mg/L	mg/L	0.000157	0.00004 mg/L	0.000157	426.09%
Zn 206.200†	3.2	0.00097 mg/L	mg/L	0.000436	0.00097 mg/L	0.000436	44.97%

Sequence No.: 9
Sample ID: YD56 A TWC
Dilution: 1.000000X

Autosampler Location: 305
Date Collected: 3/26/2014 10:57:49 AM
Data Type: Original

Nebulizer Parameters: YD56 A TWC
Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YD56 A TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2640484.7	93.16 %	0.577			0.62%
ScR 361.383	239263.0	97.06 %	0.816			0.84%
Ag 328.068†	33.1	0.00035 mg/L	0.000099	0.00035 mg/L	0.000099	28.52%
Al 308.215†	759.6	0.5716 mg/L	0.00756	0.5716 mg/L	0.00756	1.32%
As 188.979†	-36.3	0.01775 mg/L	0.001062	0.01775 mg/L	0.001062	5.98%
B 249.677†	1382.0	0.2444 mg/L	0.00286	0.2444 mg/L	0.00286	1.17%
Ba 233.527†	129.7	0.03416 mg/L	0.001096	0.03416 mg/L	0.001096	3.21%
Be 313.042†	-28.1	-0.00015 mg/L	0.000029	-0.00015 mg/L	0.000029	18.59%
Ca 317.933†	141131.3	14.32 mg/L	0.063	14.32 mg/L	0.063	0.44%
Cd 228.802†	18.4	0.00063 mg/L	0.000038	0.00063 mg/L	0.000038	6.07%
Co 228.616†	98.2	0.00058 mg/L	0.000256	0.00058 mg/L	0.000256	44.18%
Cr 267.716†	253.6	0.05091 mg/L	0.001037	0.05091 mg/L	0.001037	2.04%
Cu 324.752†	15299.2	0.05405 mg/L	0.000367	0.05405 mg/L	0.000367	0.68%
Fe 273.955†	1896.0	1.685 mg/L	0.0093	1.685 mg/L	0.0093	0.55%
K 766.490†	20726.5	9.172 mg/L	0.0359	9.172 mg/L	0.0359	0.39%
Mg 279.077†	6351.0	5.501 mg/L	0.0300	5.501 mg/L	0.0300	0.54%
Mn 257.610†	1265.2	0.04137 mg/L	0.000393	0.04137 mg/L	0.000393	0.95%
Mo 202.031†	191.7	0.00976 mg/L	0.000036	0.00976 mg/L	0.000036	0.37%
Na 589.592†	12547750.8	944.3 mg/L	2.86	944.3 mg/L	2.86	0.30%
Na 330.237†	20086.6	954.8 mg/L	3.69	954.8 mg/L	3.69	0.39%
Ni 231.604†	13.8	0.00421 mg/L	0.001899	0.00421 mg/L	0.001899	45.10%
Pb 220.353†	40.0	0.00493 mg/L	0.000580	0.00493 mg/L	0.000580	11.77%
Sb 206.836†	2.7	0.00227 mg/L	0.001244	0.00227 mg/L	0.001244	54.91%
Se 196.026†	6.5	0.00432 mg/L	0.008097	0.00432 mg/L	0.008097	187.62%
Si 288.158†	10058.9	6.060 mg/L	0.0310	6.060 mg/L	0.0310	0.51%
Sn 189.927†	-24.2	-0.00482 mg/L	0.000615	-0.00482 mg/L	0.000615	12.77%
Sr 421.552†	105544.6	0.1268 mg/L	0.00042	0.1268 mg/L	0.00042	0.33%
Ti 334.903†	18350.0	1.112 mg/L	0.0039	1.112 mg/L	0.0039	0.35%
Tl 190.801†	12.7	0.00470 mg/L	0.003032	0.00470 mg/L	0.003032	64.50%
V 292.402†	52522.8	0.3478 mg/L	0.00390	0.3478 mg/L	0.00390	1.12%
Zn 206.200†	14.3	0.00542 mg/L	0.000469	0.00542 mg/L	0.000469	8.66%

Sequence No.: 10

Autosampler Location: 306

Sample ID: YD56 B TWC

Date Collected: 3/26/2014 11:02:11 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 B TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD56 B TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2586775.1	91.27	%	0.483			0.53%
ScR 361.383	236434.4	95.92	%	0.582			0.61%
Ag 328.068†	15.5	0.00023	mg/L	0.000294	0.00023 mg/L	0.000294	127.90%
Al 308.215†	613.5	0.4615	mg/L	0.00855	0.4615 mg/L	0.00855	1.85%
As 188.979†	-2.1	0.02365	mg/L	0.001395	0.02365 mg/L	0.001395	5.90%
B 249.677†	1416.3	0.2505	mg/L	0.00060	0.2505 mg/L	0.00060	0.24%
Ba 233.527†	111.4	0.02921	mg/L	0.000680	0.02921 mg/L	0.000680	2.33%
Be 313.042†	21.5	-0.00004	mg/L	0.000004	-0.00004 mg/L	0.000004	9.48%
Ca 317.933†	111623.0	11.33	mg/L	0.036	11.33 mg/L	0.036	0.31%
Cd 228.802†	23.2	0.00069	mg/L	0.000126	0.00069 mg/L	0.000126	18.43%
Co 228.616†	84.4	0.00091	mg/L	0.000124	0.00091 mg/L	0.000124	13.58%
Cr 267.716†	184.1	0.03730	mg/L	0.000290	0.03730 mg/L	0.000290	0.78%
Cu 324.752†	27193.4	0.09638	mg/L	0.000411	0.09638 mg/L	0.000411	0.43%
Fe 273.955†	2537.8	2.257	mg/L	0.0199	2.257 mg/L	0.0199	0.88%
K 766.490†	11593.1	5.130	mg/L	0.0061	5.130 mg/L	0.0061	0.12%
Mg 279.077†	259.5	0.2222	mg/L	0.00306	0.2222 mg/L	0.00306	1.38%
Mn 257.610†	1347.6	0.04412	mg/L	0.000295	0.04412 mg/L	0.000295	0.67%
Mo 202.031†	325.2	0.01675	mg/L	0.000152	0.01675 mg/L	0.000152	0.91%
Na 589.592†	20937050.6	1576	mg/L	13.15	1576 mg/L	13.15	0.83%
Na 330.237†	33710.1	1602	mg/L	6.74	1602 mg/L	6.74	0.42%
Ni 231.604†	49.9	0.01523	mg/L	0.001107	0.01523 mg/L	0.001107	7.27%
Pb 220.353†	56.0	0.00673	mg/L	0.000737	0.00673 mg/L	0.000737	10.94%
Sb 206.836†	-2.9	0.00028	mg/L	0.002523	0.00028 mg/L	0.002523	904.22%
Se 196.026†	3.7	0.00238	mg/L	0.004098	0.00238 mg/L	0.004098	172.45%
Si 288.158†	3036.4	1.829	mg/L	0.0105	1.829 mg/L	0.0105	0.57%
Sn 189.927†	-14.3	-0.00249	mg/L	0.000589	-0.00249 mg/L	0.000589	23.64%
Sr 421.552†	82750.4	0.09945	mg/L	0.000485	0.09945 mg/L	0.000485	0.49%
Ti 334.903†	11975.4	0.7257	mg/L	0.00325	0.7257 mg/L	0.00325	0.45%
Tl 190.801†	15.1	0.00602	mg/L	0.001436	0.00602 mg/L	0.001436	23.85%
V 292.402†	47105.1	0.3120	mg/L	0.00091	0.3120 mg/L	0.00091	0.29%
Zn 206.200†	20.7	0.00653	mg/L	0.000077	0.00653 mg/L	0.000077	1.17%

YD51: 00077

Sequence No.: 11
Sample ID: YD56 C TWC

Autosampler Location: 307
Date Collected: 3/26/2014 11:06:39 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 C TWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YD56 C TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2557570.6	90.24	%	0.311			0.34%
ScR 361.383	236559.4	95.97	%	0.355			0.37%
Ag 328.068†	12.5	0.00022	mg/L	0.000306	0.00022	0.000306	136.74%
Al 308.215†	630.2	0.4736	mg/L	0.00323	0.4736	0.00323	0.68%
As 188.979†	-6.2	0.02372	mg/L	0.000702	0.02372	0.000702	2.96%
B 249.677†	1502.2	0.2657	mg/L	0.00027	0.2657	0.00027	0.10%
Ba 233.527†	120.0	0.03146	mg/L	0.001477	0.03146	0.001477	4.69%
Be 313.042†	36.2	-0.00002	mg/L	0.000045	-0.00002	0.000045	205.12%
Ca 317.933†	114860.5	11.66	mg/L	0.085	11.66	0.085	0.73%
Cd 228.802†	27.1	0.00081	mg/L	0.000061	0.00081	0.000061	7.47%
Co 228.616†	88.7	0.00090	mg/L	0.000142	0.00090	0.000142	15.79%
Cr 267.716†	201.1	0.04075	mg/L	0.001431	0.04075	0.001431	3.51%
Cu 324.752†	29303.0	0.1039	mg/L	0.00027	0.1039	0.00027	0.26%
Fe 273.955†	2792.3	2.483	mg/L	0.0129	2.483	0.0129	0.52%
K 766.490†	12544.2	5.551	mg/L	0.0622	5.551	0.0622	1.12%
Mg 279.077†	283.9	0.2431	mg/L	0.00579	0.2431	0.00579	2.38%
Mn 257.610†	1462.9	0.04790	mg/L	0.000103	0.04790	0.000103	0.22%
Mo 202.031†	360.9	0.01861	mg/L	0.000476	0.01861	0.000476	2.56%
Na 589.592†	22351039.9	1682	mg/L	1.84	1682	1.84	0.11%
Na 330.237†	35980.4	1710	mg/L	8.16	1710	8.16	0.48%
Ni 231.604†	55.2	0.01684	mg/L	0.001519	0.01684	0.001519	9.02%
Pb 220.353†	55.8	0.00669	mg/L	0.000828	0.00669	0.000828	12.37%
Sb 206.836†	0.3	0.00140	mg/L	0.001945	0.00140	0.001945	139.30%
Se 196.026†	2.4	0.00145	mg/L	0.002237	0.00145	0.002237	154.01%
Si 288.158†	5735.4	3.455	mg/L	0.0415	3.455	0.0415	1.20%
Sn 189.927†	-16.7	-0.00309	mg/L	0.000899	-0.00309	0.000899	29.13%
Sr 421.552†	87817.1	0.1055	mg/L	0.00046	0.1055	0.00046	0.44%
Ti 334.903†	13108.0	0.7944	mg/L	0.00504	0.7944	0.00504	0.63%
Tl 190.801†	11.4	0.00428	mg/L	0.001498	0.00428	0.001498	35.01%
V 292.402†	51610.7	0.3419	mg/L	0.00173	0.3419	0.00173	0.51%
Zn 206.200†	22.9	0.00749	mg/L	0.001034	0.00749	0.001034	13.81%

Sequence No.: 12
 Sample ID: YD56 D TWC
 Dilution: 1.000000X

Autosampler Location: 308
 Date Collected: 3/26/2014 11:11:08 AM
 Data Type: Original

Nebulizer Parameters: YD56 D TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD56 D TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2835101.6	100.0 %	0.83			0.83%
ScR 361.383	245386.2	99.55 %	0.385			0.39%
Ag 328.068†	-26.0	-0.00013 mg/L	0.000203	-0.00013 mg/L	0.000203	151.41%
Al 308.215†	8.3	0.00630 mg/L	0.005376	0.00630 mg/L	0.005376	85.39%
As 188.979†	1.1	0.00064 mg/L	0.000488	0.00064 mg/L	0.000488	76.32%
B 249.677†	20.3	0.00359 mg/L	0.000233	0.00359 mg/L	0.000233	6.50%
Ba 233.527†	5.2	0.00139 mg/L	0.000574	0.00139 mg/L	0.000574	41.39%
Be 313.042†	5.3	0.00001 mg/L	0.000010	0.00001 mg/L	0.000010	96.32%
Ca 317.933†	755.5	0.07666 mg/L	0.001041	0.07666 mg/L	0.001041	1.36%
Cd 228.802†	-6.9	-0.00021 mg/L	0.000105	-0.00021 mg/L	0.000105	49.53%
Co 228.616†	0.7	0.00002 mg/L	0.000035	0.00002 mg/L	0.000035	189.99%
Cr 267.716†	-3.0	-0.00060 mg/L	0.000570	-0.00060 mg/L	0.000570	94.47%
Cu 324.752†	-17.2	-0.00006 mg/L	0.000193	-0.00006 mg/L	0.000193	314.69%
Fe 273.955†	2.4	0.00218 mg/L	0.000545	0.00218 mg/L	0.000545	25.01%
K 766.490†	245.3	0.1086 mg/L	0.02113	0.1086 mg/L	0.02113	19.46%
Mg 279.077†	8.5	0.00737 mg/L	0.004139	0.00737 mg/L	0.004139	56.15%
Mn 257.610†	22.3	0.00073 mg/L	0.000049	0.00073 mg/L	0.000049	6.75%
Mo 202.031†	1.8	0.00009 mg/L	0.000180	0.00009 mg/L	0.000180	199.78%
Na 589.592†	9933.1	0.7476 mg/L	0.09387	0.7476 mg/L	0.09387	12.56%
Na 330.237†	11.5	0.5457 mg/L	0.10845	0.5457 mg/L	0.10845	19.87%
Ni 231.604†	-1.7	-0.00053 mg/L	0.000302	-0.00053 mg/L	0.000302	56.78%
Pb 220.353†	-2.7	-0.00032 mg/L	0.000483	-0.00032 mg/L	0.000483	149.58%
Sb 206.836†	-1.6	-0.00048 mg/L	0.000406	-0.00048 mg/L	0.000406	84.65%
Se 196.026†	-3.6	-0.00251 mg/L	0.002083	-0.00251 mg/L	0.002083	82.97%
Si 288.158†	77.3	0.04655 mg/L	0.005196	0.04655 mg/L	0.005196	11.16%
Sn 189.927†	-0.9	-0.00024 mg/L	0.000927	-0.00024 mg/L	0.000927	383.52%
Sr 421.552†	378.5	0.00045 mg/L	0.000017	0.00045 mg/L	0.000017	3.68%
Ti 334.903†	6.6	0.00039 mg/L	0.000374	0.00039 mg/L	0.000374	95.43%
Tl 190.801†	2.0	0.00090 mg/L	0.001409	0.00090 mg/L	0.001409	157.20%
V 292.402†	-3.8	-0.00003 mg/L	0.000136	-0.00003 mg/L	0.000136	490.37%
Zn 206.200†	4.9	0.00146 mg/L	0.000513	0.00146 mg/L	0.000513	35.22%

Sequence No.: 13
Sample ID: YD56 E TWC

Autosampler Location: 309
Date Collected: 3/26/2014 11:15:23 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 E TWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YD56 E TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2525638.0	89.11 %	%	1.002			1.12%
ScR 361.383	236319.5	95.87 %	%	0.777			0.81%
Ag 328.068†	-23.5	0.00028 mg/L	mg/L	0.000127	0.00028 mg/L	0.000127	44.72%
Al 308.215†	1344.8	0.9996 mg/L	mg/L	0.00533	0.9996 mg/L	0.00533	0.53%
As 188.979†	-106.4	0.04924 mg/L	mg/L	0.000401	0.04924 mg/L	0.000401	0.81%
B 249.677†	11595.1	2.051 mg/L	mg/L	0.0101	2.051 mg/L	0.0101	0.49%
Ba 233.527†	214.1	0.05600 mg/L	mg/L	0.001657	0.05600 mg/L	0.001657	2.96%
Be 313.042†	94.1	-0.00015 mg/L	mg/L	0.000026	-0.00015 mg/L	0.000026	17.30%
Ca 317.933†	144772.6	14.69 mg/L	mg/L	0.087	14.69 mg/L	0.087	0.59%
Cd 228.802†	53.6	0.00188 mg/L	mg/L	0.000045	0.00188 mg/L	0.000045	2.39%
Co 228.616†	279.4	0.00172 mg/L	mg/L	0.000126	0.00172 mg/L	0.000126	7.34%
Cr 267.716†	1272.6	0.2585 mg/L	mg/L	0.00131	0.2585 mg/L	0.00131	0.51%
Cu 324.752†	17304.2	0.06089 mg/L	mg/L	0.001001	0.06089 mg/L	0.001001	1.64%
Fe 273.955†	4935.6	4.384 mg/L	mg/L	0.0234	4.384 mg/L	0.0234	0.53%
K 766.490†	66020.6	29.22 mg/L	mg/L	0.087	29.22 mg/L	0.087	0.30%
Mg 279.077†	96.5	0.07984 mg/L	mg/L	0.005250	0.07984 mg/L	0.005250	6.58%
Mn 257.610†	200.7	0.00654 mg/L	mg/L	0.000137	0.00654 mg/L	0.000137	2.10%
Mo 202.031†	1920.5	0.09976 mg/L	mg/L	0.001134	0.09976 mg/L	0.001134	1.14%
Na 589.592†	Saturated2						
Na 330.237†	45867.8	2181 mg/L	mg/L	4.46	2181 mg/L	4.46	0.20%
Ni 231.604†	174.7	0.05332 mg/L	mg/L	0.001286	0.05332 mg/L	0.001286	2.41%
Pb 220.353†	14.0	0.00216 mg/L	mg/L	0.001218	0.00216 mg/L	0.001218	56.47%
Sb 206.836†	-12.2	-0.00033 mg/L	mg/L	0.001939	-0.00033 mg/L	0.001939	578.75%
Se 196.026†	12.5	0.00797 mg/L	mg/L	0.005925	0.00797 mg/L	0.005925	74.35%
Si 288.158†	8812.7	5.309 mg/L	mg/L	0.0144	5.309 mg/L	0.0144	0.27%
Sn 189.927†	-19.3	-0.00303 mg/L	mg/L	0.000501	-0.00303 mg/L	0.000501	16.55%
Sr 421.552†	213116.2	0.2561 mg/L	mg/L	0.00065	0.2561 mg/L	0.00065	0.25%
Ti 334.903†	51619.3	3.130 mg/L	mg/L	0.0054	3.130 mg/L	0.0054	0.17%
Tl 190.801†	9.3	0.00036 mg/L	mg/L	0.003369	0.00036 mg/L	0.003369	944.21%
V 292.402†	183874.1	1.219 mg/L	mg/L	0.0056	1.219 mg/L	0.0056	0.46%
Zn 206.200†	94.8	0.02929 mg/L	mg/L	0.000206	0.02929 mg/L	0.000206	0.70%

Sequence No.: 14

Sample ID: YD56 F TWC

Autosampler Location: 310

Date Collected: 3/26/2014 11:19:22 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 F TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YD56 F TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2626780.7	92.68 %	0.304			0.33%
ScR 361.383	230283.0	93.42 %	0.466			0.50%
Ag 328.068†	-153.8	0.00007 mg/L	0.000209	0.00007 mg/L	0.000209	289.05%
Al 308.215†	44.8	0.03387 mg/L	0.005610	0.03387 mg/L	0.005610	16.57%
As 188.979†	54.3	0.01902 mg/L	0.001342	0.01902 mg/L	0.001342	7.06%
B 249.677†	1342.6	0.2374 mg/L	0.00249	0.2374 mg/L	0.00249	1.05%
Ba 233.527†	144.6	0.03359 mg/L	0.000872	0.03359 mg/L	0.000872	2.59%
Be 313.042†	78.9	0.00015 mg/L	0.000011	0.00015 mg/L	0.000011	7.25%
Ca 317.933†	1416916.2	143.8 mg/L	0.82	143.8 mg/L	0.82	0.57%
Cd 228.802†	3.3	-0.00033 mg/L	0.000253	-0.00033 mg/L	0.000253	75.85%
Co 228.616†	30.2	0.00075 mg/L	0.000151	0.00075 mg/L	0.000151	20.16%
Cr 267.716†	34.8	0.00005 mg/L	0.001774	0.00005 mg/L	0.001774	>999.9%
Cu 324.752†	317.6	0.00168 mg/L	0.000150	0.00168 mg/L	0.000150	8.91%
Fe 273.955†	35370.7	31.49 mg/L	0.269	31.49 mg/L	0.269	0.85%
K 766.490†	49991.8	22.12 mg/L	0.275	22.12 mg/L	0.275	1.24%
Mg 279.077†	87884.4	76.12 mg/L	0.448	76.12 mg/L	0.448	0.59%
Mn 257.610†	54692.1	1.791 mg/L	0.0183	1.791 mg/L	0.0183	1.02%
Mo 202.031†	116.4	0.00383 mg/L	0.000315	0.00383 mg/L	0.000315	8.21%
Na 589.592†	6771705.7	509.6 mg/L	2.28	509.6 mg/L	2.28	0.45%
Na 330.237†	10796.0	512.2 mg/L	3.37	512.2 mg/L	3.37	0.66%
Ni 231.604†	3.1	0.00096 mg/L	0.000775	0.00096 mg/L	0.000775	80.77%
Pb 220.353†	-22.7	-0.00417 mg/L	0.000581	-0.00417 mg/L	0.000581	13.93%
Sb 206.836†	6.8	0.00190 mg/L	0.001089	0.00190 mg/L	0.001089	57.37%
Se 196.026†	18.4	0.01288 mg/L	0.002634	0.01288 mg/L	0.002634	20.45%
Si 288.158†	35447.6	21.36 mg/L	0.657	21.36 mg/L	0.657	3.07%
Sn 189.927†	-96.1	-0.00941 mg/L	0.001273	-0.00941 mg/L	0.001273	13.52%
Sr 421.552†	661267.6	0.7947 mg/L	0.00321	0.7947 mg/L	0.00321	0.40%
Ti 334.903†	356.1	0.01145 mg/L	0.000416	0.01145 mg/L	0.000416	3.63%
Tl 190.801†	1.7	0.00439 mg/L	0.000334	0.00439 mg/L	0.000334	7.61%
V 292.402†	1462.9	0.00822 mg/L	0.000140	0.00822 mg/L	0.000140	1.70%
Zn 206.200†	4.6	0.00535 mg/L	0.000557	0.00535 mg/L	0.000557	10.40%

YD51: 00081

Sequence No.: 15
 Sample ID: YD56 G TWC

Autosampler Location: 311
 Date Collected: 3/26/2014 11:23:55 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 G TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD56 G TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2660170.9	93.86	%	0.522			0.56%
ScR 361.383	239550.7	97.18	%	0.285			0.29%
Ag 328.068†	-13.8	0.00001	mg/L	0.000130	0.00001 mg/L	0.000130	>999.9%
Al 308.215†	3051.3	2.325	mg/L	0.0035	2.325 mg/L	0.0035	0.15%
As 188.979†	-4.8	0.00980	mg/L	0.000038	0.00980 mg/L	0.000038	0.39%
B 249.677†	8119.0	1.436	mg/L	0.0040	1.436 mg/L	0.0040	0.28%
Ba 233.527†	180.5	0.04705	mg/L	0.001207	0.04705 mg/L	0.001207	2.57%
Be 313.042†	74.5	0.00013	mg/L	0.000039	0.00013 mg/L	0.000039	29.43%
Ca 317.933†	109400.8	11.10	mg/L	0.017	11.10 mg/L	0.017	0.16%
Cd 228.802†	23.0	0.00066	mg/L	0.000159	0.00066 mg/L	0.000159	24.20%
Co 228.616†	55.3	0.00076	mg/L	0.000100	0.00076 mg/L	0.000100	13.06%
Cr 267.716†	59.5	0.01120	mg/L	0.000736	0.01120 mg/L	0.000736	6.57%
Cu 324.752†	3661.6	0.01309	mg/L	0.000261	0.01309 mg/L	0.000261	1.99%
Fe 273.955†	6908.5	6.150	mg/L	0.0152	6.150 mg/L	0.0152	0.25%
K 766.490†	48160.1	21.31	mg/L	0.069	21.31 mg/L	0.069	0.33%
Mg 279.077†	12798.0	11.08	mg/L	0.035	11.08 mg/L	0.035	0.32%
Mn 257.610†	5425.5	0.1777	mg/L	0.00025	0.1777 mg/L	0.00025	0.14%
Mo 202.031†	64.8	0.00320	mg/L	0.000343	0.00320 mg/L	0.000343	10.71%
Na 589.592†	6906388.1	519.8	mg/L	2.02	519.8 mg/L	2.02	0.39%
Na 330.237†	10888.5	517.5	mg/L	0.39	517.5 mg/L	0.39	0.07%
Ni 231.604†	9.3	0.00283	mg/L	0.000676	0.00283 mg/L	0.000676	23.87%
Pb 220.353†	-1.1	0.00017	mg/L	0.000634	0.00017 mg/L	0.000634	366.02%
Sb 206.836†	0.8	0.00053	mg/L	0.001284	0.00053 mg/L	0.001284	244.39%
Se 196.026†	2.1	0.00142	mg/L	0.000074	0.00142 mg/L	0.000074	5.21%
Si 288.158†	17476.8	10.53	mg/L	0.043	10.53 mg/L	0.043	0.41%
Sn 189.927†	-18.7	-0.00380	mg/L	0.000924	-0.00380 mg/L	0.000924	24.34%
Sr 421.552†	96174.1	0.1156	mg/L	0.00005	0.1156 mg/L	0.00005	0.04%
Ti 334.903†	6257.6	0.3789	mg/L	0.00039	0.3789 mg/L	0.00039	0.10%
Tl 190.801†	4.3	0.00249	mg/L	0.001716	0.00249 mg/L	0.001716	68.88%
V 292.402†	6554.1	0.04298	mg/L	0.000309	0.04298 mg/L	0.000309	0.72%
Zn 206.200†	61.0	0.02015	mg/L	0.000302	0.02015 mg/L	0.000302	1.50%

Sequence No.: 16
 Sample ID: YD56 I TWC

Autosampler Location: 312
 Date Collected: 3/26/2014 11:28:17 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD56 I TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YD56 I TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2749420.5	97.01	%	0.266				0.27%
ScR 361.383	234409.3	95.09	%	0.520				0.55%
Ag 328.068†	-13.8	0.00009	mg/L	0.000400	0.00009	mg/L	0.000400	469.61%
Al 308.215†	202.3	0.1530	mg/L	0.00728	0.1530	mg/L	0.00728	4.76%
As 188.979†	10.8	0.01311	mg/L	0.002499	0.01311	mg/L	0.002499	19.07%
B 249.677†	1495.3	0.2645	mg/L	0.00318	0.2645	mg/L	0.00318	1.20%
Ba 233.527†	196.1	0.04716	mg/L	0.000794	0.04716	mg/L	0.000794	1.68%
Be 313.042†	39.2	0.00006	mg/L	0.000035	0.00006	mg/L	0.000035	56.01%
Ca 317.933†	235494.1	23.90	mg/L	0.053	23.90	mg/L	0.053	0.22%
Cd 228.802†	12.6	0.00007	mg/L	0.000111	0.00007	mg/L	0.000111	168.23%
Co 228.616†	49.5	0.00084	mg/L	0.000209	0.00084	mg/L	0.000209	25.01%
Cr 267.716†	49.6	0.00896	mg/L	0.001057	0.00896	mg/L	0.001057	11.79%
Cu 324.752†	401.7	0.00266	mg/L	0.000255	0.00266	mg/L	0.000255	9.61%
Fe 273.955†	36210.0	32.24	mg/L	0.200	32.24	mg/L	0.200	0.62%
K 766.490†	19580.6	8.665	mg/L	0.0237	8.665	mg/L	0.0237	0.27%
Mg 279.077†	25016.0	21.65	mg/L	0.142	21.65	mg/L	0.142	0.66%
Mn 257.610†	37124.3	1.216	mg/L	0.0077	1.216	mg/L	0.0077	0.63%
Mo 202.031†	52.1	0.00234	mg/L	0.000280	0.00234	mg/L	0.000280	11.95%
Na 589.592†	2647515.2	199.3	mg/L	0.40	199.3	mg/L	0.40	0.20%
Na 330.237†	4182.1	198.7	mg/L	1.03	198.7	mg/L	1.03	0.52%
Ni 231.604†	-0.8	-0.00024	mg/L	0.000222	-0.00024	mg/L	0.000222	91.73%
Pb 220.353†	-4.3	-0.00194	mg/L	0.000898	-0.00194	mg/L	0.000898	46.23%
Sb 206.836†	11.9	0.00387	mg/L	0.001067	0.00387	mg/L	0.001067	27.53%
Se 196.026†	7.4	0.00512	mg/L	0.003825	0.00512	mg/L	0.003825	74.66%
Si 288.158†	39486.8	23.79	mg/L	0.074	23.79	mg/L	0.074	0.31%
Sn 189.927†	-38.9	-0.00793	mg/L	0.000640	-0.00793	mg/L	0.000640	8.08%
Sr 421.552†	144016.5	0.1731	mg/L	0.00018	0.1731	mg/L	0.00018	0.11%
Ti 334.903†	4199.2	0.2531	mg/L	0.00096	0.2531	mg/L	0.00096	0.38%
Tl 190.801†	-1.9	0.00269	mg/L	0.003583	0.00269	mg/L	0.003583	133.40%
V 292.402†	7166.2	0.04579	mg/L	0.000422	0.04579	mg/L	0.000422	0.92%
Zn 206.200†	-7.6	0.00217	mg/L	0.000434	0.00217	mg/L	0.000434	20.03%

Sequence No.: 17
 Sample ID: YD56 MB1SPK TWC

Autosampler Location: 313
 Date Collected: 3/26/2014 11:32:34 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 MB1SPK TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD56 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
SCA 357.253	2781471.2	98.14	%	0.366			0.37%
ScR 361.383	240945.7	97.75	%	1.069			1.09%
Ag 328.068†	103454.3	0.5369	mg/L	0.00194	0.5369 mg/L	0.00194	0.36%
Al 308.215†	2749.3	2.089	mg/L	0.0264	2.089 mg/L	0.0264	1.26%
As 188.979†	3689.8	2.099	mg/L	0.0027	2.099 mg/L	0.0027	0.13%
B 249.677†	26.3	0.00358	mg/L	0.000500	0.00358 mg/L	0.000500	13.97%
Ba 233.527†	7951.2	2.114	mg/L	0.0194	2.114 mg/L	0.0194	0.92%
Be 313.042†	258026.8	0.5089	mg/L	0.00237	0.5089 mg/L	0.00237	0.46%
Ca 317.933†	101733.0	10.32	mg/L	0.039	10.32 mg/L	0.039	0.38%
Cd 228.802†	17878.4	0.5294	mg/L	0.00100	0.5294 mg/L	0.00100	0.19%
Co 228.616†	19513.9	0.5106	mg/L	0.00157	0.5106 mg/L	0.00157	0.31%
Cr 267.716†	2634.7	0.5350	mg/L	0.00710	0.5350 mg/L	0.00710	1.33%
Cu 324.752†	143441.9	0.5089	mg/L	0.00233	0.5089 mg/L	0.00233	0.46%
Fe 273.955†	2409.4	2.142	mg/L	0.0262	2.142 mg/L	0.0262	1.22%
K 766.490†	23434.6	10.37	mg/L	0.056	10.37 mg/L	0.056	0.54%
Mg 279.077†	12259.3	10.62	mg/L	0.116	10.62 mg/L	0.116	1.09%
Mn 257.610†	15407.6	0.5053	mg/L	0.00172	0.5053 mg/L	0.00172	0.34%
Mo 202.031†	28.9	0.00135	mg/L	0.000104	0.00135 mg/L	0.000104	7.69%
Na 589.592†	141445.8	10.65	mg/L	0.042	10.65 mg/L	0.042	0.39%
Na 330.237†	227.2	10.59	mg/L	0.041	10.59 mg/L	0.041	0.38%
Ni 231.604†	1708.7	0.5205	mg/L	0.00725	0.5205 mg/L	0.00725	1.39%
Pb 220.353†	17070.8	2.067	mg/L	0.0097	2.067 mg/L	0.0097	0.47%
Sb 206.836†	15.7	-0.00022	mg/L	0.000361	-0.00022 mg/L	0.000361	165.96%
Se 196.026†	2949.4	2.061	mg/L	0.0051	2.061 mg/L	0.0051	0.25%
Si 288.158†	53.4	0.03581	mg/L	0.007991	0.03581 mg/L	0.007991	22.31%
Sn 189.927†	-18.4	-0.00380	mg/L	0.000253	-0.00380 mg/L	0.000253	6.66%
Sr 421.552†	425454.2	0.5113	mg/L	0.00261	0.5113 mg/L	0.00261	0.51%
Ti 334.903†	15.5	0.00011	mg/L	0.000266	0.00011 mg/L	0.000266	246.96%
Tl 190.801†	4468.2	2.036	mg/L	0.0051	2.036 mg/L	0.0051	0.25%
V 292.402†	78226.5	0.5210	mg/L	0.00174	0.5210 mg/L	0.00174	0.33%
Zn 206.200†	1728.6	0.5159	mg/L	0.00515	0.5159 mg/L	0.00515	1.00%

Sequence No.: 18
 Sample ID: CV 2

Autosampler Location: 7
 Date Collected: 3/26/2014 11:36:34 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2790585.4	98.46	%	0.333			0.34%
ScR 361.383	238289.4	96.67	%	0.480			0.50%
Ag 328.068†	206923.4	1.074	mg/L	0.0049	1.074 mg/L	0.0049	0.45%
Al 308.215†	2778.7	2.086	mg/L	0.0124	2.086 mg/L	0.0124	0.59%
As 188.979†	3633.2	2.100	mg/L	0.0126	2.100 mg/L	0.0126	0.60%
B 249.677†	5902.3	1.043	mg/L	0.0078	1.043 mg/L	0.0078	0.75%
Ba 233.527†	3939.4	1.047	mg/L	0.0037	1.047 mg/L	0.0037	0.36%
Be 313.042†	523498.9	1.033	mg/L	0.0067	1.033 mg/L	0.0067	0.65%
Ca 317.933†	21189.8	2.150	mg/L	0.0142	2.150 mg/L	0.0142	0.66%
Cd 228.802†	35391.6	1.059	mg/L	0.0060	1.059 mg/L	0.0060	0.57%
Co 228.616†	39055.5	1.021	mg/L	0.0066	1.021 mg/L	0.0066	0.65%
Cr 267.716†	5284.5	1.075	mg/L	0.0079	1.075 mg/L	0.0079	0.74%
Cu 324.752†	290146.3	1.029	mg/L	0.0045	1.029 mg/L	0.0045	0.43%
Fe 273.955†	2426.5	2.153	mg/L	0.0109	2.153 mg/L	0.0109	0.51%
K 766.490†	46728.4	20.68	mg/L	0.021	20.68 mg/L	0.021	0.10%
Mg 279.077†	2363.3	2.054	mg/L	0.0103	2.054 mg/L	0.0103	0.50%
Mn 257.610†	30831.8	1.011	mg/L	0.0060	1.011 mg/L	0.0060	0.59%
Mo 202.031†	18864.2	0.9821	mg/L	0.00931	0.9821 mg/L	0.00931	0.95%
Na 589.592†	697327.5	52.48	mg/L	0.046	52.48 mg/L	0.046	0.09%
Na 330.237†	1108.9	52.65	mg/L	0.262	52.65 mg/L	0.262	0.50%
Ni 231.604†	3455.6	1.055	mg/L	0.0069	1.055 mg/L	0.0069	0.65%
Pb 220.353†	16897.6	2.046	mg/L	0.0120	2.046 mg/L	0.0120	0.59%
Sb 206.836†	6806.7	2.132	mg/L	0.0094	2.132 mg/L	0.0094	0.44%
Se 196.026†	2950.1	2.061	mg/L	0.0079	2.061 mg/L	0.0079	0.38%
Si 288.158†	3465.0	2.092	mg/L	0.0309	2.092 mg/L	0.0309	1.48%
Sn 189.927†	3638.3	1.017	mg/L	0.0066	1.017 mg/L	0.0066	0.65%
Sr 421.552†	866484.7	1.041	mg/L	0.0023	1.041 mg/L	0.0023	0.22%
Ti 334.903†	16780.1	1.017	mg/L	0.0045	1.017 mg/L	0.0045	0.44%
Tl 190.801†	4594.1	2.090	mg/L	0.0135	2.090 mg/L	0.0135	0.65%
V 292.402†	157314.4	1.048	mg/L	0.0033	1.048 mg/L	0.0033	0.31%
Zn 206.200†	3520.2	1.050	mg/L	0.0096	1.050 mg/L	0.0096	0.91%

Sequence No.: 19
 Sample ID: CB 2

Autosampler Location: 1
 Date Collected: 3/26/2014 11:40:38 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2792583.3	98.53	%	0.196			0.20%
ScR 361.383	240580.3	97.60	%	0.532			0.55%
Ag 328.068†	-29.4	-0.00015	mg/L	0.000200	-0.00015 mg/L	0.000200	130.83%
Al 308.215†	2.1	0.00162	mg/L	0.001567	0.00162 mg/L	0.001567	96.65%
As 188.979†	-0.2	-0.00011	mg/L	0.000552	-0.00011 mg/L	0.000552	484.54%
B 249.677†	12.9	0.00229	mg/L	0.000567	0.00229 mg/L	0.000567	24.77%
Ba 233.527†	1.6	0.00043	mg/L	0.000391	0.00043 mg/L	0.000391	91.11%
Be 313.042†	71.3	0.00014	mg/L	0.000030	0.00014 mg/L	0.000030	21.48%
Ca 317.933†	-9.4	-0.00096	mg/L	0.001318	-0.00096 mg/L	0.001318	137.87%
Cd 228.802†	2.3	0.00007	mg/L	0.000057	0.00007 mg/L	0.000057	81.78%
Co 228.616†	3.5	0.00009	mg/L	0.000049	0.00009 mg/L	0.000049	53.04%
Cr 267.716†	-5.8	-0.00117	mg/L	0.000837	-0.00117 mg/L	0.000837	71.25%
Cu 324.752†	40.0	0.00014	mg/L	0.000174	0.00014 mg/L	0.000174	122.98%
Fe 273.955†	1.3	0.00117	mg/L	0.002107	0.00117 mg/L	0.002107	180.74%
K 766.490†	120.7	0.05340	mg/L	0.015977	0.05340 mg/L	0.015977	29.92%
Mg 279.077†	-3.7	-0.00322	mg/L	0.005243	-0.00322 mg/L	0.005243	162.58%
Mn 257.610†	6.3	0.00021	mg/L	0.000082	0.00021 mg/L	0.000082	39.65%
Mo 202.031†	13.0	0.00067	mg/L	0.000253	0.00067 mg/L	0.000253	37.46%
Na 589.592†	1818.9	0.1369	mg/L	0.00454	0.1369 mg/L	0.00454	3.32%
Na 330.237†	-10.4	-0.4924	mg/L	0.12759	-0.4924 mg/L	0.12759	25.91%
Ni 231.604†	0.9	0.00027	mg/L	0.001756	0.00027 mg/L	0.001756	646.85%
Pb 220.353†	-6.8	-0.00082	mg/L	0.000205	-0.00082 mg/L	0.000205	24.93%
Sb 206.836†	22.5	0.00707	mg/L	0.001515	0.00707 mg/L	0.001515	21.43%
Se 196.026†	-5.3	-0.00370	mg/L	0.003051	-0.00370 mg/L	0.003051	82.43%
Si 288.158†	4.4	0.00263	mg/L	0.008566	0.00263 mg/L	0.008566	325.94%
Sn 189.927†	-0.6	-0.00016	mg/L	0.001189	-0.00016 mg/L	0.001189	755.46%
Sr 421.552†	100.3	0.00012	mg/L	0.000051	0.00012 mg/L	0.000051	41.89%
Ti 334.903†	6.3	0.00038	mg/L	0.000325	0.00038 mg/L	0.000325	85.70%
Tl 190.801†	2.5	0.00113	mg/L	0.001697	0.00113 mg/L	0.001697	150.77%
V 292.402†	21.9	0.00014	mg/L	0.000115	0.00014 mg/L	0.000115	81.69%
Zn 206.200†	1.6	0.00049	mg/L	0.000663	0.00049 mg/L	0.000663	136.51%

Sequence No.: 20
Sample ID: YD82 MB TWC

Autosampler Location: 314
Date Collected: 3/26/2014 11:44:38 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD82 MB TWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YD82 MB TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2804734.5	98.96	%	0.406			0.41%
ScR 361.383	244860.5	99.33	%	0.478			0.48%
Ag 328.068†	5.3	0.00003	mg/L	0.000130	0.00003 mg/L	0.000130	475.28%
Al 308.215†	6.1	0.00464	mg/L	0.004520	0.00464 mg/L	0.004520	97.32%
As 188.979†	2.5	0.00139	mg/L	0.001572	0.00139 mg/L	0.001572	112.80%
B 249.677†	40.4	0.00714	mg/L	0.001231	0.00714 mg/L	0.001231	17.24%
Ba 233.527†	-1.8	-0.00048	mg/L	0.000619	-0.00048 mg/L	0.000619	128.87%
Be 313.042†	15.0	0.00003	mg/L	0.000021	0.00003 mg/L	0.000021	72.71%
Ca 317.933†	21.0	0.00213	mg/L	0.001265	0.00213 mg/L	0.001265	59.29%
Cd 228.802†	-1.9	-0.00007	mg/L	0.000020	-0.00007 mg/L	0.000020	31.04%
Co 228.616†	-0.3	-0.00001	mg/L	0.000030	-0.00001 mg/L	0.000030	493.35%
Cr 267.716†	-3.1	-0.00063	mg/L	0.000455	-0.00063 mg/L	0.000455	71.92%
Cu 324.752†	64.3	0.00023	mg/L	0.000127	0.00023 mg/L	0.000127	55.60%
Fe 273.955†	-0.5	-0.00046	mg/L	0.002229	-0.00046 mg/L	0.002229	488.99%
K 766.490†	88.2	0.03904	mg/L	0.008536	0.03904 mg/L	0.008536	21.87%
Mg 279.077†	-4.5	-0.00388	mg/L	0.002667	-0.00388 mg/L	0.002667	68.78%
Mn 257.610†	6.5	0.00021	mg/L	0.000067	0.00021 mg/L	0.000067	31.71%
Mo 202.031†	1.4	0.00008	mg/L	0.000071	0.00008 mg/L	0.000071	94.19%
Na 589.592†	1609.6	0.1211	mg/L	0.00155	0.1211 mg/L	0.00155	1.28%
Na 330.237†	-1.5	-0.06977	mg/L	0.163716	-0.06977 mg/L	0.163716	234.64%
Ni 231.604†	-1.3	-0.00041	mg/L	0.000473	-0.00041 mg/L	0.000473	114.86%
Pb 220.353†	-3.6	-0.00043	mg/L	0.000992	-0.00043 mg/L	0.000992	229.78%
Sb 206.836†	0.5	0.00018	mg/L	0.001284	0.00018 mg/L	0.001284	717.10%
Se 196.026†	-0.4	-0.00028	mg/L	0.001359	-0.00028 mg/L	0.001359	494.17%
Si 288.158†	15.9	0.00957	mg/L	0.006385	0.00957 mg/L	0.006385	66.70%
Sn 189.927†	1.5	0.00041	mg/L	0.000327	0.00041 mg/L	0.000327	79.66%
Sr 421.552†	36.5	0.00004	mg/L	0.000051	0.00004 mg/L	0.000051	116.45%
Ti 334.903†	-3.2	-0.00019	mg/L	0.000063	-0.00019 mg/L	0.000063	32.54%
Tl 190.801†	3.3	0.00153	mg/L	0.002368	0.00153 mg/L	0.002368	154.78%
V 292.402†	-0.6	-0.00001	mg/L	0.000133	-0.00001 mg/L	0.000133	>999.9%
Zn 206.200†	2.6	0.00079	mg/L	0.000426	0.00079 mg/L	0.000426	53.86%

Sequence No.: 21
Sample ID: YD56 H-L TWC
Dilution: 5.000000X

Autosampler Location: 315
Date Collected: 3/26/2014 11:48:39 AM
Data Type: Original

Nebulizer Parameters: YD56 H-L TWC
Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YD56 H-L TWC

Table with 8 columns: Analyte, Mean Corrected Intensity, Conc. Units, Calib. Units, Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 22

Sample ID: YD56 H TWC

Autosampler Location: 316

Date Collected: 3/26/2014 11:52:39 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 H TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD56 H TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2707319.7	95.52	%	0.805			0.84%
ScR 361.383	239124.0	97.01	%	0.703			0.72%
Ag 328.068†	-91.7	-0.00005	mg/L	0.000156	-0.00005 mg/L	0.000156	333.61%
Al 308.215†	529.9	0.4038	mg/L	0.00123	0.4038 mg/L	0.00123	0.30%
As 188.979†	44.5	0.02005	mg/L	0.001202	0.02005 mg/L	0.001202	6.00%
B 249.677†	288.3	0.05097	mg/L	0.000490	0.05097 mg/L	0.000490	0.96%
Ba 233.527†	44.9	0.00781	mg/L	0.000723	0.00781 mg/L	0.000723	9.26%
Be 313.042†	55.2	0.00011	mg/L	0.000028	0.00011 mg/L	0.000028	25.74%
Ca 317.933†	698817.4	70.91	mg/L	0.118	70.91 mg/L	0.118	0.17%
Cd 228.802†	-4.3	-0.00047	mg/L	0.000047	-0.00047 mg/L	0.000047	9.99%
Co 228.616†	573.8	0.01497	mg/L	0.000257	0.01497 mg/L	0.000257	1.71%
Cr 267.716†	26.1	0.00019	mg/L	0.000550	0.00019 mg/L	0.000550	289.66%
Cu 324.752†	5833.7	0.02133	mg/L	0.000364	0.02133 mg/L	0.000364	1.71%
Fe 273.955†	30011.6	26.72	mg/L	0.187	26.72 mg/L	0.187	0.70%
K 766.490†	23078.9	10.21	mg/L	0.039	10.21 mg/L	0.039	0.38%
Mg 279.077†	69652.3	60.33	mg/L	0.244	60.33 mg/L	0.244	0.41%
Mn 257.610†	66931.3	2.193	mg/L	0.0147	2.193 mg/L	0.0147	0.67%
Mo 202.031†	94.7	0.00383	mg/L	0.000232	0.00383 mg/L	0.000232	6.06%
Na 589.592†	531491.2	40.00	mg/L	0.168	40.00 mg/L	0.168	0.42%
Na 330.237†	868.9	40.86	mg/L	0.180	40.86 mg/L	0.180	0.44%
Ni 231.604†	89.5	0.02730	mg/L	0.001174	0.02730 mg/L	0.001174	4.30%
Pb 220.353†	-10.1	-0.00236	mg/L	0.000778	-0.00236 mg/L	0.000778	32.96%
Sb 206.836†	7.5	0.00218	mg/L	0.001123	0.00218 mg/L	0.001123	51.42%
Se 196.026†	7.5	0.00521	mg/L	0.001877	0.00521 mg/L	0.001877	36.04%
Si 288.158†	28657.6	17.27	mg/L	0.150	17.27 mg/L	0.150	0.87%
Sn 189.927†	-69.3	-0.01075	mg/L	0.001773	-0.01075 mg/L	0.001773	16.48%
Sr 421.552†	166667.2	0.2003	mg/L	0.00052	0.2003 mg/L	0.00052	0.26%
Ti 334.903†	444.6	0.02196	mg/L	0.000344	0.02196 mg/L	0.000344	1.57%
Tl 190.801†	-2.1	0.00203	mg/L	0.002010	0.00203 mg/L	0.002010	98.83%
V 292.402†	457.1	0.00187	mg/L	0.000015	0.00187 mg/L	0.000015	0.79%
Zn 206.200†	124.3	0.04028	mg/L	0.000234	0.04028 mg/L	0.000234	0.58%

Sequence No.: 23

Sample ID: YD56 HDUP TWC

Autosampler Location: 317

Date Collected: 3/26/2014 11:56:54 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD56 HDUP TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YD56 HDUP TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2737460.9	96.59	%	0.591			0.61%
ScR 361.383	236639.7	96.00	%	0.235			0.24%
Ag 328.068†	-76.2	0.00004	mg/L	0.000073	0.00004 mg/L	0.000073	203.88%
Al 308.215†	576.7	0.4395	mg/L	0.00700	0.4395 mg/L	0.00700	1.59%
As 188.979†	46.0	0.02086	mg/L	0.003200	0.02086 mg/L	0.003200	15.33%
B 249.677†	289.5	0.05117	mg/L	0.000172	0.05117 mg/L	0.000172	0.34%
Ba 233.527†	47.1	0.00836	mg/L	0.000801	0.00836 mg/L	0.000801	9.59%
Be 313.042†	55.9	0.00011	mg/L	0.000005	0.00011 mg/L	0.000005	4.72%
Ca 317.933†	702650.7	71.30	mg/L	0.111	71.30 mg/L	0.111	0.16%
Cd 228.802†	-6.7	-0.00055	mg/L	0.000055	-0.00055 mg/L	0.000055	10.15%
Co 228.616†	561.5	0.01465	mg/L	0.000252	0.01465 mg/L	0.000252	1.72%
Cr 267.716†	26.6	0.00014	mg/L	0.000727	0.00014 mg/L	0.000727	527.45%
Cu 324.752†	4587.4	0.01692	mg/L	0.000236	0.01692 mg/L	0.000236	1.39%
Fe 273.955†	30352.9	27.02	mg/L	0.147	27.02 mg/L	0.147	0.54%
K 766.490†	23324.5	10.32	mg/L	0.018	10.32 mg/L	0.018	0.18%
Mg 279.077†	71509.6	61.94	mg/L	0.329	61.94 mg/L	0.329	0.53%
Mn 257.610†	65967.7	2.161	mg/L	0.0051	2.161 mg/L	0.0051	0.23%
Mo 202.031†	95.0	0.00384	mg/L	0.000025	0.00384 mg/L	0.000025	0.66%
Na 589.592†	538737.0	40.55	mg/L	0.083	40.55 mg/L	0.083	0.20%
Na 330.237†	865.4	40.69	mg/L	0.611	40.69 mg/L	0.611	1.50%
Ni 231.604†	87.1	0.02656	mg/L	0.001568	0.02656 mg/L	0.001568	5.90%
Pb 220.353†	-10.6	-0.00242	mg/L	0.001322	-0.00242 mg/L	0.001322	54.67%
Sb 206.836†	10.6	0.00314	mg/L	0.001625	0.00314 mg/L	0.001625	51.73%
Se 196.026†	11.7	0.00819	mg/L	0.004492	0.00819 mg/L	0.004492	54.82%
Si 288.158†	28990.6	17.47	mg/L	0.116	17.47 mg/L	0.116	0.66%
Sn 189.927†	-66.5	-0.00993	mg/L	0.001134	-0.00993 mg/L	0.001134	11.42%
Sr 421.552†	167913.1	0.2018	mg/L	0.00034	0.2018 mg/L	0.00034	0.17%
Ti 334.903†	433.3	0.02125	mg/L	0.000577	0.02125 mg/L	0.000577	2.72%
Tl 190.801†	0.8	0.00340	mg/L	0.001873	0.00340 mg/L	0.001873	55.09%
V 292.402†	450.8	0.00180	mg/L	0.000097	0.00180 mg/L	0.000097	5.40%
Zn 206.200†	122.5	0.03978	mg/L	0.000879	0.03978 mg/L	0.000879	2.21%

YD51 : 00090

Sequence No.: 24
 Sample ID: YD56.HSPK TWC

Autosampler Location: 318
 Date Collected: 3/26/2014 12:01:09 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD56 HSPK TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YD56 HSPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2715630.9	95.81	%	0.663			0.69%
ScR 361.383	234538.2	95.15	%	0.052			0.06%
Ag 328.068†	104800.3	0.5443	mg/L	0.00368	0.5443 mg/L	0.00368	0.68%
Al 308.215†	3312.9	2.518	mg/L	0.0040	2.518 mg/L	0.0040	0.16%
As 188.979†	3733.3	2.118	mg/L	0.0099	2.118 mg/L	0.0099	0.47%
B 249.677†	295.8	0.05124	mg/L	0.001945	0.05124 mg/L	0.001945	3.80%
Ba 233.527†	7995.7	2.122	mg/L	0.0119	2.122 mg/L	0.0119	0.56%
Be 313.042†	255404.8	0.5038	mg/L	0.00225	0.5038 mg/L	0.00225	0.45%
Ca 317.933†	810366.6	82.23	mg/L	0.197	82.23 mg/L	0.197	0.24%
Cd 228.802†	17832.1	0.5276	mg/L	0.00170	0.5276 mg/L	0.00170	0.32%
Co 228.616†	19372.5	0.5069	mg/L	0.00146	0.5069 mg/L	0.00146	0.29%
Cr 267.716†	2640.4	0.5311	mg/L	0.00241	0.5311 mg/L	0.00241	0.45%
Cu 324.752†	150631.6	0.5350	mg/L	0.00240	0.5350 mg/L	0.00240	0.45%
Fe 273.955†	32009.6	28.49	mg/L	0.008	28.49 mg/L	0.008	0.03%
K 766.490†	47940.0	21.22	mg/L	0.020	21.22 mg/L	0.020	0.09%
Mg 279.077†	81200.6	70.34	mg/L	0.066	70.34 mg/L	0.066	0.09%
Mn 257.610†	81985.5	2.687	mg/L	0.0042	2.687 mg/L	0.0042	0.16%
Mo 202.031†	101.7	0.00402	mg/L	0.000026	0.00402 mg/L	0.000026	0.66%
Na 589.592†	689889.3	51.92	mg/L	0.122	51.92 mg/L	0.122	0.23%
Na 330.237†	1115.1	52.34	mg/L	0.256	52.34 mg/L	0.256	0.49%
Ni 231.604†	1758.4	0.5357	mg/L	0.00361	0.5357 mg/L	0.00361	0.67%
Pb 220.353†	16592.6	2.008	mg/L	0.0073	2.008 mg/L	0.0073	0.37%
Sb 206.836†	28.8	0.00378	mg/L	0.001745	0.00378 mg/L	0.001745	46.10%
Se 196.026†	2970.4	2.075	mg/L	0.0124	2.075 mg/L	0.0124	0.60%
Si 288.158†	29698.3	17.90	mg/L	0.008	17.90 mg/L	0.008	0.04%
Sn 189.927†	-76.8	-0.01140	mg/L	0.000631	-0.01140 mg/L	0.000631	5.54%
Sr 421.552†	604843.9	0.7269	mg/L	0.00125	0.7269 mg/L	0.00125	0.17%
Ti 334.903†	448.3	0.02128	mg/L	0.000504	0.02128 mg/L	0.000504	2.37%
Tl 190.801†	4400.6	2.008	mg/L	0.0134	2.008 mg/L	0.0134	0.67%
V 292.402†	78142.9	0.5193	mg/L	0.00240	0.5193 mg/L	0.00240	0.46%
Zn 206.200†	1820.3	0.5465	mg/L	0.00173	0.5465 mg/L	0.00173	0.32%

Sequence No.: 25

Sample ID: ~~YD56 HPOST TWC~~ 222222

Autosampler Location: 319

Date Collected: 3/26/2014 12:05:11 PM

Data Type: Original

Dilution: 1.000000X

BA 3/26/14

Nebulizer Parameters: YD56 HPOST TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD56 HPOST TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2763489.4	97.50	%	0.902				0.93%
ScR 361.383	235608.2	95.58	%	0.328				0.34%
Ag 328.068†	99422.2	0.5164	mg/L	0.00505	0.5164	mg/L	0.00505	0.98%
Al 308.215†	3279.0	2.492	mg/L	0.0192	2.492	mg/L	0.0192	0.77%
As 188.979†	3683.5	2.090	mg/L	0.0241	2.090	mg/L	0.0241	1.15%
B 249.677†	284.2	0.04920	mg/L	0.000701	0.04920	mg/L	0.000701	1.43%
Ba 233.527†	7928.5	2.104	mg/L	0.0129	2.104	mg/L	0.0129	0.61%
Be 313.042†	243563.5	0.4804	mg/L	0.00149	0.4804	mg/L	0.00149	0.31%
Ca 317.933†	790320.9	80.20	mg/L	0.042	80.20	mg/L	0.042	0.05%
Cd 228.802†	17639.9	0.5220	mg/L	0.00626	0.5220	mg/L	0.00626	1.20%
Co 228.616†	19299.5	0.5050	mg/L	0.00418	0.5050	mg/L	0.00418	0.83%
Cr 267.716†	2642.1	0.5316	mg/L	0.00238	0.5316	mg/L	0.00238	0.45%
Cu 324.752†	153877.3	0.5465	mg/L	0.00514	0.5465	mg/L	0.00514	0.94%
Fe 273.955†	31348.7	27.90	mg/L	0.157	27.90	mg/L	0.157	0.56%
K 766.490†	47416.7	20.98	mg/L	0.089	20.98	mg/L	0.089	0.43%
Mg 279.077†	79134.9	68.55	mg/L	0.110	68.55	mg/L	0.110	0.16%
Mn 257.610†	80021.2	2.622	mg/L	0.0077	2.622	mg/L	0.0077	0.29%
Mo 202.031†	95.7	0.00374	mg/L	0.000119	0.00374	mg/L	0.000119	3.18%
Na 589.592†	676547.0	50.92	mg/L	0.093	50.92	mg/L	0.093	0.18%
Na 330.237†	1095.5	51.43	mg/L	0.220	51.43	mg/L	0.220	0.43%
Ni 231.604†	1765.4	0.5378	mg/L	0.00412	0.5378	mg/L	0.00412	0.77%
Pb 220.353†	16471.0	1.993	mg/L	0.0225	1.993	mg/L	0.0225	1.13%
Sb 206.836†	26.4	0.00303	mg/L	0.002928	0.00303	mg/L	0.002928	96.63%
Se 196.026†	2940.0	2.054	mg/L	0.0185	2.054	mg/L	0.0185	0.90%
Si 288.158†	29367.0	17.70	mg/L	0.084	17.70	mg/L	0.084	0.48%
Sn 189.927†	-74.6	-0.01104	mg/L	0.000603	-0.01104	mg/L	0.000603	5.47%
Sr 421.552†	601794.7	0.7232	mg/L	0.00087	0.7232	mg/L	0.00087	0.12%
Ti 334.903†	458.5	0.02205	mg/L	0.000342	0.02205	mg/L	0.000342	1.55%
Tl 190.801†	4371.6	1.995	mg/L	0.0160	1.995	mg/L	0.0160	0.80%
V 292.402†	77952.7	0.5180	mg/L	0.00584	0.5180	mg/L	0.00584	1.13%
Zn 206.200†	1821.9	0.5470	mg/L	0.00387	0.5470	mg/L	0.00387	0.71%

Sequence No.: 26

Sample ID: YD82 A TWC

Autosampler Location: 320

Date Collected: 3/26/2014 12:09:13 PM

Data Type: Original

Dilution: 10.000000X

Nebulizer Parameters: YD82 A TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD82 A TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2548405.3	89.91 %	0.338			0.38%
ScR 361.383	225989.1	91.68 %	0.791			0.86%
Ag 328.068†	-376.6	-0.00185 mg/L	0.000174	-0.01845 mg/L	0.001739	9.43%
Al 308.215†	16.5	0.01170 mg/L	0.001153	0.1170 mg/L	0.01153	9.85%
As 188.979†	71.8	0.03915 mg/L	0.001037	0.3915 mg/L	0.01037	2.65%
B 249.677†	1551118.3	274.3 mg/L	1.04	2743 mg/L	10.37	0.38%
Ba 233.527†	-7.2	-0.00200 mg/L	0.000227	-0.01996 mg/L	0.002268	11.36%
Be 313.042†	87.5	0.00017 mg/L	0.000045	0.00173 mg/L	0.000451	26.15%
Ca 317.933†	177535.7	18.01 mg/L	0.061	180.1 mg/L	0.61	0.34%
Cd 228.802†	-28.4	-0.00106 mg/L	0.000078	-0.01059 mg/L	0.000783	7.39%
Co 228.616†	23.7	0.00063 mg/L	0.000072	0.00626 mg/L	0.000721	11.52%
Cr 267.716†	0.4	-0.00010 mg/L	0.001715	-0.00100 mg/L	0.017146	>999.9%
Cu 324.752†	964.1	0.00337 mg/L	0.000224	0.03370 mg/L	0.002240	6.65%
Fe 273.955†	519.2	0.4622 mg/L	0.00223	4.622 mg/L	0.0223	0.48%
K 766.490†	1954.5	0.8650 mg/L	0.03435	8.650 mg/L	0.3435	3.97%
Mg 279.077†	417.2	0.3592 mg/L	0.00318	3.592 mg/L	0.0318	0.88%
Mn 257.610†	26307.1	0.8621 mg/L	0.00381	8.621 mg/L	0.0381	0.44%
Mo 202.031†	1015.4	0.05258 mg/L	0.000330	0.5258 mg/L	0.00330	0.63%
Na 589.592†	20003081.7	1505 mg/L	12.85	15050 mg/L	128.50	0.85%
Na 330.237†	32313.4	1536 mg/L	6.74	15360 mg/L	67.44	0.44%
Ni 231.604†	47.4	0.01443 mg/L	0.001562	0.1443 mg/L	0.01562	10.83%
Pb 220.353†	39.8	0.00479 mg/L	0.001124	0.04795 mg/L	0.011241	23.44%
Sb 206.836†	-107.8	-0.03383 mg/L	0.002136	-0.3383 mg/L	0.02136	6.31%
Se 196.026†	15.5	0.01081 mg/L	0.002040	0.1081 mg/L	0.02040	18.87%
Si 288.158†	199.9	0.1205 mg/L	0.04327	1.205 mg/L	0.4327	35.92%
Sn 189.927†	-14.5	-0.00188 mg/L	0.001489	-0.01885 mg/L	0.014891	79.02%
Sr 421.552†	63613.8	0.07645 mg/L	0.000393	0.7645 mg/L	0.00393	0.51%
Ti 334.903†	15.2	-0.00040 mg/L	0.000320	-0.00402 mg/L	0.003201	79.67%
Tl 190.801†	26.6	0.01228 mg/L	0.003326	0.1228 mg/L	0.03326	27.08%
V 292.402†	67.1	0.00058 mg/L	0.000269	0.00578 mg/L	0.002688	46.53%
Zn 206.200†	322.7	0.09626 mg/L	0.000246	0.9626 mg/L	0.00246	0.26%

YD51 : 00093

Sequence No.: 27

Sample ID: BLK

Autosampler Location: 321

Date Collected: 3/26/2014 12:13:57 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: BLK

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: BLK

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2813314.2	99.26	%	0.065			0.07%
ScR 361.383	246764.9	100.1	%	0.61			0.61%
Ag 328.068†	25.1	0.00013	mg/L	0.000156	0.00013 mg/L	0.000156	119.57%
Al 308.215†	8.0	0.00612	mg/L	0.002302	0.00612 mg/L	0.002302	37.62%
As 188.979†	-0.5	-0.00032	mg/L	0.000358	-0.00032 mg/L	0.000358	112.27%
B 249.677†	2157.9	0.3816	mg/L	0.06402	0.3816 mg/L	0.06402	16.78%
Ba 233.527†	-0.1	-0.00002	mg/L	0.000539	-0.00002 mg/L	0.000539	>999.9%
Be 313.042†	14.0	0.00003	mg/L	0.000024	0.00003 mg/L	0.000024	86.07%
Ca 317.933†	52.9	0.00537	mg/L	0.001714	0.00537 mg/L	0.001714	31.93%
Cd 228.802†	-3.8	-0.00011	mg/L	0.000154	-0.00011 mg/L	0.000154	136.85%
Co 228.616†	0.8	0.00002	mg/L	0.000127	0.00002 mg/L	0.000127	608.93%
Cr 267.716†	2.1	0.00042	mg/L	0.001277	0.00042 mg/L	0.001277	303.44%
Cu 324.752†	46.2	0.00016	mg/L	0.000022	0.00016 mg/L	0.000022	13.70%
Fe 273.955†	5.9	0.00529	mg/L	0.001171	0.00529 mg/L	0.001171	22.14%
K 766.490†	156.7	0.06935	mg/L	0.015671	0.06935 mg/L	0.015671	22.60%
Mg 279.077†	-4.1	-0.00352	mg/L	0.004147	-0.00352 mg/L	0.004147	117.76%
Mn 257.610†	12.0	0.00039	mg/L	0.000089	0.00039 mg/L	0.000089	22.65%
Mo 202.031†	-2.3	-0.00012	mg/L	0.000160	-0.00012 mg/L	0.000160	131.14%
Na 589.592†	5490.0	0.4132	mg/L	0.06117	0.4132 mg/L	0.06117	14.81%
Na 330.237†	1.9	0.09139	mg/L	0.305681	0.09139 mg/L	0.305681	334.50%
Ni 231.604†	1.2	0.00035	mg/L	0.000847	0.00035 mg/L	0.000847	238.85%
Pb 220.353†	-3.9	-0.00047	mg/L	0.001084	-0.00047 mg/L	0.001084	229.70%
Sb 206.836†	-1.1	-0.00037	mg/L	0.001283	-0.00037 mg/L	0.001283	351.18%
Se 196.026†	3.0	0.00209	mg/L	0.002029	0.00209 mg/L	0.002029	97.25%
Si 288.158†	20.7	0.01245	mg/L	0.008301	0.01245 mg/L	0.008301	66.66%
Sn 189.927†	-0.0	-0.00001	mg/L	0.000629	-0.00001 mg/L	0.000629	>999.9%
Sr 421.552†	15.1	0.00002	mg/L	0.000022	0.00002 mg/L	0.000022	121.01%
Ti 334.903†	-3.8	-0.00023	mg/L	0.000263	-0.00023 mg/L	0.000263	114.78%
Tl 190.801†	-0.6	-0.00027	mg/L	0.001400	-0.00027 mg/L	0.001400	518.02%
V 292.402†	-3.9	-0.00002	mg/L	0.000193	-0.00002 mg/L	0.000193	800.45%
Zn 206.200†	2.5	0.00076	mg/L	0.000334	0.00076 mg/L	0.000334	44.04%

Sequence No.: 28

Sample ID: YD82 MBSPK TWC

Autosampler Location: 322

Date Collected: 3/26/2014 12:17:56 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD82 MBSPK TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YD82 MBSPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2784087.2	98.23	%	0.196			0.20%
ScR 361.383	241362.5	97.92	%	0.363			0.37%
Ag 328.068†	105223.8	0.5461	mg/L	0.00321	0.5461 mg/L	0.00321	0.59%
Al 308.215†	2776.5	2.109	mg/L	0.0129	2.109 mg/L	0.0129	0.61%
As 188.979†	3738.2	2.127	mg/L	0.0038	2.127 mg/L	0.0038	0.18%
B 249.677†	846.9	0.1487	mg/L	0.01106	0.1487 mg/L	0.01106	7.44%
Ba 233.527†	8067.2	2.145	mg/L	0.0097	2.145 mg/L	0.0097	0.45%
Be 313.042†	261313.2	0.5154	mg/L	0.00427	0.5154 mg/L	0.00427	0.83%
Ca 317.933†	102530.6	10.40	mg/L	0.076	10.40 mg/L	0.076	0.73%
Cd 228.802†	18104.0	0.5361	mg/L	0.00266	0.5361 mg/L	0.00266	0.50%
Co 228.616†	19751.3	0.5169	mg/L	0.00107	0.5169 mg/L	0.00107	0.21%
Cr 267.716†	2670.1	0.5422	mg/L	0.00182	0.5422 mg/L	0.00182	0.34%
Cu 324.752†	145360.7	0.5157	mg/L	0.00313	0.5157 mg/L	0.00313	0.61%
Fe 273.955†	2429.1	2.159	mg/L	0.0136	2.159 mg/L	0.0136	0.63%
K 766.490†	23730.7	10.50	mg/L	0.041	10.50 mg/L	0.041	0.39%
Mg 279.077†	12409.5	10.75	mg/L	0.060	10.75 mg/L	0.060	0.56%
Mn 257.610†	15581.8	0.5110	mg/L	0.00377	0.5110 mg/L	0.00377	0.74%
Mo 202.031†	25.6	0.00117	mg/L	0.000226	0.00117 mg/L	0.000226	19.30%
Na 589.592†	142660.6	10.74	mg/L	0.035	10.74 mg/L	0.035	0.32%
Na 330.237†	234.5	10.93	mg/L	0.079	10.93 mg/L	0.079	0.72%
Ni 231.604†	1730.8	0.5272	mg/L	0.00369	0.5272 mg/L	0.00369	0.70%
Pb 220.353†	17326.8	2.098	mg/L	0.0162	2.098 mg/L	0.0162	0.77%
Sb 206.836†	12.3	-0.00134	mg/L	0.000751	-0.00134 mg/L	0.000751	55.97%
Se 196.026†	2999.8	2.096	mg/L	0.0081	2.096 mg/L	0.0081	0.39%
Si 288.158†	29.8	0.02166	mg/L	0.003244	0.02166 mg/L	0.003244	14.98%
Sn 189.927†	-18.0	-0.00368	mg/L	0.000880	-0.00368 mg/L	0.000880	23.89%
Sr 421.552†	431230.5	0.5182	mg/L	0.00242	0.5182 mg/L	0.00242	0.47%
Ti 334.903†	8.7	-0.00031	mg/L	0.000381	-0.00031 mg/L	0.000381	122.71%
Tl 190.801†	4551.7	2.074	mg/L	0.0137	2.074 mg/L	0.0137	0.66%
V 292.402†	79447.9	0.5291	mg/L	0.00262	0.5291 mg/L	0.00262	0.49%
Zn 206.200†	1751.1	0.5226	mg/L	0.00347	0.5226 mg/L	0.00347	0.66%

Sequence No.: 29

Sample ID: CV 3

Autosampler Location: 7

Date Collected: 3/26/2014 12:21:56 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2790729.4	98.46 %	0.276			0.28%
ScR 361.383	239050.2	96.98 %	0.517			0.53%
Ag 328.068†	208159.2	1.080 mg/L	0.0069	1.080 mg/L	0.0069	0.64%
Al 308.215†	2799.0	2.101 mg/L	0.0116	2.101 mg/L	0.0116	0.55%
As 188.979†	3629.4	2.098 mg/L	0.0017	2.098 mg/L	0.0017	0.08%
B 249.677†	6409.4	1.132 mg/L	0.0124	1.132 mg/L	0.0124	1.10%
Ba 233.527†	3980.5	1.058 mg/L	0.0029	1.058 mg/L	0.0029	0.28%
Be 313.042†	525619.0	1.037 mg/L	0.0034	1.037 mg/L	0.0034	0.33%
Ca 317.933†	21301.0	2.161 mg/L	0.0137	2.161 mg/L	0.0137	0.64%
Cd 228.802†	35650.5	1.067 mg/L	0.0010	1.067 mg/L	0.0010	0.09%
Co 228.616†	39399.6	1.030 mg/L	0.0030	1.030 mg/L	0.0030	0.29%
Cr 267.716†	5319.2	1.082 mg/L	0.0088	1.082 mg/L	0.0088	0.81%
Cu 324.752†	291702.6	1.034 mg/L	0.0038	1.034 mg/L	0.0038	0.37%
Fe 273.955†	2423.0	2.150 mg/L	0.0187	2.150 mg/L	0.0187	0.87%
K 766.490†	46902.8	20.76 mg/L	0.083	20.76 mg/L	0.083	0.40%
Mg 279.077†	2369.9	2.060 mg/L	0.0104	2.060 mg/L	0.0104	0.50%
Mn 257.610†	31187.7	1.023 mg/L	0.0023	1.023 mg/L	0.0023	0.22%
Mo 202.031†	18927.3	0.9854 mg/L	0.00310	0.9854 mg/L	0.00310	0.31%
Na 589.592†	698843.3	52.59 mg/L	0.137	52.59 mg/L	0.137	0.26%
Na 330.237†	1115.7	52.98 mg/L	0.376	52.98 mg/L	0.376	0.71%
Ni 231.604†	3481.7	1.063 mg/L	0.0085	1.063 mg/L	0.0085	0.80%
Pb 220.353†	16992.8	2.058 mg/L	0.0099	2.058 mg/L	0.0099	0.48%
Sb 206.836†	6802.3	2.130 mg/L	0.0093	2.130 mg/L	0.0093	0.44%
Se 196.026†	2938.2	2.052 mg/L	0.0034	2.052 mg/L	0.0034	0.17%
Si 288.158†	3474.3	2.098 mg/L	0.0071	2.098 mg/L	0.0071	0.34%
Sn 189.927†	3623.1	1.013 mg/L	0.0016	1.013 mg/L	0.0016	0.16%
Sr 421.552†	870050.8	1.046 mg/L	0.0029	1.046 mg/L	0.0029	0.27%
Ti 334.903†	16893.9	1.024 mg/L	0.0026	1.024 mg/L	0.0026	0.25%
Tl 190.801†	4589.3	2.087 mg/L	0.0086	2.087 mg/L	0.0086	0.41%
V 292.402†	158356.7	1.055 mg/L	0.0055	1.055 mg/L	0.0055	0.52%
Zn 206.200†	3547.2	1.059 mg/L	0.0047	1.059 mg/L	0.0047	0.44%

Sequence No.: 30
 Sample ID: CB 3

Autosampler Location: 1
 Date Collected: 3/26/2014 12:26:01 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2797187.7	98.69	%	0.335			0.34%
ScR 361.383	243558.9	98.81	%	0.163			0.17%
Ag 328.068†	-22.7	-0.00012	mg/L	0.000122	-0.00012 mg/L	0.000122	103.29%
Al 308.215†	5.5	0.00420	mg/L	0.003185	0.00420 mg/L	0.003185	75.91%
As 188.979†	1.4	0.00079	mg/L	0.001924	0.00079 mg/L	0.001924	244.56%
B 249.677†	339.4	0.06003	mg/L	0.002504	0.06003 mg/L	0.002504	4.17%
Ba 233.527†	1.8	0.00047	mg/L	0.000433	0.00047 mg/L	0.000433	91.30%
Be 313.042†	74.6	0.00015	mg/L	0.000028	0.00015 mg/L	0.000028	18.94%
Ca 317.933†	-2.7	-0.00027	mg/L	0.000106	-0.00027 mg/L	0.000106	38.44%
Cd 228.802†	-0.3	-0.00001	mg/L	0.000071	-0.00001 mg/L	0.000071	585.82%
Co 228.616†	3.5	0.00009	mg/L	0.000068	0.00009 mg/L	0.000068	74.76%
Cr 267.716†	-1.9	-0.00039	mg/L	0.001135	-0.00039 mg/L	0.001135	292.26%
Cu 324.752†	107.2	0.00038	mg/L	0.000175	0.00038 mg/L	0.000175	45.98%
Fe 273.955†	-0.9	-0.00085	mg/L	0.002274	-0.00085 mg/L	0.002274	268.84%
K 766.490†	129.7	0.05739	mg/L	0.007021	0.05739 mg/L	0.007021	12.23%
Mg 279.077†	4.5	0.00390	mg/L	0.006079	0.00390 mg/L	0.006079	155.96%
Mn 257.610†	7.5	0.00024	mg/L	0.000045	0.00024 mg/L	0.000045	18.19%
Mo 202.031†	11.2	0.00058	mg/L	0.000204	0.00058 mg/L	0.000204	35.05%
Na 589.592†	1884.7	0.1418	mg/L	0.00341	0.1418 mg/L	0.00341	2.40%
Na 330.237†	-8.5	-0.4030	mg/L	0.15302	-0.4030 mg/L	0.15302	37.97%
Ni 231.604†	-0.3	-0.00008	mg/L	0.001866	-0.00008 mg/L	0.001866	>999.9%
Pb 220.353†	0.9	0.00010	mg/L	0.000716	0.00010 mg/L	0.000716	692.87%
Sb 206.836†	20.3	0.00637	mg/L	0.000711	0.00637 mg/L	0.000711	11.17%
Se 196.026†	-1.2	-0.00085	mg/L	0.002497	-0.00085 mg/L	0.002497	293.54%
Si 288.158†	2.4	0.00147	mg/L	0.006342	0.00147 mg/L	0.006342	431.76%
Sn 189.927†	0.8	0.00024	mg/L	0.000319	0.00024 mg/L	0.000319	135.04%
Sr 421.552†	105.1	0.00013	mg/L	0.000046	0.00013 mg/L	0.000046	36.72%
Ti 334.903†	1.4	0.00009	mg/L	0.000135	0.00009 mg/L	0.000135	158.35%
Tl 190.801†	2.1	0.00095	mg/L	0.001528	0.00095 mg/L	0.001528	160.64%
V 292.402†	8.4	0.00005	mg/L	0.000191	0.00005 mg/L	0.000191	351.96%
Zn 206.200†	1.2	0.00035	mg/L	0.000125	0.00035 mg/L	0.000125	35.78%

Sequence No.: 31

Sample ID: CRI

Autosampler Location: 301

Date Collected: 3/26/2014 12:30:01 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2813591.0	. 99.27 %	0.234			0.24%
ScR 361.383	245247.7	99.49 %	0.967			0.97%
Ag 328.068†	587.2	0.00305 mg/L	0.000282	0.00305 mg/L	0.000282	9.24%
Al 308.215†	71.3	0.05427 mg/L	0.006559	0.05427 mg/L	0.006559	12.09%
As 188.979†	87.1	0.04971 mg/L	0.000531	0.04971 mg/L	0.000531	1.07%
B 249.677†	354.8	<u>0.06275 mg/L</u>	0.000588	0.06275 mg/L	0.000588	0.94%
Ba 233.527†	13.1	0.00347 mg/L	0.000860	0.00347 mg/L	0.000860	24.77%
Be 313.042†	558.5	0.00110 mg/L	0.000030	0.00110 mg/L	0.000030	2.73%
Ca 317.933†	474.1	0.04811 mg/L	0.001788	0.04811 mg/L	0.001788	3.72%
Cd 228.802†	79.2	0.00214 mg/L	0.000070	0.00214 mg/L	0.000070	3.27%
Co 228.616†	119.9	0.00313 mg/L	0.000089	0.00313 mg/L	0.000089	2.85%
Cr 267.716†	21.3	0.00432 mg/L	0.000228	0.00432 mg/L	0.000228	5.27%
Cu 324.752†	562.1	0.00199 mg/L	0.000258	0.00199 mg/L	0.000258	12.92%
Fe 273.955†	58.9	0.05245 mg/L	0.000438	0.05245 mg/L	0.000438	0.84%
K 766.490†	1264.1	0.5594 mg/L	0.01093	0.5594 mg/L	0.01093	1.95%
Mg 279.077†	58.6	0.05079 mg/L	0.001948	0.05079 mg/L	0.001948	3.83%
Mn 257.610†	35.6	0.00117 mg/L	0.000091	0.00117 mg/L	0.000091	7.77%
Mo 202.031†	93.0	0.00484 mg/L	0.000214	0.00484 mg/L	0.000214	4.43%
Na 589.592†	8436.8	0.6350 mg/L	0.00204	0.6350 mg/L	0.00204	0.32%
Na 330.237†	6.7	0.3139 mg/L	0.06316	0.3139 mg/L	0.06316	20.12%
Ni 231.604†	33.6	0.01026 mg/L	0.001774	0.01026 mg/L	0.001774	17.30%
Pb 220.353†	166.6	0.02018 mg/L	0.000462	0.02018 mg/L	0.000462	2.29%
Sb 206.836†	166.6	0.05224 mg/L	0.000911	0.05224 mg/L	0.000911	1.74%
Se 196.026†	72.1	0.05036 mg/L	0.005106	0.05036 mg/L	0.005106	10.14%
Si 288.158†	100.9	0.06081 mg/L	0.007535	0.06081 mg/L	0.007535	12.39%
Sn 189.927†	35.2	0.00987 mg/L	0.000684	0.00987 mg/L	0.000684	6.93%
Sr 421.552†	883.2	0.00106 mg/L	0.000020	0.00106 mg/L	0.000020	1.87%
Ti 334.903†	80.1	0.00485 mg/L	0.000270	0.00485 mg/L	0.000270	5.58%
Tl 190.801†	106.1	0.04842 mg/L	0.002056	0.04842 mg/L	0.002056	4.25%
V 292.402†	454.4	0.00303 mg/L	0.000166	0.00303 mg/L	0.000166	5.48%
Zn 206.200†	36.3	0.01085 mg/L	0.001016	0.01085 mg/L	0.001016	9.37%

Sequence No.: 32
 Sample ID: ICSA

Autosampler Location: 302
 Date Collected: 3/26/2014 12:34:02 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2743055.9	96.78	%	0.430			0.44%
ScR 361.383	239577.0	97.19	%	0.617			0.63%
Ag 328.068†	-253.1	-0.00069	mg/L	0.000018	-0.00069 mg/L	0.000018	2.62%
Al 308.215†	263048.0	200.6	mg/L	0.65	200.6 mg/L	0.65	0.32%
As 188.979†	56.5	0.02344	mg/L	0.004951	0.02344 mg/L	0.004951	21.12%
B 249.677†	150.6	0.02663	mg/L	0.002120	0.02663 mg/L	0.002120	7.96%
Ba 233.527†	111.7	-0.00149	mg/L	0.000626	-0.00149 mg/L	0.000626	42.01%
Be 313.042†	43.4	0.00008	mg/L	0.000019	0.00008 mg/L	0.000019	22.35%
Ca 317.933†	1007860.8	102.3	mg/L	0.47	102.3 mg/L	0.47	0.46%
Cd 228.802†	51.5	-0.00037	mg/L	0.000128	-0.00037 mg/L	0.000128	34.81%
Co 228.616†	91.2	0.00237	mg/L	0.000227	0.00237 mg/L	0.000227	9.57%
Cr 267.716†	10.2	-0.00153	mg/L	0.000931	-0.00153 mg/L	0.000931	60.79%
Cu 324.752†	-2475.7	-0.00041	mg/L	0.000423	-0.00041 mg/L	0.000423	103.89%
Fe 273.955†	226926.7	202.0	mg/L	1.78	202.0 mg/L	1.78	0.88%
K 766.490†	137.8	0.06098	mg/L	0.012258	0.06098 mg/L	0.012258	20.10%
Mg 279.077†	118970.3	102.9	mg/L	0.69	102.9 mg/L	0.69	0.67%
Mn 257.610†	39.7	-0.00118	mg/L	0.000404	-0.00118 mg/L	0.000404	34.18%
Mo 202.031†	60.6	0.00157	mg/L	0.000237	0.00157 mg/L	0.000237	15.09%
Na 589.592†	1424.5	0.1072	mg/L	0.00243	0.1072 mg/L	0.00243	2.27%
Na 330.237†	10.7	-0.1140	mg/L	0.20476	-0.1140 mg/L	0.20476	179.57%
Ni 231.604†	-2.1	-0.00061	mg/L	0.001015	-0.00061 mg/L	0.001015	165.13%
Pb 220.353†	-361.3	-0.00315	mg/L	0.000426	-0.00315 mg/L	0.000426	13.50%
Sb 206.836†	69.7	0.02167	mg/L	0.003410	0.02167 mg/L	0.003410	15.74%
Se 196.026†	37.0	0.02588	mg/L	0.003881	0.02588 mg/L	0.003881	14.99%
Si 288.158†	-31.0	-0.00644	mg/L	0.007668	-0.00644 mg/L	0.007668	119.10%
Sn 189.927†	-89.9	-0.01270	mg/L	0.000679	-0.01270 mg/L	0.000679	5.35%
Sr 421.552†	4614.3	0.00555	mg/L Cont.	0.000053	0.00555 mg/L	0.000053	0.96%
Ti 334.903†	145.9	0.00163	mg/L	0.000472	0.00163 mg/L	0.000472	29.01%
Tl 190.801†	-48.0	0.00133	mg/L	0.001591	0.00133 mg/L	0.001591	119.69%
V 292.402†	1539.6	-0.00118	mg/L	0.000616	-0.00118 mg/L	0.000616	52.24%
Zn 206.200†	7.6	0.00225	mg/L	0.001419	0.00225 mg/L	0.001419	63.00%

Sequence No.: 33

Autosampler Location: 303

Sample ID: ICSAB

Date Collected: 3/26/2014 12:38:17 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2713013.0	95.72 %	0.303			0.32%
ScR 361.383	237513.4	96.35 %	0.619			0.64%
Ag 328.068†	207670.1	1.078 mg/L	0.0084	1.078 mg/L	0.0084	0.77%
Al 308.215†	264535.2	201.7 mg/L	0.48	201.7 mg/L	0.48	0.24%
As 188.979†	1832.9	1.034 mg/L	0.0065	1.034 mg/L	0.0065	0.63%
B 249.677†	136.8	0.02216 mg/L	0.001472	0.02216 mg/L	0.001472	6.64%
Ba 233.527†	3923.5	1.012 mg/L	0.0072	1.012 mg/L	0.0072	0.71%
Be 313.042†	512067.2	1.010 mg/L	0.0107	1.010 mg/L	0.0107	1.06%
Ca 317.933†	1014185.7	102.9 mg/L	0.11	102.9 mg/L	0.11	0.11%
Cd 228.802†	34668.9	1.040 mg/L	0.0029	1.040 mg/L	0.0029	0.28%
Co 228.616†	36759.4	0.9622 mg/L	0.00363	0.9622 mg/L	0.00363	0.38%
Cr 267.716†	5086.1	1.031 mg/L	0.0056	1.031 mg/L	0.0056	0.54%
Cu 324.752†	297736.5	1.065 mg/L	0.0041	1.065 mg/L	0.0041	0.39%
Fe 273.955†	229627.8	204.4 mg/L	1.13	204.4 mg/L	1.13	0.55%
K 766.490†	151.5	0.06703 mg/L	0.014194	0.06703 mg/L	0.014194	21.18%
Mg 279.077†	115842.8	100.2 mg/L	0.13	100.2 mg/L	0.13	0.12%
Mn 257.610†	31032.6	1.015 mg/L	0.0055	1.015 mg/L	0.0055	0.54%
Mo 202.031†	62.1	0.00164 mg/L	0.000345	0.00164 mg/L	0.000345	21.08%
Na 589.592†	1193.7	0.08984 mg/L	0.002803	0.08984 mg/L	0.002803	3.12%
Na 330.237†	8.3	-0.5138 mg/L	0.12490	-0.5138 mg/L	0.12490	24.31%
Ni 231.604†	3216.1	0.9815 mg/L	0.00520	0.9815 mg/L	0.00520	0.53%
Pb 220.353†	7892.8	0.9965 mg/L	0.00337	0.9965 mg/L	0.00337	0.34%
Sb 206.836†	3321.6	1.031 mg/L	0.0043	1.031 mg/L	0.0043	0.41%
Se 196.026†	1481.8	1.034 mg/L	0.0043	1.034 mg/L	0.0043	0.42%
Si 288.158†	-42.4	-0.00899 mg/L	0.003435	-0.00899 mg/L	0.003435	38.22%
Sn 189.927†	-89.4	-0.01189 mg/L	0.001431	-0.01189 mg/L	0.001431	12.04%
Sr 421.552†	4581.2	0.00551 mg/L	0.000028	0.00551 mg/L	0.000028	0.50%
Ti 334.903†	143.9	0.00127 mg/L	0.000097	0.00127 mg/L	0.000097	7.64%
Tl 190.801†	2035.8	0.9436 mg/L	0.00180	0.9436 mg/L	0.00180	0.19%
V 292.402†	152222.8	1.002 mg/L	0.0072	1.002 mg/L	0.0072	0.72%
Zn 206.200†	3289.6	0.9815 mg/L	0.00587	0.9815 mg/L	0.00587	0.60%

Sequence No.: 34

Sample ID: CV 4

Autosampler Location: 7

Date Collected: 3/26/2014 12:42:18 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2815436.6	99.34 %	0.411			0.41%
ScR 361.383	240913.7	97.73 %	0.646			0.66%
Ag 328.068†	203410.0	1.056 mg/L	0.0026	1.056 mg/L	0.0026	0.25%
Al 308.215†	2798.3	2.101 mg/L	0.0145	2.101 mg/L	0.0145	0.69%
As 188.979†	3580.4	2.070 mg/L	0.0076	2.070 mg/L	0.0076	0.37%
B 249.677†	6026.6	1.065 mg/L	0.0051	1.065 mg/L	0.0051	0.48%
Ba 233.527†	3921.4	1.042 mg/L	0.0072	1.042 mg/L	0.0072	0.69%
Be 313.042†	524382.1	1.034 mg/L	0.0049	1.034 mg/L	0.0049	0.48%
Ca 317.933†	21323.4	2.164 mg/L	0.0103	2.164 mg/L	0.0103	0.48%
Cd 228.802†	35034.3	1.048 mg/L	0.0055	1.048 mg/L	0.0055	0.52%
Co 228.616†	38943.7	1.018 mg/L	0.0015	1.018 mg/L	0.0015	0.15%
Cr 267.716†	5308.4	1.080 mg/L	0.0040	1.080 mg/L	0.0040	0.37%
Cu 324.752†	296832.4	1.053 mg/L	0.0055	1.053 mg/L	0.0055	0.52%
Fe 273.955†	2466.2	2.189 mg/L	0.0170	2.189 mg/L	0.0170	0.78%
K 766.490†	46510.4	20.58 mg/L	0.074	20.58 mg/L	0.074	0.36%
Mg 279.077†	2382.1	2.070 mg/L	0.0122	2.070 mg/L	0.0122	0.59%
Mn 257.610†	31028.4	1.017 mg/L	0.0058	1.017 mg/L	0.0058	0.57%
Mo 202.031†	19223.9	1.001 mg/L	0.0043	1.001 mg/L	0.0043	0.43%
Na 589.592†	694068.4	52.24 mg/L	0.057	52.24 mg/L	0.057	0.11%
Na 330.237†	1109.1	52.66 mg/L	0.096	52.66 mg/L	0.096	0.18%
Ni 231.604†	3473.7	1.060 mg/L	0.0041	1.060 mg/L	0.0041	0.39%
Pb 220.353†	17278.4	2.092 mg/L	0.0074	2.092 mg/L	0.0074	0.36%
Sb 206.836†	6721.7	2.105 mg/L	0.0109	2.105 mg/L	0.0109	0.52%
Se 196.026†	2907.3	2.031 mg/L	0.0173	2.031 mg/L	0.0173	0.85%
Si 288.158†	3448.4	2.082 mg/L	0.0194	2.082 mg/L	0.0194	0.93%
Sn 189.927†	3609.3	1.009 mg/L	0.0067	1.009 mg/L	0.0067	0.67%
Sr 421.552†	864568.8	1.039 mg/L	0.0022	1.039 mg/L	0.0022	0.21%
Ti 334.903†	16803.0	1.018 mg/L	0.0046	1.018 mg/L	0.0046	0.46%
Tl 190.801†	4559.8	2.074 mg/L	0.0064	2.074 mg/L	0.0064	0.31%
V 292.402†	155212.0	1.034 mg/L	0.0035	1.034 mg/L	0.0035	0.33%
Zn 206.200†	3541.7	1.057 mg/L	0.0046	1.057 mg/L	0.0046	0.43%

Sequence No.: 35

Sample ID: CB 4

Autosampler Location: 1

Date Collected: 3/26/2014 12:46:22 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2837502.8	100.1 %	0.41			0.41%
ScR 361.383	245882.3	99.75 %	0.573			0.57%
Ag 328.068†	31.0	0.00016 mg/L	0.000120	0.00016 mg/L	0.000120	74.82%
Al 308.215†	13.1	0.00995 mg/L	0.005057	0.00995 mg/L	0.005057	50.81%
As 188.979†	0.6	0.00032 mg/L	0.001139	0.00032 mg/L	0.001139	359.63%
B 249.677†	123.1	0.02178 mg/L	0.001031	0.02178 mg/L	0.001031	4.73%
Ba 233.527†	-1.7	-0.00046 mg/L	0.000727	-0.00046 mg/L	0.000727	157.10%
Be 313.042†	86.8	0.00017 mg/L	0.000016	0.00017 mg/L	0.000016	9.09%
Ca 317.933†	18.9	0.00192 mg/L	0.001343	0.00192 mg/L	0.001343	70.11%
Cd 228.802†	0.4	0.00001 mg/L	0.000226	0.00001 mg/L	0.000226	>999.9%
Co 228.616†	5.0	0.00013 mg/L	0.000128	0.00013 mg/L	0.000128	96.90%
Cr 267.716†	0.4	0.00008 mg/L	0.000665	0.00008 mg/L	0.000665	812.07%
Cu 324.752†	12.2	0.00004 mg/L	0.000117	0.00004 mg/L	0.000117	271.02%
Fe 273.955†	7.0	0.00619 mg/L	0.003420	0.00619 mg/L	0.003420	55.22%
K 766.490†	73.4	0.03246 mg/L	0.007080	0.03246 mg/L	0.007080	21.81%
Mg 279.077†	-2.0	-0.00176 mg/L	0.003909	-0.00176 mg/L	0.003909	222.20%
Mn 257.610†	8.9	0.00029 mg/L	0.000177	0.00029 mg/L	0.000177	60.51%
Mo 202.031†	14.4	0.00075 mg/L	0.000117	0.00075 mg/L	0.000117	15.57%
Na 589.592†	1009.0	0.07594 mg/L	0.002645	0.07594 mg/L	0.002645	3.48%
Na 330.237†	-8.1	-0.3829 mg/L	0.11462	-0.3829 mg/L	0.11462	29.94%
Ni 231.604†	1.9	0.00058 mg/L	0.001239	0.00058 mg/L	0.001239	211.91%
Pb 220.353†	-2.8	-0.00034 mg/L	0.000412	-0.00034 mg/L	0.000412	120.42%
Sb 206.836†	20.0	0.00627 mg/L	0.000273	0.00627 mg/L	0.000273	4.35%
Se 196.026†	1.6	0.00109 mg/L	0.003155	0.00109 mg/L	0.003155	290.53%
Si 288.158†	-3.0	-0.00179 mg/L	0.004085	-0.00179 mg/L	0.004085	227.96%
Sn 189.927†	1.5	0.00042 mg/L	0.000420	0.00042 mg/L	0.000420	100.12%
Sr 421.552†	96.1	0.00012 mg/L	0.000028	0.00012 mg/L	0.000028	24.32%
Ti 334.903†	0.3	0.00002 mg/L	0.000718	0.00002 mg/L	0.000718	>999.9%
Tl 190.801†	2.2	0.00101 mg/L	0.000290	0.00101 mg/L	0.000290	28.59%
V 292.402†	13.3	0.00009 mg/L	0.000107	0.00009 mg/L	0.000107	120.83%
Zn 206.200†	1.2	0.00036 mg/L	0.000122	0.00036 mg/L	0.000122	33.51%

Sequence No.: 36

Autosampler Location: 323

Sample ID: YD50 MB1 TWC

Date Collected: 3/26/2014 12:50:22 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 MB1 TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD50 MB1 TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2852725.8	100.7 %	0.42			0.41%
ScR 361.383	247820.2	100.5 %	0.59			0.59%
Ag 328.068†	50.5	0.00026 mg/L	0.000239	0.00026 mg/L	0.000239	91.32%
Al 308.215†	14.2	0.01081 mg/L	0.007336	0.01081 mg/L	0.007336	67.86%
As 188.979†	4.8	0.00272 mg/L	0.001283	0.00272 mg/L	0.001283	47.20%
B 249.677†	103.7	0.01833 mg/L	0.000669	0.01833 mg/L	0.000669	3.65%
Ba 233.527†	2.0	0.00053 mg/L	0.000720	0.00053 mg/L	0.000720	134.62%
Be 313.042†	41.3	0.00008 mg/L	0.000007	0.00008 mg/L	0.000007	8.31%
Ca 317.933†	46.0	0.00466 mg/L	0.000638	0.00466 mg/L	0.000638	13.69%
Cd 228.802†	-3.7	-0.00013 mg/L	0.000073	-0.00013 mg/L	0.000073	58.26%
Co 228.616†	5.2	0.00014 mg/L	0.000048	0.00014 mg/L	0.000048	35.22%
Cr 267.716†	-0.5	-0.00010 mg/L	0.000438	-0.00010 mg/L	0.000438	448.00%
Cu 324.752†	32.4	0.00012 mg/L	0.000107	0.00012 mg/L	0.000107	92.80%
Fe 273.955†	4.6	0.00412 mg/L	0.001181	0.00412 mg/L	0.001181	28.63%
K 766.490†	99.2	0.04390 mg/L	0.010881	0.04390 mg/L	0.010881	24.78%
Mg 279.077†	0.3	0.00026 mg/L	0.009721	0.00026 mg/L	0.009721	>999.9%
Mn 257.610†	4.0	0.00013 mg/L	0.000221	0.00013 mg/L	0.000221	167.91%
Mo 202.031†	1.8	0.00009 mg/L	0.000181	0.00009 mg/L	0.000181	193.51%
Na 589.592†	1048.3	0.07890 mg/L	0.002239	0.07890 mg/L	0.002239	2.84%
Na 330.237†	-4.7	-0.2232 mg/L	0.21664	-0.2232 mg/L	0.21664	97.08%
Ni 231.604†	-1.6	-0.00050 mg/L	0.000855	-0.00050 mg/L	0.000855	171.33%
Pb 220.353†	-4.7	-0.00056 mg/L	0.001350	-0.00056 mg/L	0.001350	239.52%
Sb 206.836†	5.1	0.00159 mg/L	0.001619	0.00159 mg/L	0.001619	102.03%
Se 196.026†	-0.8	-0.00056 mg/L	0.004041	-0.00056 mg/L	0.004041	725.13%
Si 288.158†	18.4	0.01106 mg/L	0.002849	0.01106 mg/L	0.002849	25.77%
Sn 189.927†	0.1	0.00002 mg/L	0.000469	0.00002 mg/L	0.000469	>999.9%
Sr 421.552†	77.7	0.00009 mg/L	0.000036	0.00009 mg/L	0.000036	38.93%
Ti 334.903†	-4.6	-0.00028 mg/L	0.000641	-0.00028 mg/L	0.000641	231.29%
Tl 190.801†	3.1	0.00142 mg/L	0.000663	0.00142 mg/L	0.000663	46.84%
V 292.402†	0.7	0.00000 mg/L	0.000101	0.00000 mg/L	0.000101	>999.9%
Zn 206.200†	1.3	0.00039 mg/L	0.000793	0.00039 mg/L	0.000793	202.04%

YD51:00103

Sequence No.: 37

Autosampler Location: 324

Sample ID: YD50 ADUP TWC

Date Collected: 3/26/2014 12:54:24 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 ADUP TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD50 ADUP TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2832460.5	99.94	%	0.477				0.48%
ScR 361.383	247059.0	100.2	%	0.74				0.74%
Ag 328.068†	25.1	0.00020	mg/L	0.000005	0.00020	mg/L	0.000005	2.64%
Al 308.215†	9.8	0.00741	mg/L	0.002143	0.00741	mg/L	0.002143	28.94%
As 188.979†	15.0	0.00751	mg/L	0.002387	0.00751	mg/L	0.002387	31.80%
B 249.677†	198.3	0.03506	mg/L	0.000450	0.03506	mg/L	0.000450	1.28%
Ba 233.527†	11.4	0.00302	mg/L	0.000420	0.00302	mg/L	0.000420	13.90%
Be 313.042†	30.1	0.00006	mg/L	0.000006	0.00006	mg/L	0.000006	9.62%
Ca 317.933†	118460.7	12.02	mg/L	0.030	12.02	mg/L	0.030	0.25%
Cd 228.802†	-10.4	-0.00036	mg/L	0.000101	-0.00036	mg/L	0.000101	28.12%
Co 228.616†	4.9	0.00013	mg/L	0.000107	0.00013	mg/L	0.000107	83.43%
Cr 267.716†	2.8	0.00020	mg/L	0.000542	0.00020	mg/L	0.000542	267.99%
Cu 324.752†	119.9	0.00037	mg/L	0.000031	0.00037	mg/L	0.000031	8.42%
Fe 273.955†	2.2	0.00192	mg/L	0.000173	0.00192	mg/L	0.000173	9.00%
K 766.490†	2430.8	1.076	mg/L	0.0159	1.076	mg/L	0.0159	1.48%
Mg 279.077†	3518.4	3.047	mg/L	0.0050	3.047	mg/L	0.0050	0.17%
Mn 257.610†	44.6	0.00139	mg/L	0.000114	0.00139	mg/L	0.000114	8.22%
Mo 202.031†	27.7	0.00126	mg/L	0.000147	0.00126	mg/L	0.000147	11.71%
Na 589.592†	64221.4	4.833	mg/L	0.0228	4.833	mg/L	0.0228	0.47%
Na 330.237†	103.9	4.866	mg/L	0.1228	4.866	mg/L	0.1228	2.52%
Ni 231.604†	1.1	0.00034	mg/L	0.000879	0.00034	mg/L	0.000879	256.74%
Pb 220.353†	-14.6	-0.00177	mg/L	0.000944	-0.00177	mg/L	0.000944	53.35%
Sb 206.836†	2.3	0.00065	mg/L	0.002323	0.00065	mg/L	0.002323	355.09%
Se 196.026†	-0.3	-0.00020	mg/L	0.002998	-0.00020	mg/L	0.002998	>999.9%
Si 288.158†	13803.5	8.315	mg/L	0.0522	8.315	mg/L	0.0522	0.63%
Sn 189.927†	-21.8	-0.00462	mg/L	0.000143	-0.00462	mg/L	0.000143	3.09%
Sr 421.552†	62534.6	0.07515	mg/L	0.000371	0.07515	mg/L	0.000371	0.49%
Ti 334.903†	15.0	0.00006	mg/L	0.000499	0.00006	mg/L	0.000499	855.32%
Tl 190.801†	7.0	0.00319	mg/L	0.001740	0.00319	mg/L	0.001740	54.64%
V 292.402†	41.9	0.00028	mg/L	0.000092	0.00028	mg/L	0.000092	32.68%
Zn 206.200†	-2.9	0.00070	mg/L	0.000418	0.00070	mg/L	0.000418	60.09%

Sequence No.: 38

Autosampler Location: 325

Sample ID: YD50 A TWC

Date Collected: 3/26/2014 12:58:23 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 A TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD50 A TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2833649.7	99.98	%	0.257				0.26%
ScR 361.383	248325.2	100.7	%	0.86				0.85%
Ag 328.068†	32.3	0.00024	mg/L	0.000145	0.00024	mg/L	0.000145	59.92%
Al 308.215†	11.3	0.00857	mg/L	0.004289	0.00857	mg/L	0.004289	50.04%
As 188.979†	16.0	0.00803	mg/L	0.002400	0.00803	mg/L	0.002400	29.88%
B 249.677†	187.5	0.03317	mg/L	0.000774	0.03317	mg/L	0.000774	2.33%
Ba 233.527†	13.0	0.00346	mg/L	0.000323	0.00346	mg/L	0.000323	9.34%
Be 313.042†	22.8	0.00004	mg/L	0.000008	0.00004	mg/L	0.000008	17.87%
Ca 317.933†	121770.1	12.36	mg/L	0.059	12.36	mg/L	0.059	0.48%
Cd 228.802†	-9.1	-0.00032	mg/L	0.000145	-0.00032	mg/L	0.000145	45.22%
Co 228.616†	4.6	0.00012	mg/L	0.000096	0.00012	mg/L	0.000096	81.31%
Cr 267.716†	-1.2	-0.00064	mg/L	0.000210	-0.00064	mg/L	0.000210	32.73%
Cu 324.752†	128.7	0.00040	mg/L	0.000315	0.00040	mg/L	0.000315	78.72%
Fe 273.955†	2.9	0.00254	mg/L	0.000605	0.00254	mg/L	0.000605	23.84%
K 766.490†	2466.5	1.092	mg/L	0.0109	1.092	mg/L	0.0109	0.99%
Mg 279.077†	3618.3	3.134	mg/L	0.0177	3.134	mg/L	0.0177	0.57%
Mn 257.610†	46.2	0.00144	mg/L	0.000149	0.00144	mg/L	0.000149	10.32%
Mo 202.031†	27.3	0.00123	mg/L	0.000190	0.00123	mg/L	0.000190	15.47%
Na 589.592†	65720.8	4.946	mg/L	0.0228	4.946	mg/L	0.0228	0.46%
Na 330.237†	109.1	5.109	mg/L	0.0823	5.109	mg/L	0.0823	1.61%
Ni 231.604†	-0.8	-0.00024	mg/L	0.000846	-0.00024	mg/L	0.000846	346.68%
Pb 220.353†	-15.5	-0.00188	mg/L	0.000523	-0.00188	mg/L	0.000523	27.89%
Sb 206.836†	0.7	0.00019	mg/L	0.001788	0.00019	mg/L	0.001788	938.51%
Se 196.026†	1.7	0.00120	mg/L	0.001153	0.00120	mg/L	0.001153	96.35%
Si 288.158†	14163.1	8.532	mg/L	0.0426	8.532	mg/L	0.0426	0.50%
Sn 189.927†	-16.9	-0.00323	mg/L	0.000816	-0.00323	mg/L	0.000816	25.27%
Sr 421.552†	64052.4	0.07697	mg/L	0.000424	0.07697	mg/L	0.000424	0.55%
Ti 334.903†	12.0	-0.00015	mg/L	0.000289	-0.00015	mg/L	0.000289	196.43%
Tl 190.801†	7.1	0.00326	mg/L	0.001275	0.00326	mg/L	0.001275	39.07%
V 292.402†	45.4	0.00030	mg/L	0.000146	0.00030	mg/L	0.000146	48.55%
Zn 206.200†	1.2	0.00196	mg/L	0.000575	0.00196	mg/L	0.000575	29.29%

Sequence No.: 39

Autosampler Location: 326

Sample ID: YD50 ASPK TWC

Date Collected: 3/26/2014 1:02:23 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 ASPK TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD50 ASPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2821100.6	99.54 %	0.253			0.25%
ScR 361.383	244626.6	99.24 %	0.123			0.12%
Ag 328.068†	100708.4	0.5227 mg/L	0.00277	0.5227 mg/L	0.00277	0.53%
Al 308.215†	2698.5	2.050 mg/L	0.0083	2.050 mg/L	0.0083	0.41%
As 188.979†	3629.6	2.064 mg/L	0.0066	2.064 mg/L	0.0066	0.32%
B 249.677†	182.2	0.03116 mg/L	0.000442	0.03116 mg/L	0.000442	1.42%
Ba 233.527†	7783.1	2.069 mg/L	0.0077	2.069 mg/L	0.0077	0.37%
Be 313.042†	254755.4	0.5025 mg/L	0.00459	0.5025 mg/L	0.00459	0.91%
Ca 317.933†	219304.0	22.25 mg/L	0.119	22.25 mg/L	0.119	0.53%
Cd 228.802†	17604.5	0.5213 mg/L	0.00274	0.5213 mg/L	0.00274	0.52%
Co 228.616†	19197.2	0.5024 mg/L	0.00250	0.5024 mg/L	0.00250	0.50%
Cr 267.716†	2585.6	0.5247 mg/L	0.00368	0.5247 mg/L	0.00368	0.70%
Cu 324.752†	141773.2	0.5029 mg/L	0.00178	0.5029 mg/L	0.00178	0.35%
Fe 273.955†	2366.6	2.103 mg/L	0.0071	2.103 mg/L	0.0071	0.34%
K 766.490†	25443.0	11.26 mg/L	0.023	11.26 mg/L	0.023	0.21%
Mg 279.077†	15057.9	13.05 mg/L	0.065	13.05 mg/L	0.065	0.50%
Mn 257.610†	15235.0	0.4995 mg/L	0.00402	0.4995 mg/L	0.00402	0.81%
Mo 202.031†	50.2	0.00227 mg/L	0.000177	0.00227 mg/L	0.000177	7.81%
Na 589.592†	202455.4	15.24 mg/L	0.048	15.24 mg/L	0.048	0.32%
Na 330.237†	337.8	15.77 mg/L	0.088	15.77 mg/L	0.088	0.56%
Ni 231.604†	1673.9	0.5110 mg/L	0.00188	0.5110 mg/L	0.00188	0.37%
Pb 220.353†	16757.4	2.029 mg/L	0.0086	2.029 mg/L	0.0086	0.42%
Sb 206.836†	6701.1	2.095 mg/L	0.0074	2.095 mg/L	0.0074	0.36%
Se 196.026†	2889.2	2.019 mg/L	0.0118	2.019 mg/L	0.0118	0.58%
Si 288.158†	14695.5	8.856 mg/L	0.0212	8.856 mg/L	0.0212	0.24%
Sn 189.927†	-34.4	-0.00568 mg/L	0.000874	-0.00568 mg/L	0.000874	15.39%
Sr 421.552†	486219.8	0.5843 mg/L	0.00255	0.5843 mg/L	0.00255	0.44%
Ti 334.903†	36.5	0.00054 mg/L	0.000539	0.00054 mg/L	0.000539	100.20%
Tl 190.801†	4357.9	1.985 mg/L	0.0049	1.985 mg/L	0.0049	0.25%
V 292.402†	76999.7	0.5128 mg/L	0.00213	0.5128 mg/L	0.00213	0.41%
Zn 206.200†	1681.8	0.5035 mg/L	0.00137	0.5035 mg/L	0.00137	0.27%

Sequence No.: 40
Sample ID: YD50 B TWC

Autosampler Location: 327
Date Collected: 3/26/2014 1:06:24 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 B TWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YD50 B TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2840358.6	100.2	%	0.55			0.55%
ScR 361.383	248841.7	100.9	%	0.62			0.61%
Ag 328.068†	13.9	0.00017	mg/L	0.000154	0.00017 mg/L	0.000154	87.91%
Al 308.215†	13.8	0.01047	mg/L	0.004181	0.01047 mg/L	0.004181	39.93%
As 188.979†	17.4	0.00842	mg/L	0.000407	0.00842 mg/L	0.000407	4.83%
B 249.677†	184.9	0.03270	mg/L	0.001238	0.03270 mg/L	0.001238	3.79%
Ba 233.527†	11.0	0.00291	mg/L	0.000147	0.00291 mg/L	0.000147	5.04%
Be 313.042†	45.9	0.00009	mg/L	0.000038	0.00009 mg/L	0.000038	42.51%
Ca 317.933†	167161.3	16.96	mg/L	0.123	16.96 mg/L	0.123	0.73%
Cd 228.802†	-11.1	-0.00038	mg/L	0.000082	-0.00038 mg/L	0.000082	21.25%
Co 228.616†	3.9	0.00010	mg/L	0.000162	0.00010 mg/L	0.000162	162.38%
Cr 267.716†	3.7	0.00023	mg/L	0.000850	0.00023 mg/L	0.000850	365.46%
Cu 324.752†	125.3	0.00037	mg/L	0.000108	0.00037 mg/L	0.000108	29.23%
Fe 273.955†	3.4	0.00304	mg/L	0.005072	0.00304 mg/L	0.005072	166.84%
K 766.490†	1986.4	0.8791	mg/L	0.01703	0.8791 mg/L	0.01703	1.94%
Mg 279.077†	4859.1	4.208	mg/L	0.0354	4.208 mg/L	0.0354	0.84%
Mn 257.610†	12.8	0.00032	mg/L	0.000073	0.00032 mg/L	0.000073	22.87%
Mo 202.031†	30.7	0.00133	mg/L	0.000217	0.00133 mg/L	0.000217	16.27%
Na 589.592†	78637.9	5.918	mg/L	0.0266	5.918 mg/L	0.0266	0.45%
Na 330.237†	126.5	5.907	mg/L	0.3608	5.907 mg/L	0.3608	6.11%
Ni 231.604†	2.2	0.00067	mg/L	0.001239	0.00067 mg/L	0.001239	184.71%
Pb 220.353†	-16.0	-0.00194	mg/L	0.000894	-0.00194 mg/L	0.000894	46.14%
Sb 206.836†	60.5	0.01890	mg/L	0.002801	0.01890 mg/L	0.002801	14.82%
Se 196.026†	4.2	0.00296	mg/L	0.004845	0.00296 mg/L	0.004845	163.89%
Si 288.158†	14112.4	8.502	mg/L	0.0852	8.502 mg/L	0.0852	1.00%
Sn 189.927†	-22.1	-0.00409	mg/L	0.000513	-0.00409 mg/L	0.000513	12.54%
Sr 421.552†	79143.1	0.09511	mg/L	0.000469	0.09511 mg/L	0.000469	0.49%
Ti 334.903†	18.1	-0.00010	mg/L	0.000317	-0.00010 mg/L	0.000317	311.86%
Tl 190.801†	7.6	0.00346	mg/L	0.001176	0.00346 mg/L	0.001176	34.02%
V 292.402†	71.1	0.00047	mg/L	0.000232	0.00047 mg/L	0.000232	48.77%
Zn 206.200†	-2.2	0.00092	mg/L	0.000342	0.00092 mg/L	0.000342	37.00%

Sequence No.: 41

Autosampler Location: 328

Sample ID: YD50 C TWC

Date Collected: 3/26/2014 1:10:23 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 C TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD50 C TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2831207.6	99.89	%	0.704			0.70%
ScR 361.383	246804.1	100.1	%	1.18			1.18%
Ag 328.068+	-2.7	0.00009	mg/L	0.000238	0.00009 mg/L	0.000238	253.96%
Al 308.215+	26.2	0.01995	mg/L	0.001021	0.01995 mg/L	0.001021	5.12%
As 188.979+	16.7	0.00800	mg/L	0.000785	0.00800 mg/L	0.000785	9.81%
B 249.677+	190.1	0.03361	mg/L	0.001219	0.03361 mg/L	0.001219	3.63%
Ba 233.527+	12.3	0.00328	mg/L	0.000947	0.00328 mg/L	0.000947	28.88%
Be 313.042+	22.0	0.00004	mg/L	0.000026	0.00004 mg/L	0.000026	60.38%
Ca 317.933+	175432.3	17.80	mg/L	0.114	17.80 mg/L	0.114	0.64%
Cd 228.802+	-14.6	-0.00049	mg/L	0.000083	-0.00049 mg/L	0.000083	16.95%
Co 228.616+	17.3	0.00045	mg/L	0.000136	0.00045 mg/L	0.000136	30.29%
Cr 267.716+	0.9	-0.00035	mg/L	0.000131	-0.00035 mg/L	0.000131	36.85%
Cu 324.752+	112.3	0.00032	mg/L	0.000260	0.00032 mg/L	0.000260	81.36%
Fe 273.955+	13.1	0.01165	mg/L	0.000874	0.01165 mg/L	0.000874	7.50%
K 766.490+	1976.1	0.8745	mg/L	0.01705	0.8745 mg/L	0.01705	1.95%
Mg 279.077+	4924.7	4.265	mg/L	0.0409	4.265 mg/L	0.0409	0.96%
Mn 257.610+	47.7	0.00146	mg/L	0.000233	0.00146 mg/L	0.000233	15.95%
Mo 202.031+	35.6	0.00158	mg/L	0.000130	0.00158 mg/L	0.000130	8.23%
Na 589.592+	77812.3	5.856	mg/L	0.0494	5.856 mg/L	0.0494	0.84%
Na 330.237+	124.9	5.828	mg/L	0.1192	5.828 mg/L	0.1192	2.05%
Ni 231.604+	-1.3	-0.00041	mg/L	0.000914	-0.00041 mg/L	0.000914	224.23%
Pb 220.353+	-20.8	-0.00251	mg/L	0.000967	-0.00251 mg/L	0.000967	38.53%
Sb 206.836+	10.4	0.00321	mg/L	0.002083	0.00321 mg/L	0.002083	64.91%
Se 196.026+	1.3	0.00091	mg/L	0.002989	0.00091 mg/L	0.002989	329.55%
Si 288.158+	15676.5	9.444	mg/L	0.0558	9.444 mg/L	0.0558	0.59%
Sn 189.927+	-23.9	-0.00452	mg/L	0.000849	-0.00452 mg/L	0.000849	18.78%
Sr 421.552+	86157.8	0.1035	mg/L	0.00068	0.1035 mg/L	0.00068	0.66%
Ti 334.903+	21.4	0.00004	mg/L	0.000251	0.00004 mg/L	0.000251	642.76%
Tl 190.801+	7.1	0.00322	mg/L	0.002417	0.00322 mg/L	0.002417	74.96%
V 292.402+	70.6	0.00047	mg/L	0.000126	0.00047 mg/L	0.000126	26.86%
Zn 206.200+	1.6	0.00222	mg/L	0.000957	0.00222 mg/L	0.000957	43.02%

Sequence No.: 42
Sample ID: YD50 D TWC

Autosampler Location: 329
Date Collected: 3/26/2014 1:14:22 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 D TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD50 D TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2810034.2	99.15	%	0.390			0.39%
ScR 361.383	245384.7	99.55	%	0.383			0.38%
Ag 328.068†	-27.9	0.00005	mg/L	0.000054	0.00005 mg/L	0.000054	104.73%
Al 308.215†	28.6	0.02177	mg/L	0.002107	0.02177 mg/L	0.002107	9.68%
As 188.979†	29.5	0.01405	mg/L	0.002694	0.01405 mg/L	0.002694	19.17%
B 249.677†	394.6	0.06979	mg/L	0.000987	0.06979 mg/L	0.000987	1.41%
Ba 233.527†	40.2	0.01068	mg/L	0.000401	0.01068 mg/L	0.000401	3.76%
Be 313.042†	30.7	0.00006	mg/L	0.000020	0.00006 mg/L	0.000020	33.55%
Cd 228.802†	320028.4	32.47	mg/L	0.155	32.47 mg/L	0.155	0.48%
Co 228.616†	-12.5	-0.00046	mg/L	0.000005	-0.00046 mg/L	0.000005	1.17%
Cr 267.716†	21.3	0.00055	mg/L	0.000042	0.00055 mg/L	0.000042	7.65%
Cu 267.716†	5.8	0.00012	mg/L	0.001650	0.00012 mg/L	0.001650	>999.9%
Cu 324.752†	142.0	0.00036	mg/L	0.000047	0.00036 mg/L	0.000047	13.11%
Fe 273.955†	36.7	0.03267	mg/L	0.003589	0.03267 mg/L	0.003589	10.99%
K 766.490†	4881.7	2.160	mg/L	0.0151	2.160 mg/L	0.0151	0.70%
Mg 279.077†	10109.6	8.756	mg/L	0.0514	8.756 mg/L	0.0514	0.59%
Mn 257.610†	575.4	0.01866	mg/L	0.000106	0.01866 mg/L	0.000106	0.57%
Mo 202.031†	56.9	0.00246	mg/L	0.000297	0.00246 mg/L	0.000297	12.05%
Na 589.592†	123238.4	9.275	mg/L	0.0274	9.275 mg/L	0.0274	0.30%
Na 330.237†	206.0	9.590	mg/L	0.0976	9.590 mg/L	0.0976	1.02%
Ni 231.604†	7.0	0.00213	mg/L	0.000311	0.00213 mg/L	0.000311	14.61%
Pb 220.353†	-18.4	-0.00222	mg/L	0.000523	-0.00222 mg/L	0.000523	23.57%
Sb 206.836†	2.4	0.00066	mg/L	0.000383	0.00066 mg/L	0.000383	58.33%
Se 196.026†	3.9	0.00270	mg/L	0.007676	0.00270 mg/L	0.007676	284.36%
Si 288.158†	17278.1	10.41	mg/L	0.068	10.41 mg/L	0.068	0.66%
Sn 189.927†	-42.6	-0.00795	mg/L	0.002246	-0.00795 mg/L	0.002246	28.24%
Sr 421.552†	208333.1	0.2504	mg/L	0.00071	0.2504 mg/L	0.00071	0.28%
Ti 334.903†	55.4	0.00107	mg/L	0.000496	0.00107 mg/L	0.000496	46.62%
Tl 190.801†	11.5	0.00523	mg/L	0.003314	0.00523 mg/L	0.003314	63.33%
V 292.402†	45.3	0.00031	mg/L	0.000153	0.00031 mg/L	0.000153	49.97%
Zn 206.200†	1.4	0.00237	mg/L	0.000800	0.00237 mg/L	0.000800	33.73%

Sequence No.: 43
 Sample ID: YD50 E TWC

Autosampler Location: 330
 Date Collected: 3/26/2014 1:18:37 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 E TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD50 E TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2814275.6	99.30 %		0.336			0.34%
ScR 361.383	246567.0	100.0 %		0.60			0.60%
Ag 328.068†	17.7	0.00014 mg/L		0.000096	0.00014 mg/L	0.000096	67.16%
Al 308.215†	501.6	0.3824 mg/L		0.00652	0.3824 mg/L	0.00652	1.70%
As 188.979†	9.7	0.00518 mg/L		0.000653	0.00518 mg/L	0.000653	12.61%
B 249.677†	161.0	0.02847 mg/L		0.000673	0.02847 mg/L	0.000673	2.36%
Ba 233.527†	31.2	0.00826 mg/L		0.000948	0.00826 mg/L	0.000948	11.47%
Be 313.042†	20.9	0.00004 mg/L		0.000009	0.00004 mg/L	0.000009	21.18%
Ca 317.933†	84044.5	8.528 mg/L		0.0203	8.528 mg/L	0.0203	0.24%
Cd 228.802†	-11.4	-0.00037 mg/L		0.000039	-0.00037 mg/L	0.000039	10.38%
Co 228.616†	17.3	0.00043 mg/L		0.000129	0.00043 mg/L	0.000129	29.96%
Cr 267.716†	10.1	0.00179 mg/L		0.000289	0.00179 mg/L	0.000289	16.11%
Cu 324.752†	161.9	0.00055 mg/L		0.000120	0.00055 mg/L	0.000120	22.03%
Fe 273.955†	298.2	0.2654 mg/L		0.00230	0.2654 mg/L	0.00230	0.87%
K 766.490†	1666.7	0.7376 mg/L		0.00675	0.7376 mg/L	0.00675	0.91%
Mg 279.077†	2604.7	2.256 mg/L		0.0186	2.256 mg/L	0.0186	0.83%
Mn 257.610†	160.2	0.00520 mg/L		0.000186	0.00520 mg/L	0.000186	3.58%
Mo 202.031†	24.5	0.00114 mg/L		0.000490	0.00114 mg/L	0.000490	42.90%
Na 589.592†	47855.5	3.602 mg/L		0.0148	3.602 mg/L	0.0148	0.41%
Na 330.237†	77.8	3.646 mg/L		0.1301	3.646 mg/L	0.1301	3.57%
Ni 231.604†	5.6	0.00170 mg/L		0.001244	0.00170 mg/L	0.001244	73.32%
Pb 220.353†	-7.4	-0.00081 mg/L		0.000423	-0.00081 mg/L	0.000423	52.32%
Sb 206.836†	6.3	0.00193 mg/L		0.001669	0.00193 mg/L	0.001669	86.46%
Se 196.026†	-3.1	-0.00219 mg/L		0.003162	-0.00219 mg/L	0.003162	144.05%
Si 288.158†	13427.6	8.089 mg/L		0.0511	8.089 mg/L	0.0511	0.63%
Sn 189.927†	-16.0	-0.00344 mg/L		0.000871	-0.00344 mg/L	0.000871	25.30%
Sr 421.552†	40497.6	0.04867 mg/L		0.000193	0.04867 mg/L	0.000193	0.40%
Ti 334.903†	186.1	0.01069 mg/L		0.000689	0.01069 mg/L	0.000689	6.44%
Tl 190.801†	3.8	0.00175 mg/L		0.000844	0.00175 mg/L	0.000844	48.36%
V 292.402†	144.4	0.00095 mg/L		0.000303	0.00095 mg/L	0.000303	32.04%
Zn 206.200†	4.9	0.00298 mg/L		0.000242	0.00298 mg/L	0.000242	8.11%

Sequence No.: 44
 Sample ID: YD50 F TWC
 Dilution: 1.000000X

Autosampler Location: 331
 Date Collected: 3/26/2014 1:22:36 PM
 Data Type: Original

Nebulizer Parameters: YD50 F TWC
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YD50 F TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2764697.7	97.55	%	0.274			0.28%
ScR 361.383	243311.0	98.71	%	0.841			0.85%
Ag 328.068†	-83.2	-0.00022	mg/L	0.000186	-0.00022 mg/L	0.000186	83.33%
Al 308.215†	85353.2	65.07	mg/L	0.529	65.07 mg/L	0.529	0.81%
As 188.979†	-75.1	0.04236	mg/L	0.001049	0.04236 mg/L	0.001049	2.48%
B 249.677†	215.3	0.03801	mg/L	0.000370	0.03801 mg/L	0.000370	0.97%
Ba 233.527†	1278.3	0.3322	mg/L	0.00249	0.3322 mg/L	0.00249	0.75%
Be 313.042†	517.7	0.00097	mg/L	0.000012	0.00097 mg/L	0.000012	1.29%
Ca 317.933†	297613.6	30.20	mg/L	0.243	30.20 mg/L	0.243	0.81%
Cd 228.802†	13.1	0.00024	mg/L	0.000015	0.00024 mg/L	0.000015	6.21%
Co 228.616†	1221.0	0.02753	mg/L	0.000051	0.02753 mg/L	0.000051	0.18%
Cr 267.716†	270.4	0.05502	mg/L	0.001020	0.05502 mg/L	0.001020	1.85%
Cu 324.752†	17827.2	0.06489	mg/L	0.000452	0.06489 mg/L	0.000452	0.70%
Fe 273.955†	56342.0	50.16	mg/L	0.442	50.16 mg/L	0.442	0.88%
K 766.490†	12667.7	5.606	mg/L	0.0372	5.606 mg/L	0.0372	0.66%
Mg 279.077†	16984.6	14.68	mg/L	0.120	14.68 mg/L	0.120	0.82%
Mn 257.610†	41481.9	1.359	mg/L	0.0127	1.359 mg/L	0.0127	0.93%
Mo 202.031†	56.0	0.00245	mg/L	0.000307	0.00245 mg/L	0.000307	12.55%
Na 589.592†	152280.5	11.46	mg/L	0.098	11.46 mg/L	0.098	0.85%
Na 330.237†	233.4	11.53	mg/L	0.161	11.53 mg/L	0.161	1.40%
Ni 231.604†	253.5	0.07737	mg/L	0.000494	0.07737 mg/L	0.000494	0.64%
Pb 220.353†	-13.4	0.01226	mg/L	0.000563	0.01226 mg/L	0.000563	4.59%
Sb 206.836†	17.5	0.00698	mg/L	0.002884	0.00698 mg/L	0.002884	41.30%
Se 196.026†	11.4	0.00789	mg/L	0.004865	0.00789 mg/L	0.004865	61.63%
Si 288.158†	30418.6	18.33	mg/L	0.190	18.33 mg/L	0.190	1.04%
Sn 189.927†	-40.0	-0.00705	mg/L	0.001219	-0.00705 mg/L	0.001219	17.28%
Sr 421.552†	211124.5	0.2537	mg/L	0.00197	0.2537 mg/L	0.00197	0.78%
Ti 334.903†	40531.1	2.457	mg/L	0.0160	2.457 mg/L	0.0160	0.65%
Tl 190.801†	-8.2	0.00148	mg/L	0.001389	0.00148 mg/L	0.001389	93.75%
V 292.402†	15359.5	0.09805	mg/L	0.000833	0.09805 mg/L	0.000833	0.85%
Zn 206.200†	318.7	0.09849	mg/L	0.001285	0.09849 mg/L	0.001285	1.30%

Sequence No.: 45
 Sample ID: YD50 MB1SPK TWC

Autosampler Location: 332
 Date Collected: 3/26/2014 1:26:37 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 MB1SPK TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD50 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2791269.4	98.48 %		0.526			0.53%
ScR 361.383	243102.2	98.62 %		0.417			0.42%
Ag 328.068†	103580.0	0.5376 mg/L		0.00032	0.5376 mg/L	0.00032	0.06%
Al 308.215†	2765.6	2.101 mg/L		0.0066	2.101 mg/L	0.0066	0.32%
As 188.979†	3682.2	2.095 mg/L		0.0111	2.095 mg/L	0.0111	0.53%
B 249.677†	57.2	0.00903 mg/L		0.000621	0.00903 mg/L	0.000621	6.88%
Ba 233.527†	7900.9	2.101 mg/L		0.0083	2.101 mg/L	0.0083	0.39%
Be 313.042†	262003.9	0.5168 mg/L		0.00260	0.5168 mg/L	0.00260	0.50%
Ca 317.933†	102289.4	10.38 mg/L		0.020	10.38 mg/L	0.020	0.20%
Cd 228.802†	17961.0	0.5319 mg/L		0.00135	0.5319 mg/L	0.00135	0.25%
Co 228.616†	19691.3	0.5153 mg/L		0.00151	0.5153 mg/L	0.00151	0.29%
Cr 267.716†	2651.4	0.5384 mg/L		0.00329	0.5384 mg/L	0.00329	0.61%
Cu 324.752†	144086.7	0.5112 mg/L		0.00178	0.5112 mg/L	0.00178	0.35%
Fe 273.955†	2436.7	2.166 mg/L		0.0169	2.166 mg/L	0.0169	0.78%
K 766.490†	23533.5	10.41 mg/L		0.038	10.41 mg/L	0.038	0.37%
Mg 279.077†	12297.6	10.65 mg/L		0.064	10.65 mg/L	0.064	0.60%
Mn 257.610†	15626.8	0.5125 mg/L		0.00290	0.5125 mg/L	0.00290	0.57%
Mo 202.031†	25.2	0.00115 mg/L		0.000326	0.00115 mg/L	0.000326	28.33%
Na 589.592†	139920.9	10.53 mg/L		0.014	10.53 mg/L	0.014	0.13%
Na 330.237†	225.3	10.50 mg/L		0.321	10.50 mg/L	0.321	3.05%
Ni 231.604†	1707.5	0.5213 mg/L		0.00161	0.5213 mg/L	0.00161	0.31%
Pb 220.353†	17209.2	2.083 mg/L		0.0065	2.083 mg/L	0.0065	0.31%
Sb 206.836†	6858.1	2.144 mg/L		0.0090	2.144 mg/L	0.0090	0.42%
Se 196.026†	2959.0	2.067 mg/L		0.0139	2.067 mg/L	0.0139	0.67%
Si 288.158†	85.4	0.05511 mg/L		0.018367	0.05511 mg/L	0.018367	33.33%
Sn 189.927†	-23.5	-0.00404 mg/L		0.000447	-0.00404 mg/L	0.000447	11.06%
Sr 421.552†	428604.4	0.5151 mg/L		0.00061	0.5151 mg/L	0.00061	0.12%
Ti 334.903†	35.9	0.00134 mg/L		0.000548	0.00134 mg/L	0.000548	40.90%
Tl 190.801†	4446.5	2.026 mg/L		0.0093	2.026 mg/L	0.0093	0.46%
V 292.402†	78472.7	0.5226 mg/L		0.00105	0.5226 mg/L	0.00105	0.20%
Zn 206.200†	1740.0	0.5193 mg/L		0.00465	0.5193 mg/L	0.00465	0.90%

Sequence No.: 46
 Sample ID: CV 5

Autosampler Location: 7
 Date Collected: 3/26/2014 1:30:37 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: CV

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Units	Conc.		
ScA 357.253	2761087.6	97.42	%	0.386				0.40%
ScR 361.383	236531.3	95.96	%	0.278				0.29%
Ag 328.068†	209988.3	1.090	mg/L	0.0143	1.090	mg/L	0.0143	1.32%
Al 308.215†	2818.5	2.116	mg/L	0.0115	2.116	mg/L	0.0115	0.54%
As 188.979†	3679.3	2.127	mg/L	0.0176	2.127	mg/L	0.0176	0.83%
B 249.677†	6007.5	1.061	mg/L	0.0051	1.061	mg/L	0.0051	0.48%
Ba 233.527†	3928.3	1.044	mg/L	0.0053	1.044	mg/L	0.0053	0.51%
Be 313.042†	530768.7	1.047	mg/L	0.0031	1.047	mg/L	0.0031	0.30%
Ca 317.933†	21412.7	2.173	mg/L	0.0134	2.173	mg/L	0.0134	0.62%
Cd 228.802†	36051.4	1.079	mg/L	0.0115	1.079	mg/L	0.0115	1.07%
Co 228.616†	39644.2	1.036	mg/L	0.0100	1.036	mg/L	0.0100	0.97%
Cr 267.716†	5346.3	1.088	mg/L	0.0043	1.088	mg/L	0.0043	0.39%
Cu 324.752†	294162.0	1.043	mg/L	0.0043	1.043	mg/L	0.0043	0.41%
Fe 273.955†	2471.9	2.194	mg/L	0.0112	2.194	mg/L	0.0112	0.51%
K 766.490†	47450.0	21.00	mg/L	0.039	21.00	mg/L	0.039	0.18%
Mg 279.077†	2382.6	2.071	mg/L	0.0182	2.071	mg/L	0.0182	0.88%
Mn 257.610†	31524.9	1.034	mg/L	0.0030	1.034	mg/L	0.0030	0.29%
Mo 202.031†	19174.0	0.9982	mg/L	0.01250	0.9982	mg/L	0.01250	1.25%
Na 589.592†	704204.1	53.00	mg/L	0.033	53.00	mg/L	0.033	0.06%
Na 330.237†	1125.5	53.45	mg/L	0.280	53.45	mg/L	0.280	0.52%
Ni 231.604†	3485.7	1.064	mg/L	0.0045	1.064	mg/L	0.0045	0.43%
Pb 220.353†	17158.6	2.078	mg/L	0.0256	2.078	mg/L	0.0256	1.23%
Sb 206.836†	6970.2	2.183	mg/L	0.0115	2.183	mg/L	0.0115	0.53%
Se 196.026†	2983.7	2.084	mg/L	0.0133	2.084	mg/L	0.0133	0.64%
Si 288.158†	3525.4	2.129	mg/L	0.0188	2.129	mg/L	0.0188	0.88%
Sn 189.927†	3683.8	1.030	mg/L	0.0050	1.030	mg/L	0.0050	0.48%
Sr 421.552†	878361.6	1.056	mg/L	0.0005	1.056	mg/L	0.0005	0.05%
Ti 334.903†	17026.5	1.032	mg/L	0.0010	1.032	mg/L	0.0010	0.09%
Tl 190.801†	4636.4	2.109	mg/L	0.0126	2.109	mg/L	0.0126	0.60%
V 292.402†	159699.4	1.064	mg/L	0.0145	1.064	mg/L	0.0145	1.36%
Zn 206.200†	3549.9	1.059	mg/L	0.0040	1.059	mg/L	0.0040	0.38%

Sequence No.: 47
 Sample ID: CB 5

Autosampler Location: 1
 Date Collected: 3/26/2014 1:34:41 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2779243.1	98.06	%	1.059				1.08%
ScR 361.383	244693.9	99.27	%	0.256				0.26%
Ag 328.068†	4.5	0.00002	mg/L	0.000256	0.00002	mg/L	0.000256	>999.9%
Al 308.215†	13.2	0.01006	mg/L	0.003182	0.01006	mg/L	0.003182	31.62%
As 188.979†	1.9	0.00111	mg/L	0.000953	0.00111	mg/L	0.000953	86.16%
B 249.677†	59.2	0.01046	mg/L	0.001774	0.01046	mg/L	0.001774	16.95%
Ba 233.527†	0.6	0.00016	mg/L	0.000500	0.00016	mg/L	0.000500	312.69%
Be 313.042†	81.9	0.00016	mg/L	0.000032	0.00016	mg/L	0.000032	20.08%
Ca 317.933†	4.2	0.00043	mg/L	0.001002	0.00043	mg/L	0.001002	233.90%
Cd 228.802†	3.9	0.00011	mg/L	0.000119	0.00011	mg/L	0.000119	107.77%
Co 228.616†	2.4	0.00006	mg/L	0.000147	0.00006	mg/L	0.000147	231.65%
Cr 267.716†	-5.4	-0.00111	mg/L	0.000420	-0.00111	mg/L	0.000420	37.95%
Cu 324.752†	65.3	0.00023	mg/L	0.000298	0.00023	mg/L	0.000298	128.52%
Fe 273.955†	2.0	0.00178	mg/L	0.002158	0.00178	mg/L	0.002158	121.40%
K 766.490†	55.9	0.02473	mg/L	0.008795	0.02473	mg/L	0.008795	35.57%
Mg 279.077†	-7.3	-0.00633	mg/L	0.003368	-0.00633	mg/L	0.003368	53.18%
Mn 257.610†	5.4	0.00018	mg/L	0.000066	0.00018	mg/L	0.000066	37.07%
Mo 202.031†	13.2	0.00069	mg/L	0.000257	0.00069	mg/L	0.000257	37.39%
Na 589.592†	756.8	0.05695	mg/L	0.003770	0.05695	mg/L	0.003770	6.62%
Na 330.237†	-2.4	-0.1122	mg/L	0.20673	-0.1122	mg/L	0.20673	184.31%
Ni 231.604†	-4.7	-0.00144	mg/L	0.001036	-0.00144	mg/L	0.001036	72.19%
Pb 220.353†	-1.0	-0.00012	mg/L	0.000366	-0.00012	mg/L	0.000366	298.09%
Sb 206.836†	35.4	0.01111	mg/L	0.001803	0.01111	mg/L	0.001803	16.23%
Se 196.026†	-5.0	-0.00349	mg/L	0.001840	-0.00349	mg/L	0.001840	52.72%
Si 288.158†	20.6	0.01241	mg/L	0.005686	0.01241	mg/L	0.005686	45.80%
Sn 189.927†	0.6	0.00018	mg/L	0.001113	0.00018	mg/L	0.001113	627.68%
Sr 421.552†	120.1	0.00014	mg/L	0.000053	0.00014	mg/L	0.000053	36.78%
Ti 334.903†	-0.5	-0.00003	mg/L	0.000226	-0.00003	mg/L	0.000226	778.50%
Tl 190.801†	1.9	0.00088	mg/L	0.001752	0.00088	mg/L	0.001752	200.13%
V 292.402†	5.4	0.00003	mg/L	0.000143	0.00003	mg/L	0.000143	453.34%
Zn 206.200†	0.9	0.00027	mg/L	0.000228	0.00027	mg/L	0.000228	86.14%

Sequence No.: 48
 Sample ID: YD50 MB2 WMN

DJ

Autosampler Location: 333
 Date Collected: 3/26/2014 1:38:41 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD50 MB2 WMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

 Mean Data: YD50 MB2 WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2865335.4	101.1	%	0.57			0.57%
ScR 361.383	249359.2	101.2	%	1.40			1.38%
Ag 328.068†	-3.0	-0.00002	mg/L	0.000225	-0.00002 mg/L	0.000225	>999.9%
Al 308.215†	0.7	0.00056	mg/L	0.005582	0.00056 mg/L	0.005582	993.65%
As 188.979†	6.2	0.00350	mg/L	0.001375	0.00350 mg/L	0.001375	39.26%
B 249.677†	44.6	0.00788	mg/L	0.000528	0.00788 mg/L	0.000528	6.70%
Ba 233.527†	0.2	0.00005	mg/L	0.000414	0.00005 mg/L	0.000414	888.90%
Be 313.042†	44.9	0.00009	mg/L	0.000032	0.00009 mg/L	0.000032	35.80%
Ca 317.933†	9.2	0.00093	mg/L	0.001629	0.00093 mg/L	0.001629	174.62%
Cd 228.802†	-3.2	-0.00012	mg/L	0.000059	-0.00012 mg/L	0.000059	50.89%
Co 228.616†	18.8	0.00049	mg/L	0.000144	0.00049 mg/L	0.000144	29.21%
Cr 267.716†	-1.4	-0.00029	mg/L	0.001538	-0.00029 mg/L	0.001538	533.27%
Cu 324.752†	-29.1	-0.00010	mg/L	0.000146	-0.00010 mg/L	0.000146	142.65%
Fe 273.955†	1.1	0.00096	mg/L	0.002102	0.00096 mg/L	0.002102	219.76%
K 766.490†	89.7	0.03970	mg/L	0.011029	0.03970 mg/L	0.011029	27.78%
Mg 279.077†	-6.4	-0.00554	mg/L	0.003901	-0.00554 mg/L	0.003901	70.47%
Mn 257.610†	3.6	0.00012	mg/L	0.000047	0.00012 mg/L	0.000047	39.12%
Mo 202.031†	-6.9	-0.00036	mg/L	0.000071	-0.00036 mg/L	0.000071	19.70%
Na 589.592†	1686.8	0.1269	mg/L	0.02177	0.1269 mg/L	0.02177	17.15%
Na 330.237†	-7.9	-0.3778	mg/L	0.29722	-0.3778 mg/L	0.29722	78.68%
Ni 231.604†	0.1	0.00003	mg/L	0.000951	0.00003 mg/L	0.000951	>999.9%
Pb 220.353†	-3.6	-0.00044	mg/L	0.000706	-0.00044 mg/L	0.000706	160.11%
Sb 206.836†	-9.7	-0.00305	mg/L	0.002701	-0.00305 mg/L	0.002701	88.63%
Se 196.026†	3.1	0.00217	mg/L	0.003536	0.00217 mg/L	0.003536	162.71%
Si 288.158†	-18.4	-0.01106	mg/L	0.002349	-0.01106 mg/L	0.002349	21.23%
Sn 189.927†	1.0	0.00026	mg/L	0.000804	0.00026 mg/L	0.000804	304.67%
Sr 421.552†	42.5	0.00005	mg/L	0.000006	0.00005 mg/L	0.000006	11.06%
Ti 334.903†	-14.3	-0.00087	mg/L	0.000299	-0.00087 mg/L	0.000299	34.42%
Tl 190.801†	11.2	0.00512	mg/L	0.000643	0.00512 mg/L	0.000643	12.58%
V 292.402†	-5.9	-0.00004	mg/L	0.000203	-0.00004 mg/L	0.000203	510.16%
Zn 206.200†	3.8	0.00114	mg/L	0.001016	0.00114 mg/L	0.001016	88.86%

Sequence No.: 49
 Sample ID: YD50 G TWC

Autosampler Location: 334
 Date Collected: 3/26/2014 1:42:42 PM
 Data Type: Original

Dilution: 1.000000X

DU

 Nebulizer Parameters: YD50 G TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

 Mean Data: YD50 G TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2601850.7	91.80 %		0.288			0.31%
ScR 361.383	236935.2	96.12 %		0.488			0.51%
Ag 328.068†	-333.4	-0.00012 mg/L		0.000210	-0.00012 mg/L	0.000210	168.47%
Al 308.215†	508.9	0.3867 mg/L		0.00546	0.3867 mg/L	0.00546	1.41%
As 188.979†	82.2	0.02925 mg/L		0.002787	0.02925 mg/L	0.002787	9.53%
B 249.677†	24261.4	4.291 mg/L		0.0162	4.291 mg/L	0.0162	0.38%
Ba 233.527†	4946.9	1.305 mg/L		0.0039	1.305 mg/L	0.0039	0.30%
Be 313.042†	96.2	0.00017 mg/L		0.000009	0.00017 mg/L	0.000009	5.29%
Ca 317.933†	2598652.7	263.7 mg/L		3.62	263.7 mg/L	3.62	1.37%
Cd 228.802†	9.0	-0.00050 mg/L		0.000043	-0.00050 mg/L	0.000043	8.49%
Co 228.616†	539.2	0.01370 mg/L		0.000211	0.01370 mg/L	0.000211	1.54%
Cr 267.716†	64.3	0.00443 mg/L		0.000594	0.00443 mg/L	0.000594	13.40%
Cu 324.752†	-122.6	0.00134 mg/L		0.000073	0.00134 mg/L	0.000073	5.49%
Fe 273.955†	77060.9	68.60 mg/L		0.163	68.60 mg/L	0.163	0.24%
K 766.490†	356593.4	157.8 mg/L		1.49	157.8 mg/L	1.49	0.94%
Mg 279.077†	110240.3	95.45 mg/L		0.331	95.45 mg/L	0.331	0.35%
Mn 257.610†	128776.9	4.219 mg/L		0.0095	4.219 mg/L	0.0095	0.23%
Mo 202.031†	148.2	0.00363 mg/L		0.000252	0.00363 mg/L	0.000252	6.96%
Na 589.592†	8684706.2	653.6 mg/L		3.74	653.6 mg/L	3.74	0.57%
Na 330.237†	13739.6	651.4 mg/L		2.23	651.4 mg/L	2.23	0.34%
Ni 231.604†	224.9	0.06862 mg/L		0.001113	0.06862 mg/L	0.001113	1.62%
Pb 220.353†	-19.2	-0.00533 mg/L		0.001600	-0.00533 mg/L	0.001600	30.03%
Sb 206.836†	33.0	0.01026 mg/L		0.000774	0.01026 mg/L	0.000774	7.54%
Se 196.026†	21.8	0.01521 mg/L		0.000388	0.01521 mg/L	0.000388	2.55%
Si 288.158†	11752.9	7.091 mg/L		0.0240	7.091 mg/L	0.0240	0.34%
Sn 189.927†	-117.7	-0.00092 mg/L		0.001886	-0.00092 mg/L	0.001886	205.97%
Sr 421.552†	3083231.0	3.705 mg/L		0.0332	3.705 mg/L	0.0332	0.90%
Ti 334.903†	2635.3	0.1413 mg/L		0.00148	0.1413 mg/L	0.00148	1.05%
Tl 190.801†	-4.8	0.00546 mg/L		0.001465	0.00546 mg/L	0.001465	26.85%
V 292.402†	8083.1	0.05035 mg/L		0.000160	0.05035 mg/L	0.000160	0.32%
Zn 206.200†	184.2	0.05627 mg/L		0.001513	0.05627 mg/L	0.001513	2.69%

Sequence No.: 50
 Sample ID: YD50 I WMN
 Dilution: 1.000000X

Dal

Autosampler Location: 335
 Date Collected: 3/26/2014 1:47:21 PM
 Data Type: Original

Nebulizer Parameters: YD50 I WMN
 Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD50 I WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2872945.0	101.4 %		0.18			0.18%
ScR 361.383	252948.6	102.6 %		1.19			1.16%
Ag 328.068†	22.0	0.00022 mg/L		0.000159	0.00022 mg/L	0.000159	73.66%
Al 308.215†	9.3	0.00705 mg/L		0.002579	0.00705 mg/L	0.002579	36.59%
As 188.979†	18.2	0.00890 mg/L		0.001224	0.00890 mg/L	0.001224	13.76%
B 249.677†	187.4	0.03314 mg/L		0.000535	0.03314 mg/L	0.000535	1.62%
Ba 233.527†	10.9	0.00290 mg/L		0.000819	0.00290 mg/L	0.000819	28.24%
Be 313.042†	29.6	0.00006 mg/L		0.000019	0.00006 mg/L	0.000019	32.23%
Ca 317.933†	166023.8	16.85 mg/L		0.056	16.85 mg/L	0.056	0.33%
Cd 228.802†	-12.7	-0.00043 mg/L		0.000044	-0.00043 mg/L	0.000044	10.18%
Co 228.616†	21.3	0.00056 mg/L		0.000096	0.00056 mg/L	0.000096	17.36%
Cr 267.716†	0.5	-0.00043 mg/L		0.000783	-0.00043 mg/L	0.000783	182.97%
Cu 324.752†	54.6	0.00012 mg/L		0.000122	0.00012 mg/L	0.000122	103.02%
Fe 273.955†	11.5	0.01023 mg/L		0.002468	0.01023 mg/L	0.002468	24.13%
K 766.490†	2192.8	0.9704 mg/L		0.00969	0.9704 mg/L	0.00969	1.00%
Mg 279.077†	4941.5	4.280 mg/L		0.0738	4.280 mg/L	0.0738	1.73%
Mn 257.610†	26.0	0.00075 mg/L		0.000066	0.00075 mg/L	0.000066	8.82%
Mo 202.031†	22.3	0.00090 mg/L		0.000039	0.00090 mg/L	0.000039	4.38%
Na 589.592†	81983.1	6.170 mg/L		0.0595	6.170 mg/L	0.0595	0.96%
Na 330.237†	128.0	5.982 mg/L		0.2507	5.982 mg/L	0.2507	4.19%
Ni 231.604†	5.9	0.00180 mg/L		0.002250	0.00180 mg/L	0.002250	124.91%
Pb 220.353†	-8.7	-0.00105 mg/L		0.000503	-0.00105 mg/L	0.000503	48.11%
Sb 206.836†	-8.5	-0.00273 mg/L		0.001974	-0.00273 mg/L	0.001974	72.26%
Se 196.026†	3.6	0.00253 mg/L		0.008314	0.00253 mg/L	0.008314	328.90%
Si 288.158†	15878.7	9.566 mg/L		0.1357	9.566 mg/L	0.1357	1.42%
Sn 189.927†	-26.0	-0.00521 mg/L		0.001422	-0.00521 mg/L	0.001422	27.32%
Sr 421.552†	78714.1	0.09459 mg/L		0.000473	0.09459 mg/L	0.000473	0.50%
Ti 334.903†	19.4	-0.00002 mg/L		0.000419	-0.00002 mg/L	0.000419	>999.9%
Tl 190.801†	20.0	0.00914 mg/L		0.001871	0.00914 mg/L	0.001871	20.47%
V 292.402†	65.2	0.00043 mg/L		0.000107	0.00043 mg/L	0.000107	24.86%
Zn 206.200†	-3.8	0.00066 mg/L		0.000723	0.00066 mg/L	0.000723	109.10%

Sequence No.: 51
 Sample ID: YD50 J WMN
 Dilution: 1.000000X

D-1

Autosampler Location: 336
 Date Collected: 3/26/2014 1:51:36 PM
 Data Type: Original

Nebulizer Parameters: YD50 J WMN
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YD50 J WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2869810.5	101.3	%	0.54			0.53%
ScR 361.383	251416.2	102.0	%	1.12			1.09%
Ag 328.068†	-9.4	0.00006	mg/L	0.000041	0.00006 mg/L	0.000041	67.36%
Al 308.215†	8.1	0.00611	mg/L	0.003369	0.00611 mg/L	0.003369	55.17%
As 188.979†	20.5	0.01011	mg/L	0.001361	0.01011 mg/L	0.001361	13.46%
B 249.677†	176.9	0.03128	mg/L	0.000871	0.03128 mg/L	0.000871	2.79%
Ba 233.527†	10.0	0.00267	mg/L	0.001477	0.00267 mg/L	0.001477	55.29%
Be 313.042†	27.9	0.00005	mg/L	0.000028	0.00005 mg/L	0.000028	51.71%
Ca 317.933†	178200.1	18.08	mg/L	0.069	18.08 mg/L	0.069	0.38%
Cd 228.802†	-13.1	-0.00045	mg/L	0.000100	-0.00045 mg/L	0.000100	22.04%
Co 228.616†	25.2	0.00066	mg/L	0.000104	0.00066 mg/L	0.000104	15.78%
Cr 267.716†	2.8	0.00002	mg/L	0.000598	0.00002 mg/L	0.000598	>999.9%
Cu 324.752†	-43.7	-0.00023	mg/L	0.000029	-0.00023 mg/L	0.000029	12.41%
Fe 273.955†	5.4	0.00484	mg/L	0.002239	0.00484 mg/L	0.002239	46.27%
K 766.490†	2103.0	0.9306	mg/L	0.01130	0.9306 mg/L	0.01130	1.21%
Mg 279.077†	5042.5	4.367	mg/L	0.0143	4.367 mg/L	0.0143	0.33%
Mn 257.610†	27.8	0.00080	mg/L	0.000075	0.00080 mg/L	0.000075	9.27%
Mo 202.031†	28.9	0.00122	mg/L	0.000104	0.00122 mg/L	0.000104	8.47%
Na 589.592†	81162.5	6.108	mg/L	0.0087	6.108 mg/L	0.0087	0.14%
Na 330.237†	120.5	5.617	mg/L	0.0773	5.617 mg/L	0.0773	1.38%
Ni 231.604†	0.9	0.00027	mg/L	0.000617	0.00027 mg/L	0.000617	227.01%
Pb 220.353†	-17.3	-0.00209	mg/L	0.000817	-0.00209 mg/L	0.000817	39.17%
Sb 206.836†	-9.8	-0.00314	mg/L	0.002296	-0.00314 mg/L	0.002296	73.02%
Se 196.026†	10.4	0.00728	mg/L	0.004784	0.00728 mg/L	0.004784	65.70%
Si 288.158†	16576.0	9.986	mg/L	0.0154	9.986 mg/L	0.0154	0.15%
Sn 189.927†	-25.9	-0.00505	mg/L	0.000469	-0.00505 mg/L	0.000469	9.28%
Sr 421.552†	86516.6	0.1040	mg/L	0.00008	0.1040 mg/L	0.00008	0.08%
Ti 334.903†	23.2	0.00013	mg/L	0.000354	0.00013 mg/L	0.000354	272.19%
Tl 190.801†	13.0	0.00591	mg/L	0.002735	0.00591 mg/L	0.002735	46.24%
V 292.402†	77.6	0.00052	mg/L	0.000086	0.00052 mg/L	0.000086	16.66%
Zn 206.200†	-3.0	0.00097	mg/L	0.000280	0.00097 mg/L	0.000280	29.00%

Sequence No.: 52

Autosampler Location: 337

Sample ID: YD50 K WMN

Date Collected: 3/26/2014 1:55:35 PM

Dilution: 1.000000X

D21

Data Type: Original

Nebulizer Parameters: YD50 K WMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YD50 K WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2870415.4	101.3	%	0.52				0.52%
ScR 361.383	252840.9	102.6	%	1.05				1.02%
Ag 328.068†	-62.6	-0.00013	mg/L	0.000094	-0.00013	mg/L	0.000094	75.26%
Al 308.215†	6.8	0.00510	mg/L	0.003772	0.00510	mg/L	0.003772	73.90%
As 188.979†	34.4	0.01676	mg/L	0.000922	0.01676	mg/L	0.000922	5.50%
B 249.677†	386.3	0.06833	mg/L	0.001283	0.06833	mg/L	0.001283	1.88%
Ba 233.527†	38.9	0.01033	mg/L	0.000311	0.01033	mg/L	0.000311	3.01%
Be 313.042†	37.6	0.00007	mg/L	0.000014	0.00007	mg/L	0.000014	18.83%
Ca 317.933†	325023.2	32.98	mg/L	0.074	32.98	mg/L	0.074	0.23%
Cd 228.802†	-11.4	-0.00044	mg/L	0.000044	-0.00044	mg/L	0.000044	9.98%
Co 228.616†	28.7	0.00075	mg/L	0.000112	0.00075	mg/L	0.000112	15.02%
Cr 267.716†	2.7	-0.00053	mg/L	0.001357	-0.00053	mg/L	0.001357	254.46%
Cu 324.752†	123.3	0.00029	mg/L	0.000162	0.00029	mg/L	0.000162	56.96%
Fe 273.955†	5.6	0.00501	mg/L	0.002204	0.00501	mg/L	0.002204	44.00%
K 766.490†	5023.0	2.223	mg/L	0.0196	2.223	mg/L	0.0196	0.88%
Mg 279.077†	10325.1	8.943	mg/L	0.0978	8.943	mg/L	0.0978	1.09%
Mn 257.610†	483.8	0.01566	mg/L	0.000193	0.01566	mg/L	0.000193	1.23%
Mo 202.031†	53.2	0.00226	mg/L	0.000224	0.00226	mg/L	0.000224	9.92%
Na 589.592†	125874.2	9.473	mg/L	0.0461	9.473	mg/L	0.0461	0.49%
Na 330.237†	204.6	9.525	mg/L	0.1244	9.525	mg/L	0.1244	1.31%
Ni 231.604†	7.9	0.00242	mg/L	0.001234	0.00242	mg/L	0.001234	51.07%
Pb 220.353†	-14.9	-0.00180	mg/L	0.000486	-0.00180	mg/L	0.000486	26.99%
Sb 206.836†	-8.8	-0.00284	mg/L	0.001686	-0.00284	mg/L	0.001686	59.44%
Se 196.026†	10.6	0.00741	mg/L	0.002131	0.00741	mg/L	0.002131	28.77%
Si 288.158†	18569.2	11.19	mg/L	0.104	11.19	mg/L	0.104	0.93%
Sn 189.927†	-36.2	-0.00612	mg/L	0.000985	-0.00612	mg/L	0.000985	16.10%
Sr 421.552†	209129.2	0.2513	mg/L	0.00124	0.2513	mg/L	0.00124	0.49%
Ti 334.903†	41.1	0.00016	mg/L	0.000197	0.00016	mg/L	0.000197	122.97%
Tl 190.801†	19.3	0.00882	mg/L	0.002567	0.00882	mg/L	0.002567	29.10%
V 292.402†	30.1	0.00020	mg/L	0.000153	0.00020	mg/L	0.000153	75.07%
Zn 206.200†	-0.7	0.00189	mg/L	0.000451	0.00189	mg/L	0.000451	23.91%

Sequence No.: 53
 Sample ID: YD50 L WMN

Autosampler Location: 338
 Date Collected: 3/26/2014 1:59:50 PM
 Data Type: Original

Dilution: 1.000000X

Dal

Nebulizer Parameters: YD50 L WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD50 L WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	-2904173.1	102.5 %		0.37				0.36%
ScR 361.383	252806.3	102.6 %		1.17				1.14%
Ag 328.068†	-36.0	-0.00014 mg/L		0.000076	-0.00014 mg/L	0.000076		55.96%
Al 308.215†	-1.4	-0.00106 mg/L		0.003139	-0.00106 mg/L	0.003139		295.89%
As 188.979†	15.4	0.00806 mg/L		0.001581	0.00806 mg/L	0.001581		19.62%
B 249.677†	141.4	0.02501 mg/L		0.001022	0.02501 mg/L	0.001022		4.09%
Ba 233.527†	5.3	0.00141 mg/L		0.000499	0.00141 mg/L	0.000499		35.54%
Be 313.042†	16.3	0.00003 mg/L		0.000015	0.00003 mg/L	0.000015		45.43%
Ca 317.933†	82198.1	8.341 mg/L		0.0099	8.341 mg/L	0.0099		0.12%
Cd 228.802†	-14.7	-0.00049 mg/L		0.000080	-0.00049 mg/L	0.000080		16.33%
Co 228.616†	25.0	0.00065 mg/L		0.000224	0.00065 mg/L	0.000224		34.34%
Cr 267.716†	-1.2	-0.00052 mg/L		0.001068	-0.00052 mg/L	0.001068		204.86%
Cu 324.752†	-117.8	-0.00046 mg/L		0.000044	-0.00046 mg/L	0.000044		9.70%
Fe 273.955†	2.1	0.00183 mg/L		0.002288	0.00183 mg/L	0.002288		124.80%
K 766.490†	1598.8	0.7075 mg/L		0.02344	0.7075 mg/L	0.02344		3.31%
Mg 279.077†	2523.2	2.185 mg/L		0.0136	2.185 mg/L	0.0136		0.62%
Mn 257.610†	25.3	0.00078 mg/L		0.000021	0.00078 mg/L	0.000021		2.73%
Mo 202.031†	13.4	0.00057 mg/L		0.000215	0.00057 mg/L	0.000215		37.92%
Na 589.592†	47977.1	3.611 mg/L		0.0040	3.611 mg/L	0.0040		0.11%
Na 330.237†	69.0	3.228 mg/L		0.1850	3.228 mg/L	0.1850		5.73%
Ni 231.604†	3.6	0.00110 mg/L		0.000822	0.00110 mg/L	0.000822		74.66%
Pb 220.353†	-12.0	-0.00145 mg/L		0.000674	-0.00145 mg/L	0.000674		46.37%
Sb 206.836†	-11.8	-0.00373 mg/L		0.000952	-0.00373 mg/L	0.000952		25.49%
Se 196.026†	8.5	0.00591 mg/L		0.004083	0.00591 mg/L	0.004083		69.04%
Si 288.158†	13432.6	8.092 mg/L		0.0146	8.092 mg/L	0.0146		0.18%
Sn 189.927†	-11.7	-0.00226 mg/L		0.000824	-0.00226 mg/L	0.000824		36.46%
Sr 421.552†	38476.4	0.04624 mg/L		0.000079	0.04624 mg/L	0.000079		0.17%
Ti 334.903†	3.1	-0.00040 mg/L		0.000436	-0.00040 mg/L	0.000436		108.10%
Tl 190.801†	10.0	0.00458 mg/L		0.002454	0.00458 mg/L	0.002454		53.57%
V 292.402†	75.8	0.00050 mg/L		0.000155	0.00050 mg/L	0.000155		30.93%
Zn 206.200†	2.7	0.00230 mg/L		0.001070	0.00230 mg/L	0.001070		46.42%

Sequence No.: 54
 Sample ID: YD50 HDUP WMN

Autosampler Location: 339
 Date Collected: 3/26/2014 2:03:49 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 HDUP WMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YD50 HDUP WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2869060.5	101.2	%	0.57			0.56%
ScR 361.383	253204.2	102.7	%	1.15			1.12%
Ag 328.068†	-21.8	-0.00004	mg/L	0.000086	-0.00004	0.000086	215.36%
Al 308.215†	10.4	0.00793	mg/L	0.002570	0.00793	0.002570	32.41%
As 188.979†	16.7	0.00847	mg/L	0.002960	0.00847	0.002960	34.96%
B 249.677†	141.8	0.02507	mg/L	0.001068	0.02507	0.001068	4.26%
Ba 233.527†	12.7	0.00338	mg/L	0.000512	0.00338	0.000512	15.16%
Be 313.042†	20.7	0.00004	mg/L	0.000001	0.00004	0.000001	3.54%
Ca 317.933†	119236.1	12.10	mg/L	0.040	12.10	0.040	0.33%
Cd 228.802†	-8.4	-0.00030	mg/L	0.000114	-0.00030	0.000114	37.86%
Co 228.616†	18.1	0.00047	mg/L	0.000108	0.00047	0.000108	22.87%
Cr 267.716†	2.3	0.00008	mg/L	0.000674	0.00008	0.000674	842.14%
Cu 324.752†	147.6	0.00047	mg/L	0.000038	0.00047	0.000038	8.16%
Fe 273.955†	-0.1	-0.00007	mg/L	0.001691	-0.00007	0.001691	>999.9%
K 766.490†	2526.3	1.118	mg/L	0.0053	1.118	0.0053	0.48%
Mg 279.077†	3643.6	3.156	mg/L	0.0324	3.156	0.0324	1.03%
Mn 257.610†	39.3	0.00122	mg/L	0.000125	0.00122	0.000125	10.26%
Mo 202.031†	19.7	0.00084	mg/L	0.000115	0.00084	0.000115	13.73%
Na 589.592†	65885.4	4.959	mg/L	0.0074	4.959	0.0074	0.15%
Na 330.237†	106.1	4.969	mg/L	0.0486	4.969	0.0486	0.98%
Ni 231.604†	-2.3	-0.00070	mg/L	0.000754	-0.00070	0.000754	107.14%
Pb 220.353†	-9.4	-0.00114	mg/L	0.000602	-0.00114	0.000602	52.83%
Sb 206.836†	-8.1	-0.00259	mg/L	0.000772	-0.00259	0.000772	29.79%
Se 196.026†	5.9	0.00410	mg/L	0.003446	0.00410	0.003446	84.05%
Si 288.158†	14885.6	8.967	mg/L	0.0653	8.967	0.0653	0.73%
Sn 189.927†	-19.5	-0.00398	mg/L	0.000150	-0.00398	0.000150	3.78%
Sr 421.552†	62677.5	0.07532	mg/L	0.000221	0.07532	0.000221	0.29%
Ti 334.903†	11.4	-0.00017	mg/L	0.000370	-0.00017	0.000370	223.45%
Tl 190.801†	11.0	0.00500	mg/L	0.002257	0.00500	0.002257	45.13%
V 292.402†	42.5	0.00028	mg/L	0.000115	0.00028	0.000115	40.37%
Zn 206.200†	-1.5	0.00124	mg/L	0.000571	0.00124	0.000571	46.09%

Sequence No.: 55
 Sample ID: YD50 H WMN

Autosampler Location: 340
 Date Collected: 3/26/2014 2:08:04 PM
 Data Type: Original

Dilution: 1.000000X

D

Nebulizer Parameters: YD50 H WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD50 H WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2883268.1	101.7 %		0.14			0.14%
ScR 361.383	252248.0	102.3 %		0.91			0.89%
Ag 328.068†	-15.2	-0.00001 mg/L		0.000211	-0.00001 mg/L	0.000211	>999.9%
Al 308.215†	5.3	0.00404 mg/L		0.001248	0.00404 mg/L	0.001248	30.86%
As 188.979†	16.1	0.00815 mg/L		0.001201	0.00815 mg/L	0.001201	14.74%
B 249.677†	138.5	0.02449 mg/L		0.001383	0.02449 mg/L	0.001383	5.65%
Ba 233.527†	10.9	0.00290 mg/L		0.000747	0.00290 mg/L	0.000747	25.80%
Be 313.042†	23.8	0.00005 mg/L		0.000025	0.00005 mg/L	0.000025	53.81%
Ca 317.933†	119482.6	12.12 mg/L		0.045	12.12 mg/L	0.045	0.37%
Cd 228.802†	-9.4	-0.00033 mg/L		0.000113	-0.00033 mg/L	0.000113	34.30%
Co 228.616†	22.1	0.00058 mg/L		0.000082	0.00058 mg/L	0.000082	14.32%
Cr 267.716†	-0.5	-0.00049 mg/L		0.000925	-0.00049 mg/L	0.000925	188.73%
Cu 324.752†	115.8	0.00036 mg/L		0.000147	0.00036 mg/L	0.000147	41.24%
Fe 273.955†	0.5	0.00048 mg/L		0.002009	0.00048 mg/L	0.002009	414.39%
K 766.490†	2498.7	1.106 mg/L		0.0094	1.106 mg/L	0.0094	0.85%
Mg 279.077†	3577.7	3.099 mg/L		0.0029	3.099 mg/L	0.0029	0.09%
Mn 257.610†	35.1	0.00108 mg/L		0.000113	0.00108 mg/L	0.000113	10.49%
Mo 202.031†	16.2	0.00066 mg/L		0.000170	0.00066 mg/L	0.000170	25.88%
Na 589.592†	65680.2	4.943 mg/L		0.0034	4.943 mg/L	0.0034	0.07%
Na 330.237†	102.7	4.808 mg/L		0.0536	4.808 mg/L	0.0536	1.11%
Ni 231.604†	2.1	0.00062 mg/L		0.001552	0.00062 mg/L	0.001552	249.53%
Pb 220.353†	-12.4	-0.00150 mg/L		0.000306	-0.00150 mg/L	0.000306	20.38%
Sb 206.836†	-14.0	-0.00442 mg/L		0.000972	-0.00442 mg/L	0.000972	21.99%
Se 196.026†	6.4	0.00449 mg/L		0.002674	0.00449 mg/L	0.002674	59.50%
Si 288.158†	14660.0	8.831 mg/L		0.0203	8.831 mg/L	0.0203	0.23%
Sn 189.927†	-18.6	-0.00372 mg/L		0.000602	-0.00372 mg/L	0.000602	16.18%
Sr 421.552†	62619.5	0.07525 mg/L		0.000177	0.07525 mg/L	0.000177	0.23%
Ti 334.903†	14.3	0.00001 mg/L		0.000066	0.00001 mg/L	0.000066	607.70%
Tl 190.801†	13.1	0.00599 mg/L		0.001012	0.00599 mg/L	0.001012	16.89%
V 292.402†	36.1	0.00024 mg/L		0.000095	0.00024 mg/L	0.000095	39.76%
Zn 206.200†	-4.5	0.00029 mg/L		0.000148	0.00029 mg/L	0.000148	50.69%

Sequence No.: 56
 Sample ID: YD50 HSPK WMN

Autosampler Location: 341
 Date Collected: 3/26/2014 2:12:03 PM
 Data Type: Original

Dilution: 1.000000X

Del

 Nebulizer Parameters: YD50 HSPK WMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

 Mean Data: YD50 HSPK WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2855686.3	100.8	%	0.12			0.12%
ScR 361.383	249373.9	101.2	%	0.55			0.55%
Ag 328.068†	88588.7	0.4598	mg/L	0.00138	0.4598 mg/L	0.00138	0.30%
Al 308.215†	2673.8	2.031	mg/L	0.0091	2.031 mg/L	0.0091	0.45%
As 188.979†	3822.2	2.173	mg/L	0.0015	2.173 mg/L	0.0015	0.07%
B 249.677†	138.7	0.02347	mg/L	0.000961	0.02347 mg/L	0.000961	4.09%
Ba 233.527†	7560.2	2.010	mg/L	0.0089	2.010 mg/L	0.0089	0.44%
Be 313.042†	243677.8	0.4806	mg/L	0.00457	0.4806 mg/L	0.00457	0.95%
Ca 317.933†	219440.3	22.27	mg/L	0.069	22.27 mg/L	0.069	0.31%
Cd 228.802†	18258.1	0.5405	mg/L	0.00283	0.5405 mg/L	0.00283	0.52%
Co 228.616†	19147.5	0.5011	mg/L	0.00318	0.5011 mg/L	0.00318	0.63%
Cr 267.716†	2581.5	0.5239	mg/L	0.00205	0.5239 mg/L	0.00205	0.39%
Cu 324.752†	140432.6	0.4981	mg/L	0.00432	0.4981 mg/L	0.00432	0.87%
Fe 273.955†	2362.6	2.100	mg/L	0.0121	2.100 mg/L	0.0121	0.57%
K 766.490†	25758.0	11.40	mg/L	0.063	11.40 mg/L	0.063	0.55%
Mg 279.077†	15130.4	13.11	mg/L	0.016	13.11 mg/L	0.016	0.12%
Mn 257.610†	15310.4	0.5020	mg/L	0.00157	0.5020 mg/L	0.00157	0.31%
Mo 202.031†	32.6	0.00135	mg/L	0.000137	0.00135 mg/L	0.000137	10.15%
Na 589.592†	203185.2	15.29	mg/L	0.044	15.29 mg/L	0.044	0.29%
Na 330.237†	325.6	15.19	mg/L	0.057	15.19 mg/L	0.057	0.37%
Ni 231.604†	1668.8	0.5093	mg/L	0.00273	0.5093 mg/L	0.00273	0.54%
Pb 220.353†	16945.3	2.051	mg/L	0.0108	2.051 mg/L	0.0108	0.53%
Sb 206.836†	5978.2	1.869	mg/L	0.0445	1.869 mg/L	0.0445	2.38%
Se 196.026†	3370.9	2.355	mg/L	0.0076	2.355 mg/L	0.0076	0.32%
Si 288.158†	15112.0	9.107	mg/L	0.0371	9.107 mg/L	0.0371	0.41%
Sn 189.927†	-38.2	-0.00687	mg/L	0.000562	-0.00687 mg/L	0.000562	8.19%
Sr 421.552†	483248.9	0.5807	mg/L	0.00127	0.5807 mg/L	0.00127	0.22%
Ti 334.903†	23.9	-0.00022	mg/L	0.000409	-0.00022 mg/L	0.000409	182.52%
Tl 190.801†	4434.7	2.021	mg/L	0.0056	2.021 mg/L	0.0056	0.28%
V 292.402†	76366.7	0.5086	mg/L	0.00395	0.5086 mg/L	0.00395	0.78%
Zn 206.200†	1744.6	0.5223	mg/L	0.00332	0.5223 mg/L	0.00332	0.63%

Sequence No.: 57

Sample ID: YD50 MB2SPK WMN

Autosampler Location: 342

Date Collected: 3/26/2014 2:16:04 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD50 MB2SPK WMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YD50 MB2SPK WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2873311.5	101.4	%	0.09			0.09%
ScR 361.383	251330.0	102.0	%	0.23			0.23%
Ag 328.068†	101921.9	0.5290	mg/L	0.00703	0.5290 mg/L	0.00703	1.33%
Al 308.215†	2755.3	2.093	mg/L	0.0183	2.093 mg/L	0.0183	0.87%
As 188.979†	3915.6	2.228	mg/L	0.0038	2.228 mg/L	0.0038	0.17%
B 249.677†	34.8	0.00506	mg/L	0.000756	0.00506 mg/L	0.000756	14.95%
Ba 233.527†	7838.7	2.084	mg/L	0.0107	2.084 mg/L	0.0107	0.51%
Be 313.042†	252282.9	0.4976	mg/L	0.00132	0.4976 mg/L	0.00132	0.26%
Ca 317.933†	103287.4	10.48	mg/L	0.037	10.48 mg/L	0.037	0.36%
Cd 228.802†	18829.6	0.5574	mg/L	0.00363	0.5574 mg/L	0.00363	0.65%
Co 228.616†	19909.1	0.5210	mg/L	0.00418	0.5210 mg/L	0.00418	0.80%
Cr 267.716†	2657.8	0.5397	mg/L	0.00213	0.5397 mg/L	0.00213	0.39%
Cu 324.752†	143086.5	0.5076	mg/L	0.00560	0.5076 mg/L	0.00560	1.10%
Fe 273.955†	2441.1	2.170	mg/L	0.0009	2.170 mg/L	0.0009	0.04%
K 766.490†	23957.7	10.60	mg/L	0.005	10.60 mg/L	0.005	0.05%
Mg 279.077†	12483.0	10.82	mg/L	0.022	10.82 mg/L	0.022	0.20%
Mn 257.610†	15815.6	0.5187	mg/L	0.00289	0.5187 mg/L	0.00289	0.56%
Mo 202.031†	15.0	0.00062	mg/L	0.000112	0.00062 mg/L	0.000112	17.97%
Na 589.592†	142708.9	10.74	mg/L	0.084	10.74 mg/L	0.084	0.78%
Na 330.237†	225.7	10.51	mg/L	0.245	10.51 mg/L	0.245	2.33%
Ni 231.604†	1724.1	0.5262	mg/L	0.00255	0.5262 mg/L	0.00255	0.48%
Pb 220.353†	17689.8	2.142	mg/L	0.0207	2.142 mg/L	0.0207	0.97%
Sb 206.836†	6312.7	1.973	mg/L	0.0194	1.973 mg/L	0.0194	0.98%
Se 196.026†	3461.5	2.419	mg/L	0.0066	2.419 mg/L	0.0066	0.27%
Si 288.158†	-28.3	-0.01328	mg/L	0.001647	-0.01328 mg/L	0.001647	12.40%
Sn 189.927†	-22.3	-0.00379	mg/L	0.001741	-0.00379 mg/L	0.001741	45.90%
Sr 421.552†	434607.7	0.5223	mg/L	0.00267	0.5223 mg/L	0.00267	0.51%
Ti 334.903†	10.4	-0.00021	mg/L	0.000302	-0.00021 mg/L	0.000302	143.53%
Tl 190.801†	4592.7	2.093	mg/L	0.0039	2.093 mg/L	0.0039	0.19%
V 292.402†	79365.6	0.5286	mg/L	0.00482	0.5286 mg/L	0.00482	0.91%
Zn 206.200†	1813.5	0.5412	mg/L	0.00149	0.5412 mg/L	0.00149	0.28%

YD51 : 00124

Sequence No.: 58
 Sample ID: CV 6

Autosampler Location: 7
 Date Collected: 3/26/2014 2:20:04 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2776823.4	97.97 %	0.190			0.19%
ScR 361.383	240362.2	97.51 %	0.388			0.40%
Ag 328.068†	213711.6	1.109 mg/L	0.0021	1.109 mg/L	0.0021	0.19%
Al 308.215†	2768.5	2.078 mg/L	0.0092	2.078 mg/L	0.0092	0.44%
As 188.979†	3648.5	2.109 mg/L	0.0017	2.109 mg/L	0.0017	0.08%
B 249.677†	5945.2	1.050 mg/L	0.0040	1.050 mg/L	0.0040	0.39%
Ba 233.527†	3893.2	1.035 mg/L	0.0081	1.035 mg/L	0.0081	0.79%
Be 313.042†	526933.5	1.039 mg/L	0.0011	1.039 mg/L	0.0011	0.10%
Ca 317.933†	21320.0	2.163 mg/L	0.0164	2.163 mg/L	0.0164	0.76%
Cd 228.802†	35882.4	1.074 mg/L	0.0036	1.074 mg/L	0.0036	0.33%
Co 228.616†	39425.7	1.030 mg/L	0.0047	1.030 mg/L	0.0047	0.45%
Cr 267.716†	5320.0	1.082 mg/L	0.0055	1.082 mg/L	0.0055	0.51%
Cu 324.752†	290740.9	1.031 mg/L	0.0043	1.031 mg/L	0.0043	0.42%
Fe 273.955†	2459.4	2.182 mg/L	0.0124	2.182 mg/L	0.0124	0.57%
K 766.490†	46835.6	20.73 mg/L	0.014	20.73 mg/L	0.014	0.07%
Mg 279.077†	2363.5	2.054 mg/L	0.0091	2.054 mg/L	0.0091	0.44%
Mn 257.610†	31216.6	1.023 mg/L	0.0039	1.023 mg/L	0.0039	0.38%
Mo 202.031†	19087.0	0.9937 mg/L	0.00278	0.9937 mg/L	0.00278	0.28%
Na 589.592†	693312.2	52.18 mg/L	0.135	52.18 mg/L	0.135	0.26%
Na 330.237†	1112.3	52.81 mg/L	0.325	52.81 mg/L	0.325	0.62%
Ni 231.604†	3469.9	1.059 mg/L	0.0068	1.059 mg/L	0.0068	0.65%
Pb 220.353†	17133.1	2.075 mg/L	0.0077	2.075 mg/L	0.0077	0.37%
Sb 206.836†	6987.8	2.188 mg/L	0.0056	2.188 mg/L	0.0056	0.26%
Se 196.026†	2966.2	2.072 mg/L	0.0031	2.072 mg/L	0.0031	0.15%
Si 288.158†	3536.7	2.136 mg/L	0.0149	2.136 mg/L	0.0149	0.70%
Sn 189.927†	3671.7	1.027 mg/L	0.0041	1.027 mg/L	0.0041	0.40%
Sr 421.552†	865996.2	1.041 mg/L	0.0028	1.041 mg/L	0.0028	0.27%
Ti 334.903†	16840.5	1.020 mg/L	0.0026	1.020 mg/L	0.0026	0.26%
Tl 190.801†	4589.9	2.088 mg/L	0.0043	2.088 mg/L	0.0043	0.20%
V 292.402†	159187.0	1.060 mg/L	0.0049	1.060 mg/L	0.0049	0.46%
Zn 206.200†	3549.9	1.059 mg/L	0.0077	1.059 mg/L	0.0077	0.73%

Sequence No.: 59
 Sample ID: CB C

Autosampler Location: 1
 Date Collected: 3/26/2014 2:24:08 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2822551.2	99.59	%	0.120			0.12%
ScR 361.383	246431.9	99.97	%	0.511			0.51%
Ag 328.068†	15.0	0.00008	mg/L	0.000111	0.00008 mg/L	0.000111	143.26%
Al 308.215†	-0.2	-0.00020	mg/L	0.004098	-0.00020 mg/L	0.004098	>999.9%
As 188.979†	2.7	0.00155	mg/L	0.000578	0.00155 mg/L	0.000578	37.29%
B 249.677†	53.9	0.00954	mg/L	0.001005	0.00954 mg/L	0.001005	10.54%
Ba 233.527†	-1.8	-0.00048	mg/L	0.000321	-0.00048 mg/L	0.000321	66.82%
Be 313.042†	89.9	0.00018	mg/L	0.000025	0.00018 mg/L	0.000025	14.09%
Ca 317.933†	15.6	0.00158	mg/L	0.001880	0.00158 mg/L	0.001880	119.00%
Cd 228.802†	-4.2	-0.00013	mg/L	0.000015	-0.00013 mg/L	0.000015	11.16%
Co 228.616†	7.1	0.00019	mg/L	0.000078	0.00019 mg/L	0.000078	42.17%
Cr 267.716†	-2.1	-0.00042	mg/L	0.000648	-0.00042 mg/L	0.000648	153.45%
Cu 324.752†	-70.5	-0.00025	mg/L	0.000060	-0.00025 mg/L	0.000060	23.95%
Fe 273.955†	1.7	0.00152	mg/L	0.002697	0.00152 mg/L	0.002697	177.46%
K 766.490†	70.0	0.03100	mg/L	0.011393	0.03100 mg/L	0.011393	36.76%
Mg 279.077†	-2.8	-0.00246	mg/L	0.008148	-0.00246 mg/L	0.008148	330.76%
Mn 257.610†	5.8	0.00019	mg/L	0.000073	0.00019 mg/L	0.000073	38.29%
Mo 202.031†	12.2	0.00063	mg/L	0.000281	0.00063 mg/L	0.000281	44.30%
Na 589.592†	892.5	0.06717	mg/L	0.004548	0.06717 mg/L	0.004548	6.77%
Na 330.237†	-6.9	-0.3284	mg/L	0.18095	-0.3284 mg/L	0.18095	55.10%
Ni 231.604†	-1.1	-0.00033	mg/L	0.000642	-0.00033 mg/L	0.000642	191.92%
Pb 220.353†	2.2	0.00026	mg/L	0.000130	0.00026 mg/L	0.000130	49.70%
Sb 206.836†	36.8	0.01153	mg/L	0.001722	0.01153 mg/L	0.001722	14.94%
Se 196.026†	-1.6	-0.00112	mg/L	0.002417	-0.00112 mg/L	0.002417	216.47%
Si 288.158†	22.7	0.01364	mg/L	0.005255	0.01364 mg/L	0.005255	38.51%
Sn 189.927†	-1.8	-0.00048	mg/L	0.000506	-0.00048 mg/L	0.000506	104.50%
Sr 421.552†	125.2	0.00015	mg/L	0.000052	0.00015 mg/L	0.000052	34.34%
Ti 334.903†	3.8	0.00023	mg/L	0.000112	0.00023 mg/L	0.000112	48.63%
Tl 190.801†	3.7	0.00170	mg/L	0.001444	0.00170 mg/L	0.001444	85.05%
V 292.402†	18.8	0.00012	mg/L	0.000077	0.00012 mg/L	0.000077	62.78%
Zn 206.200†	2.9	0.00087	mg/L	0.000228	0.00087 mg/L	0.000228	26.37%

Sequence No.: 60
Sample ID: YD51 MB1 DMN

Autosampler Location: 343
Date Collected: 3/26/2014 2:28:08 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 MB1 DMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD51 MB1 DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2882636.4	101.7	%	0.32				0.31%
ScR 361.383	251154.9	101.9	%	0.34				0.33%
Ag 328.068†	-3.3	-0.00002	mg/L	0.000195	-0.00002	mg/L	0.000195	>999.9%
Al 308.215†	1.3	0.00102	mg/L	0.000797	0.00102	mg/L	0.000797	77.72%
As 188.979†	5.2	0.00297	mg/L	0.001417	0.00297	mg/L	0.001417	47.78%
B 249.677†	28.5	0.00504	mg/L	0.001017	0.00504	mg/L	0.001017	20.19%
Ba 233.527†	-0.1	-0.00002	mg/L	0.000877	-0.00002	mg/L	0.000877	>999.9%
Be 313.042†	30.3	0.00006	mg/L	0.000016	0.00006	mg/L	0.000016	26.01%
Ca 317.933†	1.9	0.00019	mg/L	0.000112	0.00019	mg/L	0.000112	58.06%
Cd 228.802†	-4.1	-0.00014	mg/L	0.000156	-0.00014	mg/L	0.000156	110.99%
Co 228.616†	16.8	0.00044	mg/L	0.000062	0.00044	mg/L	0.000062	14.12%
Cr 267.716†	-0.9	-0.00018	mg/L	0.001019	-0.00018	mg/L	0.001019	564.26%
Cu 324.752†	-60.3	-0.00021	mg/L	0.000099	-0.00021	mg/L	0.000099	46.45%
Fe 273.955†	-1.5	-0.00131	mg/L	0.002564	-0.00131	mg/L	0.002564	196.06%
K 766.490†	64.1	0.02835	mg/L	0.015524	0.02835	mg/L	0.015524	54.76%
Mg 279.077†	-10.8	-0.00935	mg/L	0.002973	-0.00935	mg/L	0.002973	31.78%
Mn 257.610†	1.0	0.00003	mg/L	0.000085	0.00003	mg/L	0.000085	265.45%
Mo 202.031†	-7.9	-0.00041	mg/L	0.000253	-0.00041	mg/L	0.000253	61.28%
Na 589.592†	1405.4	0.1058	mg/L	0.00618	0.1058	mg/L	0.00618	5.84%
Na 330.237†	-9.1	-0.4330	mg/L	0.24628	-0.4330	mg/L	0.24628	56.87%
Ni 231.604†	-1.2	-0.00036	mg/L	0.000809	-0.00036	mg/L	0.000809	222.51%
Pb 220.353†	-3.0	-0.00036	mg/L	0.000589	-0.00036	mg/L	0.000589	164.56%
Sb 206.836†	-9.2	-0.00289	mg/L	0.001418	-0.00289	mg/L	0.001418	49.07%
Se 196.026†	4.0	0.00281	mg/L	0.002462	0.00281	mg/L	0.002462	87.59%
Si 288.158†	-24.9	-0.01498	mg/L	0.001811	-0.01498	mg/L	0.001811	12.09%
Sn 189.927†	1.3	0.00037	mg/L	0.000720	0.00037	mg/L	0.000720	196.17%
Sr 421.552†	53.8	0.00006	mg/L	0.000011	0.00006	mg/L	0.000011	17.76%
Ti 334.903†	-3.3	-0.00020	mg/L	0.000175	-0.00020	mg/L	0.000175	87.53%
Tl 190.801†	11.2	0.00512	mg/L	0.000704	0.00512	mg/L	0.000704	13.75%
V 292.402†	-12.1	-0.00008	mg/L	0.000065	-0.00008	mg/L	0.000065	80.78%
Zn 206.200†	0.9	0.00027	mg/L	0.000242	0.00027	mg/L	0.000242	90.22%

Sequence No.: 61
Sample ID: YE28 MB2 DMN

Autosampler Location: 344
Date Collected: 3/26/2014 2:32:09 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE28 MB2 DMN

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE28 MB2 DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2874956.3	101.4	%	0.17				0.17%
ScR 361.383	252216.0	102.3	%	0.91				0.89%
Ag 328.068†	29.2	0.00015	mg/L	0.000154	0.00015	mg/L	0.000154	101.83%
Al 308.215†	17.1	0.01304	mg/L	0.001764	0.01304	mg/L	0.001764	13.53%
As 188.979†	3.4	0.00191	mg/L	0.001086	0.00191	mg/L	0.001086	56.74%
B 249.677†	41.6	0.00735	mg/L	0.000887	0.00735	mg/L	0.000887	12.06%
Ba 233.527†	-2.2	-0.00058	mg/L	0.000335	-0.00058	mg/L	0.000335	57.80%
Be 313.042†	22.4	0.00004	mg/L	0.000032	0.00004	mg/L	0.000032	72.96%
Ca 317.933†	142.5	0.01446	mg/L	0.000787	0.01446	mg/L	0.000787	5.44%
Cd 228.802†	-5.3	-0.00017	mg/L	0.000086	-0.00017	mg/L	0.000086	50.36%
Co 228.616†	17.4	0.00046	mg/L	0.000059	0.00046	mg/L	0.000059	12.87%
Cr 267.716†	-3.0	-0.00061	mg/L	0.000272	-0.00061	mg/L	0.000272	44.83%
Cu 324.752†	-123.9	-0.00044	mg/L	0.000173	-0.00044	mg/L	0.000173	39.47%
Fe 273.955†	0.8	0.00068	mg/L	0.001004	0.00068	mg/L	0.001004	147.36%
K 766.490†	119.2	0.05277	mg/L	0.011573	0.05277	mg/L	0.011573	21.93%
Mg 279.077†	-3.5	-0.00300	mg/L	0.003306	-0.00300	mg/L	0.003306	110.22%
Mn 257.610†	0.8	0.00003	mg/L	0.000043	0.00003	mg/L	0.000043	168.53%
Mo 202.031†	-14.3	-0.00074	mg/L	0.000171	-0.00074	mg/L	0.000171	23.04%
Na 589.592†	1281.5	0.09645	mg/L	0.006375	0.09645	mg/L	0.006375	6.61%
Na 330.237†	-6.9	-0.3288	mg/L	0.04866	-0.3288	mg/L	0.04866	14.80%
Ni 231.604†	-1.3	-0.00040	mg/L	0.000717	-0.00040	mg/L	0.000717	179.47%
Pb 220.353†	-9.8	-0.00119	mg/L	0.000133	-0.00119	mg/L	0.000133	11.18%
Sb 206.836†	-3.4	-0.00106	mg/L	0.000253	-0.00106	mg/L	0.000253	23.77%
Se 196.026†	-1.2	-0.00082	mg/L	0.000534	-0.00082	mg/L	0.000534	65.11%
Si 288.158†	-7.2	-0.00436	mg/L	0.003072	-0.00436	mg/L	0.003072	70.50%
Sn 189.927†	-1.8	-0.00049	mg/L	0.000209	-0.00049	mg/L	0.000209	42.28%
Sr 421.552†	98.8	0.00012	mg/L	0.000032	0.00012	mg/L	0.000032	27.17%
Ti 334.903†	-10.4	-0.00063	mg/L	0.001246	-0.00063	mg/L	0.001246	197.66%
Tl 190.801†	5.0	0.00227	mg/L	0.001367	0.00227	mg/L	0.001367	60.34%
V 292.402†	12.1	0.00008	mg/L	0.000043	0.00008	mg/L	0.000043	55.42%
Zn 206.200†	0.3	0.00010	mg/L	0.001195	0.00010	mg/L	0.001195	>999.9%

Sequence No.: 62
Sample ID: YD50 M WMN

Autosampler Location: 345
Date Collected: 3/26/2014 2:36:23 PM
Data Type: Original

Dilution: 1.000000X

D₂

Nebulizer Parameters: YD50 M WMN

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YD50 M WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2890867.8	102.0	%	0.93				0.91%
ScR 361.383	252147.1	102.3	%	1.03				1.00%
Ag 328.068†	-20.8	-0.00002	mg/L	0.000129	-0.00002	mg/L	0.000129	819.71%
Al 308.215†	494.7	0.3771	mg/L	0.00320	0.3771	mg/L	0.00320	0.85%
As 188.979†	19.9	0.01026	mg/L	0.003155	0.01026	mg/L	0.003155	30.74%
B 249.677†	158.9	0.02810	mg/L	0.000803	0.02810	mg/L	0.000803	2.86%
Ba 233.527†	33.2	0.00877	mg/L	0.000645	0.00877	mg/L	0.000645	7.35%
Be 313.042†	33.6	0.00007	mg/L	0.000023	0.00007	mg/L	0.000023	34.64%
Ca 317.933†	149661.6	15.19	mg/L	0.081	15.19	mg/L	0.081	0.53%
Cd 228.802†	-7.8	-0.00030	mg/L	0.000048	-0.00030	mg/L	0.000048	16.13%
Co 228.616†	47.9	0.00124	mg/L	0.000081	0.00124	mg/L	0.000081	6.55%
Cr 267.716†	1.9	-0.00006	mg/L	0.000811	-0.00006	mg/L	0.000811	>999.9%
Cu 324.752†	398.3	0.00136	mg/L	0.000205	0.00136	mg/L	0.000205	15.04%
Fe 273.955†	491.7	0.4377	mg/L	0.00700	0.4377	mg/L	0.00700	1.60%
K 766.490†	1875.6	0.8300	mg/L	0.01558	0.8300	mg/L	0.01558	1.88%
Mg 279.077†	4142.4	3.587	mg/L	0.0594	3.587	mg/L	0.0594	1.66%
Mn 257.610†	1095.1	0.03580	mg/L	0.000493	0.03580	mg/L	0.000493	1.38%
Mo 202.031†	21.1	0.00086	mg/L	0.000339	0.00086	mg/L	0.000339	39.18%
Na 589.592†	77005.9	5.795	mg/L	0.0124	5.795	mg/L	0.0124	0.21%
Na 330.237†	118.0	5.517	mg/L	0.0779	5.517	mg/L	0.0779	1.41%
Ni 231.604†	0.7	0.00019	mg/L	0.001062	0.00019	mg/L	0.001062	545.20%
Pb 220.353†	-13.6	-0.00157	mg/L	0.000255	-0.00157	mg/L	0.000255	16.22%
Sb 206.836†	-10.8	-0.00342	mg/L	0.000450	-0.00342	mg/L	0.000450	13.14%
Se 196.026†	6.3	0.00441	mg/L	0.005739	0.00441	mg/L	0.005739	130.17%
Si 288.158†	14970.0	9.018	mg/L	0.1499	9.018	mg/L	0.1499	1.66%
Sn 189.927†	-23.2	-0.00463	mg/L	0.000471	-0.00463	mg/L	0.000471	10.16%
Sr 421.552†	70600.4	0.08484	mg/L	0.000199	0.08484	mg/L	0.000199	0.23%
Ti 334.903†	132.9	0.00699	mg/L	0.000269	0.00699	mg/L	0.000269	3.85%
Tl 190.801†	15.4	0.00705	mg/L	0.002352	0.00705	mg/L	0.002352	33.34%
V 292.402†	194.5	0.00127	mg/L	0.000183	0.00127	mg/L	0.000183	14.40%
Zn 206.200†	13.7	0.00576	mg/L	0.000802	0.00576	mg/L	0.000802	13.93%

Sequence No.: 63
 Sample ID: YD82 A TWC

Autosampler Location: 346
 Date Collected: 3/26/2014 2:40:38 PM
 Data Type: Original

Dilution: 50.000000X

Nebulizer Parameters: YD82 A TWC
 Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD82 A TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2709567.1	95.60	%	0.380			0.40%
ScR 361.383	243568.4	98.81	%	0.051			0.05%
Ag 328.068†	-85.1	-0.00042	mg/L	0.000067	-0.02095 mg/L	0.003359	16.04%
Al 308.215†	13.5	0.01012	mg/L	0.003315	0.5062 mg/L	0.16574	32.74%
As 188.979†	18.7	0.01028	mg/L	0.002594	0.5139 mg/L	0.12969	25.24%
B 249.677†	308497.6	54.56	mg/L	0.252	2728 mg/L	12.59	0.46%
Ba 233.527†	-2.0	-0.00054	mg/L	0.000706	-0.02688 mg/L	0.035312	131.38%
Be 313.042†	31.9	0.00006	mg/L	0.000022	0.00314 mg/L	0.001103	35.11%
Ca 317.933†	36531.5	3.707	mg/L	0.0260	185.3 mg/L	1.30	0.70%
Cd 228.802†	-0.4	-0.00007	mg/L	0.000030	-0.00331 mg/L	0.001519	45.88%
Co 228.616†	6.9	0.00018	mg/L	0.000147	0.00908 mg/L	0.007326	80.65%
Cr 267.716†	1.5	0.00026	mg/L	0.000747	0.01317 mg/L	0.037328	283.35%
Cu 324.752†	159.3	0.00056	mg/L	0.000030	0.02775 mg/L	0.001484	5.35%
Fe 273.955†	107.6	0.09581	mg/L	0.001668	4.790 mg/L	0.0834	1.74%
K 766.490†	457.4	0.2024	mg/L	0.01429	10.12 mg/L	0.714	7.06%
Mg 279.077†	81.2	0.06986	mg/L	0.005361	3.493 mg/L	0.2680	7.67%
Mn 257.610†	5253.1	0.1721	mg/L	0.00117	8.607 mg/L	0.0587	0.68%
Mo 202.031†	210.0	0.01088	mg/L	0.000116	0.5439 mg/L	0.00578	1.06%
Na 589.592†	3919890.4	295.0	mg/L	1.55	14750 mg/L	77.41	0.52%
Na 330.237†	6324.0	300.5	mg/L	0.82	15030 mg/L	40.78	0.27%
Ni 231.604†	10.0	0.00304	mg/L	0.001095	0.1521 mg/L	0.05473	35.98%
Pb 220.353†	7.0	0.00085	mg/L	0.000945	0.04257 mg/L	0.047226	110.95%
Sb 206.836†	-22.9	-0.00719	mg/L	0.000679	-0.3597 mg/L	0.03394	9.43%
Se 196.026†	6.5	0.00455	mg/L	0.001598	0.2277 mg/L	0.07989	35.09%
Si 288.158†	32.8	0.01977	mg/L	0.004633	0.9887 mg/L	0.23164	23.43%
Sn 189.927†	-1.6	-0.00000	mg/L	0.001414	-0.00009 mg/L	0.070699	>999.9%
Sr 421.552†	12572.8	0.01511	mg/L	0.000049	0.7555 mg/L	0.00243	0.32%
Ti 334.903†	-9.6	-0.00085	mg/L	0.000814	-0.04267 mg/L	0.040681	95.35%
Tl 190.801†	5.4	0.00250	mg/L	0.001417	0.1250 mg/L	0.07084	56.65%
V 292.402†	19.7	0.00016	mg/L	0.000103	0.00795 mg/L	0.005138	64.63%
Zn 206.200†	107.2	0.03197	mg/L	0.001072	1.599 mg/L	0.0536	3.35%

Sequence No.: 64
 Sample ID: YE28 B DMN

Autosampler Location: 347
 Date Collected: 3/26/2014 2:45:11 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE28 B DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

 Mean Data: YE28 B DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904815.6	102.5	%	0.64			0.63%
ScR 361.383	255993.3	103.9	%	0.95			0.91%
Ag 328.068†	-36.1	-0.00015	mg/L	0.000040	-0.00015 mg/L	0.000040	26.95%
Al 308.215†	167.8	0.1279	mg/L	0.00221	0.1279 mg/L	0.00221	1.73%
As 188.979†	12.9	0.00703	mg/L	0.002024	0.00703 mg/L	0.002024	28.80%
B 249.677†	569.8	0.1008	mg/L	0.01061	0.1008 mg/L	0.01061	10.53%
Ba 233.527†	129.6	0.03445	mg/L	0.000594	0.03445 mg/L	0.000594	1.72%
Be 313.042†	17.0	0.00003	mg/L	0.000020	0.00003 mg/L	0.000020	62.29%
Ca 317.933†	64098.0	6.504	mg/L	0.0370	6.504 mg/L	0.0370	0.57%
Cd 228.802†	-4.4	-0.00017	mg/L	0.000098	-0.00017 mg/L	0.000098	57.92%
Co 228.616†	33.9	0.00087	mg/L	0.000086	0.00087 mg/L	0.000086	9.91%
Cr 267.716†	7.7	0.00145	mg/L	0.001048	0.00145 mg/L	0.001048	72.51%
Cu 324.752†	3172.8	0.01124	mg/L	0.000217	0.01124 mg/L	0.000217	1.93%
Fe 273.955†	160.7	0.1431	mg/L	0.00424	0.1431 mg/L	0.00424	2.97%
K 766.490†	1608.5	0.7118	mg/L	0.00579	0.7118 mg/L	0.00579	0.81%
Mg 279.077†	890.4	0.7706	mg/L	0.01176	0.7706 mg/L	0.01176	1.53%
Mn 257.610†	677.8	0.02218	mg/L	0.000316	0.02218 mg/L	0.000316	1.42%
Mo 202.031†	25.0	0.00120	mg/L	0.000279	0.00120 mg/L	0.000279	23.26%
Na 589.592†	80432.6	6.053	mg/L	0.0350	6.053 mg/L	0.0350	0.58%
Na 330.237†	125.7	5.884	mg/L	0.2247	5.884 mg/L	0.2247	3.82%
Ni 231.604†	6.8	0.00206	mg/L	0.000891	0.00206 mg/L	0.000891	43.18%
Pb 220.353†	6.7	0.00082	mg/L	0.000293	0.00082 mg/L	0.000293	35.73%
Sb 206.836†	-13.4	-0.00422	mg/L	0.000381	-0.00422 mg/L	0.000381	9.03%
Se 196.026†	4.4	0.00309	mg/L	0.001340	0.00309 mg/L	0.001340	43.31%
Si 288.158†	1513.1	0.9116	mg/L	0.01193	0.9116 mg/L	0.01193	1.31%
Sn 189.927†	-10.3	-0.00210	mg/L	0.000245	-0.00210 mg/L	0.000245	11.67%
Sr 421.552†	28842.7	0.03466	mg/L	0.000126	0.03466 mg/L	0.000126	0.36%
Ti 334.903†	117.4	0.00666	mg/L	0.000546	0.00666 mg/L	0.000546	8.20%
Tl 190.801†	10.2	0.00466	mg/L	0.000982	0.00466 mg/L	0.000982	21.07%
V 292.402†	387.1	0.00257	mg/L	0.000300	0.00257 mg/L	0.000300	11.69%
Zn 206.200†	578.6	0.1727	mg/L	0.00250	0.1727 mg/L	0.00250	1.45%

Sequence No.: 65
 Sample ID: YD51 ADUP DMN
 Dilution: 1.000000X

Autosampler Location: 348
 Date Collected: 3/26/2014 2:49:10 PM
 Data Type: Original

Nebulizer Parameters: YD51 ADUP DMN
 Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD51 ADUP DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2889220.6	101.9	%	0.67				0.65%
ScR 361.383	252743.2	102.5	%	1.08				1.05%
Ag 328.068†	-49.5	-0.00013	mg/L	0.000110	-0.00013	mg/L	0.000110	86.25%
Al 308.215†	15.9	0.01209	mg/L	0.007980	0.01209	mg/L	0.007980	65.99%
As 188.979†	24.1	0.01191	mg/L	0.001006	0.01191	mg/L	0.001006	8.45%
B 249.677†	619.6	0.1096	mg/L	0.00289	0.1096	mg/L	0.00289	2.63%
Ba 233.527†	38.4	0.01020	mg/L	0.000622	0.01020	mg/L	0.000622	6.10%
Be 313.042†	22.0	0.00004	mg/L	0.000008	0.00004	mg/L	0.000008	19.25%
Ca 317.933†	209646.9	21.27	mg/L	0.021	21.27	mg/L	0.021	0.10%
Cd 228.802†	-13.9	-0.00049	mg/L	0.000035	-0.00049	mg/L	0.000035	7.07%
Co 228.616†	22.2	0.00058	mg/L	0.000052	0.00058	mg/L	0.000052	8.90%
Cr 267.716†	3.2	-0.00056	mg/L	0.000936	-0.00056	mg/L	0.000936	168.63%
Cu 324.752†	22.4	-0.00005	mg/L	0.000117	-0.00005	mg/L	0.000117	214.05%
Fe 273.955†	17.1	0.01523	mg/L	0.001941	0.01523	mg/L	0.001941	12.74%
K 766.490†	5732.0	2.537	mg/L	0.0121	2.537	mg/L	0.0121	0.48%
Mg 279.077†	13287.9	11.51	mg/L	0.095	11.51	mg/L	0.095	0.83%
Mn 257.610†	18.3	0.00043	mg/L	0.000079	0.00043	mg/L	0.000079	18.22%
Mo 202.031†	36.0	0.00154	mg/L	0.000172	0.00154	mg/L	0.000172	11.15%
Na 589.592†	143884.4	10.83	mg/L	0.039	10.83	mg/L	0.039	0.36%
Na 330.237†	233.0	10.94	mg/L	0.058	10.94	mg/L	0.058	0.53%
Ni 231.604†	7.2	0.00218	mg/L	0.001620	0.00218	mg/L	0.001620	74.18%
Pb 220.353†	-14.7	-0.00177	mg/L	0.000349	-0.00177	mg/L	0.000349	19.67%
Sb 206.836†	-9.8	-0.00312	mg/L	0.000850	-0.00312	mg/L	0.000850	27.21%
Se 196.026†	10.5	0.00733	mg/L	0.005437	0.00733	mg/L	0.005437	74.16%
Si 288.158†	21133.8	12.73	mg/L	0.082	12.73	mg/L	0.082	0.65%
Sn 189.927†	-30.9	-0.00604	mg/L	0.000747	-0.00604	mg/L	0.000747	12.37%
Sr 421.552†	96553.1	0.1160	mg/L	0.00047	0.1160	mg/L	0.00047	0.41%
Ti 334.903†	21.7	-0.00019	mg/L	0.000196	-0.00019	mg/L	0.000196	103.49%
Tl 190.801†	14.5	0.00663	mg/L	0.001368	0.00663	mg/L	0.001368	20.62%
V 292.402†	321.5	0.00213	mg/L	0.000041	0.00213	mg/L	0.000041	1.94%
Zn 206.200†	47.6	0.01658	mg/L	0.001185	0.01658	mg/L	0.001185	7.14%

Sequence No.: 66
 Sample ID: YD51 A DMN

Autosampler Location: 349
 Date Collected: 3/26/2014 2:53:25 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD51 A DMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: YD51 A DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2869617.8	101.2	%	0.73			0.72%
ScR 361.383	253753.8	102.9	%	0.97			0.94%
Ag 328.068†	-43.8	-0.00010	mg/L	0.000070	-0.00010 mg/L	0.000070	71.71%
Al 308.215†	14.6	0.01104	mg/L	0.003397	0.01104 mg/L	0.003397	30.77%
As 188.979†	21.5	0.01039	mg/L	0.000704	0.01039 mg/L	0.000704	6.77%
B 249.677†	537.9	0.09514	mg/L	0.001012	0.09514 mg/L	0.001012	1.06%
Ba 233.527†	37.6	0.00999	mg/L	0.001044	0.00999 mg/L	0.001044	10.45%
Be 313.042†	21.5	0.00004	mg/L	0.000029	0.00004 mg/L	0.000029	70.30%
Ca 317.933†	210463.1	21.36	mg/L	0.107	21.36 mg/L	0.107	0.50%
Cd 228.802†	-11.3	-0.00040	mg/L	0.000132	-0.00040 mg/L	0.000132	32.90%
Co 228.616†	19.8	0.00051	mg/L	0.000134	0.00051 mg/L	0.000134	26.09%
Cr 267.716†	5.5	-0.00009	mg/L	0.000715	-0.00009 mg/L	0.000715	764.90%
Cu 324.752†	83.1	0.00016	mg/L	0.000089	0.00016 mg/L	0.000089	55.55%
Fe 273.955†	15.6	0.01391	mg/L	0.002211	0.01391 mg/L	0.002211	15.89%
K 766.490†	5721.9	2.532	mg/L	0.0239	2.532 mg/L	0.0239	0.95%
Mg 279.077†	13319.9	11.54	mg/L	0.079	11.54 mg/L	0.079	0.68%
Mn 257.610†	19.1	0.00046	mg/L	0.000035	0.00046 mg/L	0.000035	7.57%
Mo 202.031†	39.5	0.00173	mg/L	0.000374	0.00173 mg/L	0.000374	21.69%
Na 589.592†	143518.3	10.80	mg/L	0.037	10.80 mg/L	0.037	0.34%
Na 330.237†	231.3	10.86	mg/L	0.210	10.86 mg/L	0.210	1.93%
Ni 231.604†	7.4	0.00227	mg/L	0.000388	0.00227 mg/L	0.000388	17.11%
Pb 220.353†	-19.0	-0.00229	mg/L	0.000319	-0.00229 mg/L	0.000319	13.92%
Sb 206.836†	-5.3	-0.00174	mg/L	0.002418	-0.00174 mg/L	0.002418	138.86%
Se 196.026†	6.8	0.00473	mg/L	0.002761	0.00473 mg/L	0.002761	58.36%
Si 288.158†	21164.0	12.75	mg/L	0.053	12.75 mg/L	0.053	0.42%
Sn 189.927†	-31.9	-0.00631	mg/L	0.000854	-0.00631 mg/L	0.000854	13.52%
Sr 421.552†	96513.8	0.1160	mg/L	0.00027	0.1160 mg/L	0.00027	0.23%
Ti 334.903†	28.0	0.00019	mg/L	0.000365	0.00019 mg/L	0.000365	195.96%
Tl 190.801†	18.4	0.00840	mg/L	0.002150	0.00840 mg/L	0.002150	25.61%
V 292.402†	297.6	0.00198	mg/L	0.000119	0.00198 mg/L	0.000119	6.01%
Zn 206.200†	47.0	0.01640	mg/L	0.000728	0.01640 mg/L	0.000728	4.44%

Sequence No.: 67

Autosampler Location: 350

Sample ID: YD51 ASPK DMN

Date Collected: 3/26/2014 2:57:40 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 ASPK DMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD51 ASPK DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2884654.9	101.8	%	0.50				0.49%
ScR 361.383	252305.9	102.4	%	1.17				1.14%
Ag 328.068†	83741.2	0.4348	mg/L	0.00322	0.4348	mg/L	0.00322	0.74%
Al 308.215†	2719.0	2.065	mg/L	0.0228	2.065	mg/L	0.0228	1.10%
As 188.979†	3956.6	2.249	mg/L	0.0190	2.249	mg/L	0.0190	0.84%
B 249.677†	496.9	0.08679	mg/L	0.001005	0.08679	mg/L	0.001005	1.16%
Ba 233.527†	7780.9	2.069	mg/L	0.0230	2.069	mg/L	0.0230	1.11%
Be 313.042†	250379.0	0.4939	mg/L	0.00070	0.4939	mg/L	0.00070	0.14%
Ca 317.933†	311883.7	31.65	mg/L	0.055	31.65	mg/L	0.055	0.17%
Cd 228.802†	18977.9	0.5618	mg/L	0.00479	0.5618	mg/L	0.00479	0.85%
Co 228.616†	19718.5	0.5160	mg/L	0.00598	0.5160	mg/L	0.00598	1.16%
Cr 267.716†	2619.8	0.5308	mg/L	0.00493	0.5308	mg/L	0.00493	0.93%
Cu 324.752†	145092.3	0.5146	mg/L	0.00405	0.5146	mg/L	0.00405	0.79%
Fe 273.955†	2408.7	2.141	mg/L	0.0283	2.141	mg/L	0.0283	1.32%
K 766.490†	29538.6	13.07	mg/L	0.054	13.07	mg/L	0.054	0.41%
Mg 279.077†	25823.0	22.37	mg/L	0.263	22.37	mg/L	0.263	1.18%
Mn 257.610†	16107.2	0.5281	mg/L	0.00623	0.5281	mg/L	0.00623	1.18%
Mo 202.031†	51.9	0.00221	mg/L	0.000285	0.00221	mg/L	0.000285	12.88%
Na 589.592†	283616.0	21.34	mg/L	0.116	21.34	mg/L	0.116	0.55%
Na 330.237†	457.3	21.38	mg/L	0.246	21.38	mg/L	0.246	1.15%
Ni 231.604†	1693.6	0.5159	mg/L	0.00527	0.5159	mg/L	0.00527	1.02%
Pb 220.353†	17569.5	2.127	mg/L	0.0244	2.127	mg/L	0.0244	1.15%
Sb 206.836†	7.8	-0.00266	mg/L	0.001656	-0.00266	mg/L	0.001656	62.28%
Se 196.026†	3466.6	2.422	mg/L	0.0210	2.422	mg/L	0.0210	0.87%
Si 288.158†	21279.3	12.82	mg/L	0.130	12.82	mg/L	0.130	1.02%
Sn 189.927†	-42.8	-0.00804	mg/L	0.000753	-0.00804	mg/L	0.000753	9.36%
Sr 421.552†	527723.5	0.6342	mg/L	0.00306	0.6342	mg/L	0.00306	0.48%
Ti 334.903†	43.4	0.00029	mg/L	0.000671	0.00029	mg/L	0.000671	229.01%
Tl 190.801†	4549.8	2.073	mg/L	0.0132	2.073	mg/L	0.0132	0.64%
V 292.402†	79450.8	0.5291	mg/L	0.00150	0.5291	mg/L	0.00150	0.28%
Zn 206.200†	1822.7	0.5463	mg/L	0.00807	0.5463	mg/L	0.00807	1.48%

Sequence No.: 68
 Sample ID: YD51 MB1SPK DMN

Autosampler Location: 351
 Date Collected: 3/26/2014 3:01:40 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 MB1SPK DMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD51 MB1SPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2873046.7	101.4	%	0.46			0.45%
ScR 361.383	250078.1	101.5	%	0.96			0.94%
Ag 328.068†	103515.9	0.5372	mg/L	0.00439	0.5372 mg/L	0.00439	0.82%
Al 308.215†	2799.0	2.126	mg/L	0.0145	2.126 mg/L	0.0145	0.68%
As 188.979†	3922.3	2.231	mg/L	0.0241	2.231 mg/L	0.0241	1.08%
B 249.677†	87.5	0.01438	mg/L	0.001097	0.01438 mg/L	0.001097	7.63%
Ba 233.527†	7905.4	2.102	mg/L	0.0303	2.102 mg/L	0.0303	1.44%
Be 313.042†	251171.8	0.4954	mg/L	0.00391	0.4954 mg/L	0.00391	0.79%
Ca 317.933†	103825.8	10.54	mg/L	0.027	10.54 mg/L	0.027	0.25%
Cd 228.802†	18975.4	0.5618	mg/L	0.00523	0.5618 mg/L	0.00523	0.93%
Co 228.616†	19874.5	0.5201	mg/L	0.00352	0.5201 mg/L	0.00352	0.68%
Cr 267.716†	2686.6	0.5456	mg/L	0.00528	0.5456 mg/L	0.00528	0.97%
Cu 324.752†	144328.2	0.5120	mg/L	0.00390	0.5120 mg/L	0.00390	0.76%
Fe 273.955†	2464.1	2.190	mg/L	0.0148	2.190 mg/L	0.0148	0.67%
K 766.490†	24091.8	10.66	mg/L	0.039	10.66 mg/L	0.039	0.37%
Mg 279.077†	12590.3	10.91	mg/L	0.100	10.91 mg/L	0.100	0.92%
Mn 257.610†	15736.6	0.5161	mg/L	0.00213	0.5161 mg/L	0.00213	0.41%
Mo 202.031†	15.5	0.00064	mg/L	0.000090	0.00064 mg/L	0.000090	13.99%
Na 589.592†	143289.0	10.78	mg/L	0.077	10.78 mg/L	0.077	0.72%
Na 330.237†	229.4	10.68	mg/L	0.146	10.68 mg/L	0.146	1.37%
Ni 231.604†	1752.9	0.5340	mg/L	0.00600	0.5340 mg/L	0.00600	1.12%
Pb 220.353†	17736.2	2.147	mg/L	0.0200	2.147 mg/L	0.0200	0.93%
Sb 206.836†	4.3	-0.00387	mg/L	0.002525	-0.00387 mg/L	0.002525	65.24%
Se 196.026†	3497.1	2.443	mg/L	0.0185	2.443 mg/L	0.0185	0.76%
Si 288.158†	-12.8	-0.00390	mg/L	0.001546	-0.00390 mg/L	0.001546	39.67%
Sn 189.927†	-15.0	-0.00283	mg/L	0.000476	-0.00283 mg/L	0.000476	16.83%
Sr 421.552†	434224.6	0.5218	mg/L	0.00306	0.5218 mg/L	0.00306	0.59%
Ti 334.903†	12.1	-0.00012	mg/L	0.000477	-0.00012 mg/L	0.000477	413.75%
Tl 190.801†	4595.4	2.094	mg/L	0.0218	2.094 mg/L	0.0218	1.04%
V 292.402†	79725.0	0.5310	mg/L	0.00394	0.5310 mg/L	0.00394	0.74%
Zn 206.200†	1866.0	0.5568	mg/L	0.00457	0.5568 mg/L	0.00457	0.82%

Sequence No.: 69

Autosampler Location: 352

Sample ID: YE28 MB2SPK DMN

Date Collected: 3/26/2014 3:05:40 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE28 MB2SPK DMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE28 MB2SPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2893994.3	102.1	%	0.66			0.65%
ScR 361.383	252659.5	102.5	%	0.45			0.44%
Ag 328.068†	103277.3	0.5360	mg/L	0.00583	0.5360 mg/L	0.00583	1.09%
Al 308.215†	2765.8	2.101	mg/L	0.0099	2.101 mg/L	0.0099	0.47%
As 188.979†	3896.9	2.217	mg/L	0.0190	2.217 mg/L	0.0190	0.86%
B 249.677†	80.9	0.01320	mg/L	0.000676	0.01320 mg/L	0.000676	5.12%
Ba 233.527†	7819.1	2.079	mg/L	0.0055	2.079 mg/L	0.0055	0.26%
Be 313.042†	247236.6	0.4877	mg/L	0.00121	0.4877 mg/L	0.00121	0.25%
Ca 317.933†	102196.6	10.37	mg/L	0.048	10.37 mg/L	0.048	0.46%
Cd 228.802†	18825.4	0.5574	mg/L	0.00439	0.5574 mg/L	0.00439	0.79%
Co 228.616†	19855.0	0.5196	mg/L	0.00494	0.5196 mg/L	0.00494	0.95%
Cr 267.716†	2659.4	0.5400	mg/L	0.00284	0.5400 mg/L	0.00284	0.53%
Cu 324.752†	143191.5	0.5080	mg/L	0.00368	0.5080 mg/L	0.00368	0.72%
Fe 273.955†	2438.1	2.167	mg/L	0.0144	2.167 mg/L	0.0144	0.66%
K 766.490†	23876.9	10.57	mg/L	0.059	10.57 mg/L	0.059	0.55%
Mg 279.077†	12449.8	10.79	mg/L	0.063	10.79 mg/L	0.063	0.58%
Mn 257.610†	15598.7	0.5116	mg/L	0.00219	0.5116 mg/L	0.00219	0.43%
Mo 202.031†	17.9	0.00077	mg/L	0.000282	0.00077 mg/L	0.000282	36.63%
Na 589.592†	140859.6	10.60	mg/L	0.055	10.60 mg/L	0.055	0.52%
Na 330.237†	231.2	10.77	mg/L	0.110	10.77 mg/L	0.110	1.02%
Ni 231.604†	1734.6	0.5284	mg/L	0.00227	0.5284 mg/L	0.00227	0.43%
Pb 220.353†	17666.4	2.139	mg/L	0.0147	2.139 mg/L	0.0147	0.69%
Sb 206.836†	6.2	-0.00322	mg/L	0.000833	-0.00322 mg/L	0.000833	25.87%
Se 196.026†	3439.0	2.403	mg/L	0.0144	2.403 mg/L	0.0144	0.60%
Si 288.158†	-23.5	-0.01038	mg/L	0.003253	-0.01038 mg/L	0.003253	31.33%
Sn 189.927†	-16.4	-0.00323	mg/L	0.000738	-0.00323 mg/L	0.000738	22.84%
Sr 421.552†	429995.9	0.5167	mg/L	0.00238	0.5167 mg/L	0.00238	0.46%
Ti 334.903†	9.8	-0.00024	mg/L	0.000320	-0.00024 mg/L	0.000320	131.96%
Tl 190.801†	4568.2	2.081	mg/L	0.0098	2.081 mg/L	0.0098	0.47%
V 292.402†	79058.7	0.5265	mg/L	0.00376	0.5265 mg/L	0.00376	0.71%
Zn 206.200†	1808.7	0.5398	mg/L	0.00423	0.5398 mg/L	0.00423	0.78%

Sequence No.: 70

Sample ID: CV 7

Autosampler Location: 7

Date Collected: 3/26/2014 3:09:40 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2823497.4	99.62 %	0.223			0.22%
ScR 361.383	241753.5	98.07 %	0.388			0.40%
Ag 328.068†	209837.0	1.089 mg/L	0.0064	1.089 mg/L	0.0064	0.59%
Al 308.215†	2748.9	2.063 mg/L	0.0136	2.063 mg/L	0.0136	0.66%
As 188.979†	3571.4	2.065 mg/L	0.0064	2.065 mg/L	0.0064	0.31%
B 249.677†	5949.2	1.051 mg/L	0.0034	1.051 mg/L	0.0034	0.32%
Ba 233.527†	3876.6	1.030 mg/L	0.0053	1.030 mg/L	0.0053	0.51%
Be 313.042†	526957.1	1.039 mg/L	0.0035	1.039 mg/L	0.0035	0.34%
Ca 317.933†	21235.3	2.155 mg/L	0.0144	2.155 mg/L	0.0144	0.67%
Cd 228.802†	35125.7	1.051 mg/L	0.0013	1.051 mg/L	0.0013	0.13%
Co 228.616†	38741.5	1.012 mg/L	0.0018	1.012 mg/L	0.0018	0.18%
Cr 267.716†	5291.0	1.076 mg/L	0.0067	1.076 mg/L	0.0067	0.62%
Cu 324.752†	297919.9	1.056 mg/L	0.0021	1.056 mg/L	0.0021	0.20%
Fe 273.955†	2450.5	2.175 mg/L	0.0164	2.175 mg/L	0.0164	0.75%
K 766.490†	46604.9	20.62 mg/L	0.072	20.62 mg/L	0.072	0.35%
Mg 279.077†	2348.7	2.041 mg/L	0.0109	2.041 mg/L	0.0109	0.54%
Mn 257.610†	31027.8	1.017 mg/L	0.0040	1.017 mg/L	0.0040	0.39%
Mo 202.031†	19077.2	0.9932 mg/L	0.00378	0.9932 mg/L	0.00378	0.38%
Na 589.592†	690432.1	51.96 mg/L	0.049	51.96 mg/L	0.049	0.09%
Na 330.237†	1104.0	52.42 mg/L	0.364	52.42 mg/L	0.364	0.69%
Ni 231.604†	3455.4	1.055 mg/L	0.0077	1.055 mg/L	0.0077	0.73%
Pb 220.353†	17153.1	2.077 mg/L	0.0066	2.077 mg/L	0.0066	0.32%
Sb 206.836†	6658.3	2.085 mg/L	0.0088	2.085 mg/L	0.0088	0.42%
Se 196.026†	2905.4	2.029 mg/L	0.0107	2.029 mg/L	0.0107	0.52%
Si 288.158†	3472.6	2.097 mg/L	0.0027	2.097 mg/L	0.0027	0.13%
Sn 189.927†	3570.6	0.9982 mg/L	0.00778	0.9982 mg/L	0.00778	0.78%
Sr 421.552†	861138.6	1.035 mg/L	0.0010	1.035 mg/L	0.0010	0.10%
Ti 334.903†	16749.1	1.015 mg/L	0.0037	1.015 mg/L	0.0037	0.36%
Tl 190.801†	4500.0	2.047 mg/L	0.0027	2.047 mg/L	0.0027	0.13%
V 292.402†	155287.0	1.034 mg/L	0.0018	1.034 mg/L	0.0018	0.18%
Zn 206.200†	3540.1	1.056 mg/L	0.0070	1.056 mg/L	0.0070	0.66%

Sequence No.: 71
Sample ID: CB 7

Autosampler Location: 1
Date Collected: 3/26/2014 3:13:44 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2842477.7	100.3 %		0.57			0.57%
ScR 361.383	245719.1	99.68 %		0.890			0.89%
Ag 328.068†	29.5	0.00015 mg/L		0.000191	0.00015 mg/L	0.000191	124.86%
Al 308.215†	12.4	0.00942 mg/L		0.003430	0.00942 mg/L	0.003430	36.43%
As 188.979†	1.6	0.00090 mg/L		0.001452	0.00090 mg/L	0.001452	160.53%
B 249.677†	78.9	0.01396 mg/L		0.001044	0.01396 mg/L	0.001044	7.48%
Ba 233.527†	0.4	0.00010 mg/L		0.000610	0.00010 mg/L	0.000610	593.24%
Be 313.042†	84.5	0.00017 mg/L		0.000037	0.00017 mg/L	0.000037	22.40%
Ca 317.933†	7.0	0.00071 mg/L		0.000799	0.00071 mg/L	0.000799	112.65%
Cd 228.802†	-2.9	-0.00009 mg/L		0.000089	-0.00009 mg/L	0.000089	96.95%
Co 228.616†	7.3	0.00019 mg/L		0.000124	0.00019 mg/L	0.000124	64.15%
Cr 267.716†	-4.2	-0.00085 mg/L		0.000415	-0.00085 mg/L	0.000415	48.80%
Cu 324.752†	2.9	0.00001 mg/L		0.000107	0.00001 mg/L	0.000107	>999.9%
Fe 273.955†	2.2	0.00200 mg/L		0.001062	0.00200 mg/L	0.001062	53.08%
K 766.490†	83.4	0.03692 mg/L		0.011907	0.03692 mg/L	0.011907	32.25%
Mg 279.077†	-5.0	-0.00433 mg/L		0.005281	-0.00433 mg/L	0.005281	122.04%
Mn 257.610†	9.9	0.00033 mg/L		0.000140	0.00033 mg/L	0.000140	43.10%
Mo 202.031†	16.5	0.00086 mg/L		0.000416	0.00086 mg/L	0.000416	48.39%
Na 589.592†	790.7	0.05950 mg/L		0.002801	0.05950 mg/L	0.002801	4.71%
Na 330.237†	-5.3	-0.2527 mg/L		0.19987	-0.2527 mg/L	0.19987	79.10%
Ni 231.604†	0.7	0.00022 mg/L		0.000582	0.00022 mg/L	0.000582	262.75%
Pb 220.353†	-4.0	-0.00048 mg/L		0.000146	-0.00048 mg/L	0.000146	30.43%
Sb 206.836†	25.7	0.00807 mg/L		0.000566	0.00807 mg/L	0.000566	7.01%
Se 196.026†	1.2	0.00083 mg/L		0.002977	0.00083 mg/L	0.002977	357.08%
Si 288.158†	9.8	0.00588 mg/L		0.005709	0.00588 mg/L	0.005709	97.05%
Sn 189.927†	2.7	0.00076 mg/L		0.000480	0.00076 mg/L	0.000480	63.34%
Sr 421.552†	140.5	0.00017 mg/L		0.000072	0.00017 mg/L	0.000072	42.78%
Ti 334.903†	-7.9	-0.00048 mg/L		0.000093	-0.00048 mg/L	0.000093	19.53%
Tl 190.801†	2.8	0.00126 mg/L		0.000870	0.00126 mg/L	0.000870	69.22%
V 292.402†	10.3	0.00007 mg/L		0.000159	0.00007 mg/L	0.000159	241.87%
Zn 206.200†	1.6	0.00048 mg/L		0.000121	0.00048 mg/L	0.000121	25.50%

Sequence No.: 72
 Sample ID: YD51 MB2 WMN

Autosampler Location: 353
 Date Collected: 3/26/2014 3:17:59 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD51 MB2 WMN

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YD51 MB2 WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2896508.5	102.2	%	0.53				0.52%
ScR 361.383	253031.8	102.6	%	1.66				1.61%
Ag 328.068†	-32.5	-0.00017	mg/L	0.000079	-0.00017	mg/L	0.000079	46.68%
Al 308.215†	4.6	0.00351	mg/L	0.001994	0.00351	mg/L	0.001994	56.85%
As 188.979†	0.7	0.00040	mg/L	0.000447	0.00040	mg/L	0.000447	110.97%
B 249.677†	46.0	0.00812	mg/L	0.000890	0.00812	mg/L	0.000890	10.95%
Ba 233.527†	-2.5	-0.00067	mg/L	0.001036	-0.00067	mg/L	0.001036	154.41%
Be 313.042†	33.1	0.00007	mg/L	0.000015	0.00007	mg/L	0.000015	23.28%
Ca 317.933†	-9.3	-0.00094	mg/L	0.001030	-0.00094	mg/L	0.001030	109.46%
Cd 228.802†	-4.2	-0.00013	mg/L	0.000112	-0.00013	mg/L	0.000112	86.33%
Co 228.616†	21.2	0.00056	mg/L	0.000223	0.00056	mg/L	0.000223	40.08%
Cr 267.716†	0.5	0.00009	mg/L	0.001323	0.00009	mg/L	0.001323	>999.9%
Cu 324.752†	-48.4	-0.00017	mg/L	0.000063	-0.00017	mg/L	0.000063	37.02%
Fe 273.955†	-0.5	-0.00040	mg/L	0.001689	-0.00040	mg/L	0.001689	418.48%
K 766.490†	54.8	0.02423	mg/L	0.005896	0.02423	mg/L	0.005896	24.33%
Mg 279.077†	-0.8	-0.00072	mg/L	0.005798	-0.00072	mg/L	0.005798	807.51%
Mn 257.610†	-1.0	-0.00003	mg/L	0.000050	-0.00003	mg/L	0.000050	147.21%
Mo 202.031†	-10.1	-0.00053	mg/L	0.000306	-0.00053	mg/L	0.000306	58.00%
Na 589.592†	983.3	0.07401	mg/L	0.004241	0.07401	mg/L	0.004241	5.73%
Na 330.237†	-7.6	-0.3619	mg/L	0.20855	-0.3619	mg/L	0.20855	57.63%
Ni 231.604†	0.1	0.00002	mg/L	0.001409	0.00002	mg/L	0.001409	>999.9%
Pb 220.353†	-6.8	-0.00082	mg/L	0.000253	-0.00082	mg/L	0.000253	30.88%
Sb 206.836†	-9.1	-0.00286	mg/L	0.000945	-0.00286	mg/L	0.000945	33.00%
Se 196.026†	4.0	0.00278	mg/L	0.003766	0.00278	mg/L	0.003766	135.43%
Si 288.158†	-23.4	-0.01412	mg/L	0.004402	-0.01412	mg/L	0.004402	31.17%
Sn 189.927†	0.3	0.00009	mg/L	0.000763	0.00009	mg/L	0.000763	808.69%
Sr 421.552†	45.2	0.00005	mg/L	0.000052	0.00005	mg/L	0.000052	96.52%
Ti 334.903†	-5.4	-0.00033	mg/L	0.000470	-0.00033	mg/L	0.000470	143.90%
Tl 190.801†	12.5	0.00569	mg/L	0.001857	0.00569	mg/L	0.001857	32.66%
V 292.402†	-2.8	-0.00002	mg/L	0.000055	-0.00002	mg/L	0.000055	301.32%
Zn 206.200†	0.6	0.00019	mg/L	0.000546	0.00019	mg/L	0.000546	286.47%

Sequence No.: 73
 Sample ID: YD51 B DMN
 Dilution: 1.000000X

Autosampler Location: 354
 Date Collected: 3/26/2014 3:22:01 PM
 Data Type: Original

Nebulizer Parameters: YD51 B DMN
 Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YD51 B DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2909765.2	102.7 %	%	0.54			0.52%
ScR 361.383	253385.6	102.8 %	%	1.07			1.04%
Ag 328.068†	-32.6	-0.00005 mg/L	mg/L	0.000111	-0.00005 mg/L	0.000111	207.46%
Al 308.215†	8.0	0.00603 mg/L	mg/L	0.005505	0.00603 mg/L	0.005505	91.23%
As 188.979†	19.6	0.00951 mg/L	mg/L	0.000664	0.00951 mg/L	0.000664	6.98%
B 249.677†	375.2	0.06636 mg/L	mg/L	0.000946	0.06636 mg/L	0.000946	1.43%
Ba 233.527†	23.2	0.00618 mg/L	mg/L	0.001028	0.00618 mg/L	0.001028	16.64%
Be 313.042†	-3.5	-0.00001 mg/L	mg/L	0.000071	-0.00001 mg/L	0.000071	947.01%
Cd 317.933†	187666.0	19.04 mg/L	mg/L	0.082	19.04 mg/L	0.082	0.43%
Ca 228.802†	-12.4	-0.00043 mg/L	mg/L	0.000064	-0.00043 mg/L	0.000064	14.84%
Co 228.616†	22.4	0.00058 mg/L	mg/L	0.000090	0.00058 mg/L	0.000090	15.52%
Cr 267.716†	6.5	0.00030 mg/L	mg/L	0.000758	0.00030 mg/L	0.000758	256.76%
Cu 324.752†	-23.8	-0.00020 mg/L	mg/L	0.000156	-0.00020 mg/L	0.000156	78.17%
Fe 273.955†	12.0	0.01063 mg/L	mg/L	0.000889	0.01063 mg/L	0.000889	8.36%
K 766.490†	4445.3	1.967 mg/L	mg/L	0.0127	1.967 mg/L	0.0127	0.65%
Mg 279.077†	11037.9	9.562 mg/L	mg/L	0.0444	9.562 mg/L	0.0444	0.46%
Mn 257.610†	20.2	0.00052 mg/L	mg/L	0.000122	0.00052 mg/L	0.000122	23.55%
Mo 202.031†	30.0	0.00127 mg/L	mg/L	0.000379	0.00127 mg/L	0.000379	29.92%
Na 589.592†	162205.0	12.21 mg/L	mg/L	0.025	12.21 mg/L	0.025	0.20%
Na 330.237†	261.0	12.29 mg/L	mg/L	0.283	12.29 mg/L	0.283	2.30%
Ni 231.604†	10.4	0.00316 mg/L	mg/L	0.000528	0.00316 mg/L	0.000528	16.73%
Pb 220.353†	-15.8	-0.00190 mg/L	mg/L	0.000818	-0.00190 mg/L	0.000818	42.99%
Sb 206.836†	-9.9	-0.00318 mg/L	mg/L	0.001912	-0.00318 mg/L	0.001912	60.16%
Se 196.026†	8.8	0.00614 mg/L	mg/L	0.002803	0.00614 mg/L	0.002803	45.64%
Si 288.158†	22295.9	13.43 mg/L	mg/L	0.047	13.43 mg/L	0.047	0.35%
Sn 189.927†	-27.3	-0.00531 mg/L	mg/L	0.000634	-0.00531 mg/L	0.000634	11.94%
Sr 421.552†	88164.4	0.1060 mg/L	mg/L	0.00017	0.1060 mg/L	0.00017	0.16%
Ti 334.903†	17.0	-0.00032 mg/L	mg/L	0.000568	-0.00032 mg/L	0.000568	178.96%
Tl 190.801†	14.5	0.00662 mg/L	mg/L	0.001459	0.00662 mg/L	0.001459	22.04%
V 292.402†	306.5	0.00204 mg/L	mg/L	0.000232	0.00204 mg/L	0.000232	11.38%
Zn 206.200†	6.0	0.00430 mg/L	mg/L	0.001286	0.00430 mg/L	0.001286	29.88%

Sequence No.: 74
 Sample ID: YD51 D WMN

Autosampler Location: 355
 Date Collected: 3/26/2014 3:26:16 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD51 D WMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YD51 D WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2909772.1	102.7	%	0.49			0.48%
ScR 361.383	256417.1	104.0	%	1.32			1.27%
Ag 328.068†	-28.2	-0.00003	mg/L	0.000164	-0.00003 mg/L	0.000164	519.30%
Al 308.215†	7.0	0.00528	mg/L	0.005362	0.00528 mg/L	0.005362	101.50%
As 188.979†	22.9	0.01139	mg/L	0.003058	0.01139 mg/L	0.003058	26.85%
B 249.677†	370.1	0.06546	mg/L	0.002186	0.06546 mg/L	0.002186	3.34%
Ba 233.527†	24.3	0.00645	mg/L	0.001332	0.00645 mg/L	0.001332	20.65%
Be 313.042†	11.9	0.00002	mg/L	0.000034	0.00002 mg/L	0.000034	149.13%
Ca 317.933†	186520.0	18.93	mg/L	0.157	18.93 mg/L	0.157	0.83%
Cd 228.802†	-8.1	-0.00031	mg/L	0.000099	-0.00031 mg/L	0.000099	32.09%
Co 228.616†	26.8	0.00070	mg/L	0.000166	0.00070 mg/L	0.000166	23.77%
Cr 267.716†	9.4	0.00090	mg/L	0.000838	0.00090 mg/L	0.000838	92.71%
Cu 324.752†	87.6	0.00020	mg/L	0.000170	0.00020 mg/L	0.000170	86.73%
Fe 273.955†	0.9	0.00076	mg/L	0.002199	0.00076 mg/L	0.002199	288.54%
K 766.490†	4373.2	1.935	mg/L	0.0367	1.935 mg/L	0.0367	1.89%
Mg 279.077†	10846.9	9.397	mg/L	0.1594	9.397 mg/L	0.1594	1.70%
Mn 257.610†	23.3	0.00062	mg/L	0.000218	0.00062 mg/L	0.000218	35.23%
Mo 202.031†	32.5	0.00140	mg/L	0.000408	0.00140 mg/L	0.000408	29.25%
Na 589.592†	164234.7	12.36	mg/L	0.044	12.36 mg/L	0.044	0.35%
Na 330.237†	271.1	12.77	mg/L	0.258	12.77 mg/L	0.258	2.02%
Ni 231.604†	7.7	0.00236	mg/L	0.000621	0.00236 mg/L	0.000621	26.38%
Pb 220.353†	-21.7	-0.00263	mg/L	0.000903	-0.00263 mg/L	0.000903	34.38%
Sb 206.836†	-12.4	-0.00397	mg/L	0.000719	-0.00397 mg/L	0.000719	18.13%
Se 196.026†	8.9	0.00624	mg/L	0.003133	0.00624 mg/L	0.003133	50.21%
Si 288.158†	22129.9	13.33	mg/L	0.192	13.33 mg/L	0.192	1.44%
Sn 189.927†	-27.7	-0.00544	mg/L	0.000949	-0.00544 mg/L	0.000949	17.44%
Sr 421.552†	89088.7	0.1071	mg/L	0.00052	0.1071 mg/L	0.00052	0.48%
Ti 334.903†	19.5	-0.00015	mg/L	0.000148	-0.00015 mg/L	0.000148	96.36%
Tl 190.801†	16.9	0.00771	mg/L	0.000287	0.00771 mg/L	0.000287	3.72%
V 292.402†	291.1	0.00194	mg/L	0.000132	0.00194 mg/L	0.000132	6.80%
Zn 206.200†	3.7	0.00358	mg/L	0.000787	0.00358 mg/L	0.000787	21.97%

Sequence No.: 75

Autosampler Location: 356

Sample ID: YD51 CDUP WMN

Date Collected: 3/26/2014 3:30:31 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 CDUP WMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD51 CDUP WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2894218.5	102.1	%	0.64			0.63%
ScR 361.383	255297.4	103.6	%	0.86			0.83%
Ag 328.068†	-44.9	-0.00010	mg/L	0.000165	-0.00010	0.000165	160.75%
Al 308.215†	3.6	0.00266	mg/L	0.002676	0.00266	0.002676	100.44%
As 188.979†	21.8	0.01056	mg/L	0.001197	0.01056	0.001197	11.34%
B 249.677†	440.4	0.07788	mg/L	0.000328	0.07788	0.000328	0.42%
Ba 233.527†	25.3	0.00673	mg/L	0.000627	0.00673	0.000627	9.32%
Be 313.042†	28.4	0.00006	mg/L	0.000009	0.00006	0.000009	15.88%
Ca 317.933†	211662.2	21.48	mg/L	0.050	21.48	0.050	0.23%
Cd 228.802†	-15.1	-0.00052	mg/L	0.000072	-0.00052	0.000072	13.85%
Co 228.616†	28.4	0.00074	mg/L	0.000085	0.00074	0.000085	11.48%
Cr 267.716†	6.5	0.00012	mg/L	0.000738	0.00012	0.000738	628.61%
Cu 324.752†	102.1	0.00023	mg/L	0.000236	0.00023	0.000236	104.47%
Fe 273.955†	-1.5	-0.00139	mg/L	0.003527	-0.00139	0.003527	254.01%
K 766.490†	5719.1	2.531	mg/L	0.0194	2.531	0.0194	0.77%
Mg 279.077†	13301.0	11.52	mg/L	0.016	11.52	0.016	0.14%
Mn 257.610†	15.2	0.00033	mg/L	0.000082	0.00033	0.000082	24.72%
Mo 202.031†	31.8	0.00132	mg/L	0.000340	0.00132	0.000340	25.71%
Na 589.592†	144037.9	10.84	mg/L	0.031	10.84	0.031	0.28%
Na 330.237†	230.8	10.84	mg/L	0.204	10.84	0.204	1.88%
Ni 231.604†	7.0	0.00213	mg/L	0.002626	0.00213	0.002626	123.56%
Pb 220.353†	-18.4	-0.00222	mg/L	0.000591	-0.00222	0.000591	26.59%
Sb 206.836†	-11.0	-0.00352	mg/L	0.001301	-0.00352	0.001301	36.90%
Se 196.026†	10.4	0.00729	mg/L	0.000659	0.00729	0.000659	9.04%
Si 288.158†	21355.5	12.87	mg/L	0.049	12.87	0.049	0.38%
Sn 189.927†	-32.3	-0.00642	mg/L	0.000551	-0.00642	0.000551	8.57%
Sr 421.552†	97447.4	0.1171	mg/L	0.00030	0.1171	0.00030	0.26%
Ti 334.903†	25.3	0.00002	mg/L	0.000334	0.00002	0.000334	>999.9%
Tl 190.801†	14.4	0.00658	mg/L	0.002561	0.00658	0.002561	38.91%
V 292.402†	306.0	0.00204	mg/L	0.000121	0.00204	0.000121	5.97%
Zn 206.200†	-3.8	0.00126	mg/L	0.000827	0.00126	0.000827	65.64%

YD51 : 00142

Sequence No.: 76

Autosampler Location: 357

Sample ID: YD51 C WMN

Date Collected: 3/26/2014 3:34:46 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 C WMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YD51 C WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2903380.5	102.4	%	0.58			0.56%
ScR 361.383	255726.6	103.7	%	1.34			1.29%
Ag 328.068†	-26.2	-0.00001	mg/L	0.000080	-0.00001 mg/L	0.000080	>999.9%
Al 308.215†	8.1	0.00614	mg/L	0.004089	0.00614 mg/L	0.004089	66.58%
As 188.979†	25.7	0.01281	mg/L	0.001412	0.01281 mg/L	0.001412	11.02%
B 249.677†	440.2	0.07785	mg/L	0.001000	0.07785 mg/L	0.001000	1.29%
Ba 233.527†	28.8	0.00767	mg/L	0.001116	0.00767 mg/L	0.001116	14.55%
Be 313.042†	10.7	0.00002	mg/L	0.000026	0.00002 mg/L	0.000026	124.34%
Ca 317.933†	210508.0	21.36	mg/L	0.084	21.36 mg/L	0.084	0.39%
Cd 228.802†	-16.4	-0.00057	mg/L	0.000211	-0.00057 mg/L	0.000211	36.99%
Co 228.616†	25.5	0.00067	mg/L	0.000133	0.00067 mg/L	0.000133	19.99%
Cr 267.716†	3.1	-0.00059	mg/L	0.001267	-0.00059 mg/L	0.001267	213.40%
Cu 324.752†	82.2	0.00016	mg/L	0.000219	0.00016 mg/L	0.000219	140.66%
Fe 273.955†	0.3	0.00029	mg/L	0.002685	0.00029 mg/L	0.002685	932.77%
K 766.490†	5813.2	2.573	mg/L	0.0440	2.573 mg/L	0.0440	1.71%
Mg 279.077†	13396.4	11.61	mg/L	0.089	11.61 mg/L	0.089	0.77%
Mn 257.610†	15.6	0.00034	mg/L	0.000116	0.00034 mg/L	0.000116	33.76%
Mo 202.031†	38.9	0.00169	mg/L	0.000208	0.00169 mg/L	0.000208	12.29%
Na 589.592†	144264.2	10.86	mg/L	0.018	10.86 mg/L	0.018	0.16%
Na 330.237†	235.7	11.07	mg/L	0.156	11.07 mg/L	0.156	1.41%
Ni 231.604†	6.6	0.00200	mg/L	0.000271	0.00200 mg/L	0.000271	13.51%
Pb 220.353†	-18.3	-0.00221	mg/L	0.000601	-0.00221 mg/L	0.000601	27.24%
Sb 206.836†	-6.4	-0.00207	mg/L	0.000883	-0.00207 mg/L	0.000883	42.68%
Se 196.026†	13.8	0.00964	mg/L	0.001136	0.00964 mg/L	0.001136	11.79%
Si 288.158†	21500.7	12.95	mg/L	0.104	12.95 mg/L	0.104	0.80%
Sn 189.927†	-31.3	-0.00617	mg/L	0.001037	-0.00617 mg/L	0.001037	16.82%
Sr 421.552†	97338.1	0.1170	mg/L	0.00028	0.1170 mg/L	0.00028	0.24%
Ti 334.903†	24.2	-0.00004	mg/L	0.000352	-0.00004 mg/L	0.000352	850.08%
Tl 190.801†	15.8	0.00721	mg/L	0.002282	0.00721 mg/L	0.002282	31.66%
V 292.402†	295.8	0.00196	mg/L	0.000082	0.00196 mg/L	0.000082	4.19%
Zn 206.200†	-2.5	0.00166	mg/L	0.000195	0.00166 mg/L	0.000195	11.77%

YD51 : 00143

Sequence No.: 77

Autosampler Location: 358

Sample ID: YD51 CSPK WMN

Date Collected: 3/26/2014 3:39:01 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 CSPK WMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD51 CSPK WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2897424.2	102.2	%	0.49			0.48%
ScR 361.383	250254.9	101.5	%	1.11			1.09%
Ag 328.068†	78271.5	0.4064	mg/L	0.00777	0.4064 mg/L	0.00777	1.91%
Al 308.215†	2684.0	2.039	mg/L	0.0197	2.039 mg/L	0.0197	0.97%
As 188.979†	3841.0	2.183	mg/L	0.0196	2.183 mg/L	0.0196	0.90%
B 249.677†	430.6	0.07509	mg/L	0.000966	0.07509 mg/L	0.000966	1.29%
Ba 233.527†	7702.8	2.048	mg/L	0.0171	2.048 mg/L	0.0171	0.84%
Be 313.042†	247069.4	0.4873	mg/L	0.00353	0.4873 mg/L	0.00353	0.73%
Ca 317.933†	312278.9	31.69	mg/L	0.081	31.69 mg/L	0.081	0.26%
Cd 228.802†	18423.8	0.5454	mg/L	0.00600	0.5454 mg/L	0.00600	1.10%
Co 228.616†	19231.4	0.5033	mg/L	0.00451	0.5033 mg/L	0.00451	0.90%
Cr 267.716†	2591.4	0.5250	mg/L	0.00582	0.5250 mg/L	0.00582	1.11%
Cu 324.752†	142055.4	0.5038	mg/L	0.00439	0.5038 mg/L	0.00439	0.87%
Fe 273.955†	2362.3	2.100	mg/L	0.0306	2.100 mg/L	0.0306	1.46%
K 766.490†	29450.5	13.03	mg/L	0.050	13.03 mg/L	0.050	0.38%
Mg 279.077†	25789.6	22.34	mg/L	0.238	22.34 mg/L	0.238	1.06%
Mn 257.610†	15897.8	0.5212	mg/L	0.00601	0.5212 mg/L	0.00601	1.15%
Mo 202.031†	48.2	0.00202	mg/L	0.000490	0.00202 mg/L	0.000490	24.33%
Na 589.592†	285145.9	21.46	mg/L	0.037	21.46 mg/L	0.037	0.17%
Na 330.237†	460.8	21.55	mg/L	0.095	21.55 mg/L	0.095	0.44%
Ni 231.604†	1672.9	0.5096	mg/L	0.00603	0.5096 mg/L	0.00603	1.18%
Pb 220.353†	17047.5	2.064	mg/L	0.0148	2.064 mg/L	0.0148	0.72%
Sb 206.836†	5.6	-0.00332	mg/L	0.001044	-0.00332 mg/L	0.001044	31.46%
Se 196.026†	3367.5	2.353	mg/L	0.0264	2.353 mg/L	0.0264	1.12%
Si 288.158†	21661.2	13.05	mg/L	0.109	13.05 mg/L	0.109	0.84%
Sn 189.927†	-47.6	-0.00938	mg/L	0.001329	-0.00938 mg/L	0.001329	14.17%
Sr 421.552†	525635.6	0.6317	mg/L	0.00130	0.6317 mg/L	0.00130	0.21%
Ti 334.903†	35.0	-0.00021	mg/L	0.000467	-0.00021 mg/L	0.000467	217.35%
Tl 190.801†	4477.1	2.040	mg/L	0.0176	2.040 mg/L	0.0176	0.86%
V 292.402†	77648.1	0.5171	mg/L	0.00599	0.5171 mg/L	0.00599	1.16%
Zn 206.200†	1747.8	0.5240	mg/L	0.00724	0.5240 mg/L	0.00724	1.38%

Sequence No.: 78

Sample ID: YD51 MB2SPK WMN

Autosampler Location: 359

Date Collected: 3/26/2014 3:43:01 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 MB2SPK WMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YD51 MB2SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2891552.4	102.0	%	0.55				0.54%
ScR 361.383	255783.2	103.8	%	0.53				0.52%
Ag 328.068†	93752.1	0.4866	mg/L	0.00479	0.4866	mg/L	0.00479	0.98%
Al 308.215†	2693.7	2.046	mg/L	0.0072	2.046	mg/L	0.0072	0.35%
As 188.979†	3840.8	2.185	mg/L	0.0030	2.185	mg/L	0.0030	0.14%
B 249.677†	36.6	0.00537	mg/L	0.000706	0.00537	mg/L	0.000706	13.15%
Ba 233.527†	7682.3	2.043	mg/L	0.0087	2.043	mg/L	0.0087	0.42%
Be 313.042†	247443.5	0.4881	mg/L	0.00115	0.4881	mg/L	0.00115	0.23%
Ca 317.933†	102515.4	10.40	mg/L	0.033	10.40	mg/L	0.033	0.32%
Cd 228.802†	18652.1	0.5523	mg/L	0.00117	0.5523	mg/L	0.00117	0.21%
Co 228.616†	19737.6	0.5165	mg/L	0.00334	0.5165	mg/L	0.00334	0.65%
Cr 267.716†	2606.0	0.5292	mg/L	0.00203	0.5292	mg/L	0.00203	0.38%
Cu 324.752†	142206.3	0.5045	mg/L	0.00175	0.5045	mg/L	0.00175	0.35%
Fe 273.955†	2373.5	2.109	mg/L	0.0111	2.109	mg/L	0.0111	0.53%
K 766.490†	23542.9	10.42	mg/L	0.027	10.42	mg/L	0.027	0.26%
Mg 279.077†	12191.4	10.56	mg/L	0.047	10.56	mg/L	0.047	0.44%
Mn 257.610†	15409.1	0.5053	mg/L	0.00143	0.5053	mg/L	0.00143	0.28%
Mo 202.031†	14.7	0.00061	mg/L	0.000323	0.00061	mg/L	0.000323	53.38%
Na 589.592†	139831.0	10.52	mg/L	0.025	10.52	mg/L	0.025	0.23%
Na 330.237†	223.2	10.39	mg/L	0.242	10.39	mg/L	0.242	2.33%
Ni 231.604†	1700.2	0.5179	mg/L	0.00267	0.5179	mg/L	0.00267	0.52%
Pb 220.353†	17505.1	2.119	mg/L	0.0066	2.119	mg/L	0.0066	0.31%
Sb 206.836†	3.0	-0.00411	mg/L	0.002170	-0.00411	mg/L	0.002170	52.86%
Se 196.026†	3400.3	2.376	mg/L	0.0085	2.376	mg/L	0.0085	0.36%
Si 288.158†	-24.5	-0.01101	mg/L	0.002244	-0.01101	mg/L	0.002244	20.38%
Sn 189.927†	-20.3	-0.00433	mg/L	0.000500	-0.00433	mg/L	0.000500	11.53%
Sr 421.552†	423567.7	0.5090	mg/L	0.00111	0.5090	mg/L	0.00111	0.22%
Ti 334.903†	6.8	-0.00043	mg/L	0.000423	-0.00043	mg/L	0.000423	99.27%
Tl 190.801†	4510.7	2.055	mg/L	0.0121	2.055	mg/L	0.0121	0.59%
V 292.402†	78509.5	0.5228	mg/L	0.00146	0.5228	mg/L	0.00146	0.28%
Zn 206.200†	1768.7	0.5278	mg/L	0.00540	0.5278	mg/L	0.00540	1.02%

YD51 : 00145

Sequence No.: 79

Autosampler Location: 7

Sample ID: CV 8

Date Collected: 3/26/2014 3:47:01 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2825944.2	99.71 %	1.084			1.09%
ScR 361.383	243212.2	98.67 %	0.436			0.44%
Ag 328.068†	221230.7	1.148 mg/L	0.0146	1.148 mg/L	0.0146	1.27%
Al 308.215†	2736.6	2.054 mg/L	0.0139	2.054 mg/L	0.0139	0.67%
As 188.979†	3585.0	2.073 mg/L	0.0164	2.073 mg/L	0.0164	0.79%
B 249.677†	5852.3	1.034 mg/L	0.0079	1.034 mg/L	0.0079	0.76%
Ba 233.527†	3839.7	1.021 mg/L	0.0115	1.021 mg/L	0.0115	1.12%
Be 313.042†	520836.2	1.027 mg/L	0.0066	1.027 mg/L	0.0066	0.65%
Ca 317.933†	20942.3	2.125 mg/L	0.0143	2.125 mg/L	0.0143	0.67%
Cd 228.802†	35022.4	1.048 mg/L	0.0122	1.048 mg/L	0.0122	1.16%
Co 228.616†	38743.4	1.013 mg/L	0.0120	1.013 mg/L	0.0120	1.19%
Cr 267.716†	5229.7	1.064 mg/L	0.0066	1.064 mg/L	0.0066	0.62%
Cu 324.752†	286535.1	1.016 mg/L	0.0066	1.016 mg/L	0.0066	0.65%
Fe 273.955†	2399.4	2.129 mg/L	0.0091	2.129 mg/L	0.0091	0.43%
K 766.490†	46422.2	20.54 mg/L	0.011	20.54 mg/L	0.011	0.05%
Mg 279.077†	2324.3	2.020 mg/L	0.0120	2.020 mg/L	0.0120	0.59%
Mn 257.610†	30658.0	1.005 mg/L	0.0090	1.005 mg/L	0.0090	0.90%
Mo 202.031†	18674.8	0.9722 mg/L	0.01355	0.9722 mg/L	0.01355	1.39%
Na 589.592†	688083.1	51.79 mg/L	0.078	51.79 mg/L	0.078	0.15%
Na 330.237†	1101.2	52.29 mg/L	0.453	52.29 mg/L	0.453	0.87%
Ni 231.604†	3409.9	1.041 mg/L	0.0067	1.041 mg/L	0.0067	0.65%
Pb 220.353†	16722.3	2.025 mg/L	0.0238	2.025 mg/L	0.0238	1.17%
Sb 206.836†	6713.1	2.102 mg/L	0.0203	2.102 mg/L	0.0203	0.96%
Se 196.026†	2915.9	2.037 mg/L	0.0198	2.037 mg/L	0.0198	0.97%
Si 288.158†	3451.1	2.084 mg/L	0.0269	2.084 mg/L	0.0269	1.29%
Sn 189.927†	3591.4	1.004 mg/L	0.0111	1.004 mg/L	0.0111	1.10%
Sr 421.552†	857215.1	1.030 mg/L	0.0020	1.030 mg/L	0.0020	0.19%
Ti 334.903†	16616.6	1.007 mg/L	0.0043	1.007 mg/L	0.0043	0.43%
Tl 190.801†	4527.4	2.059 mg/L	0.0153	2.059 mg/L	0.0153	0.74%
V 292.402†	155841.2	1.038 mg/L	0.0103	1.038 mg/L	0.0103	1.00%
Zn 206.200†	3470.5	1.036 mg/L	0.0063	1.036 mg/L	0.0063	0.61%

Sequence No.: 80

Sample ID: CB 8

Autosampler Location: 1

Date Collected: 3/26/2014 3:51:05 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2849236.6	100.5 %	0.35			0.35%
ScR 361.383	250737.3	101.7 %	0.42			0.42%
Ag 328.068†	37.6	0.00020 mg/L	0.000090	0.00020 mg/L	0.000090	45.94%
Al 308.215†	11.1	0.00845 mg/L	0.003554	0.00845 mg/L	0.003554	42.08%
As 188.979†	3.9	0.00223 mg/L	0.002106	0.00223 mg/L	0.002106	94.53%
B 249.677†	47.8	0.00846 mg/L	0.000505	0.00846 mg/L	0.000505	5.97%
Ba 233.527†	-0.3	-0.00008 mg/L	0.000926	-0.00008 mg/L	0.000926	>999.9%
Be 313.042†	79.9	0.00016 mg/L	0.000065	0.00016 mg/L	0.000065	41.48%
Ca 317.933†	6.4	0.00064 mg/L	0.000466	0.00064 mg/L	0.000466	72.28%
Cd 228.802†	-4.0	-0.00013 mg/L	0.000062	-0.00013 mg/L	0.000062	46.59%
Co 228.616†	2.6	0.00007 mg/L	0.000078	0.00007 mg/L	0.000078	113.72%
Cr 267.716†	-2.4	-0.00049 mg/L	0.000466	-0.00049 mg/L	0.000466	94.24%
Cu 324.752†	51.9	0.00018 mg/L	0.000072	0.00018 mg/L	0.000072	38.87%
Fe 273.955†	1.4	0.00126 mg/L	0.001818	0.00126 mg/L	0.001818	144.63%
K 766.490†	46.8	0.02072 mg/L	0.006327	0.02072 mg/L	0.006327	30.54%
Mg 279.077†	-9.1	-0.00792 mg/L	0.000805	-0.00792 mg/L	0.000805	10.17%
Mn 257.610†	2.5	0.00008 mg/L	0.000142	0.00008 mg/L	0.000142	175.37%
Mo 202.031†	11.6	0.00060 mg/L	0.000123	0.00060 mg/L	0.000123	20.35%
Na 589.592†	659.5	0.04964 mg/L	0.003111	0.04964 mg/L	0.003111	6.27%
Na 330.237†	0.7	0.03543 mg/L	0.225574	0.03543 mg/L	0.225574	636.71%
Ni 231.604†	1.6	0.00050 mg/L	0.001609	0.00050 mg/L	0.001609	321.33%
Pb 220.353†	-4.2	-0.00050 mg/L	0.001208	-0.00050 mg/L	0.001208	241.03%
Sb 206.836†	22.7	0.00713 mg/L	0.002179	0.00713 mg/L	0.002179	30.55%
Se 196.026†	0.4	0.00027 mg/L	0.002024	0.00027 mg/L	0.002024	746.42%
Si 288.158†	1.6	0.00094 mg/L	0.006415	0.00094 mg/L	0.006415	680.61%
Sn 189.927†	1.6	0.00046 mg/L	0.000247	0.00046 mg/L	0.000247	53.45%
Sr 421.552†	118.2	0.00014 mg/L	0.000038	0.00014 mg/L	0.000038	26.82%
Ti 334.903†	-0.8	-0.00005 mg/L	0.000195	-0.00005 mg/L	0.000195	382.94%
Tl 190.801†	4.8	0.00221 mg/L	0.001933	0.00221 mg/L	0.001933	87.40%
V 292.402†	7.6	0.00005 mg/L	0.000070	0.00005 mg/L	0.000070	144.34%
Zn 206.200†	0.2	0.00006 mg/L	0.000312	0.00006 mg/L	0.000312	525.62%

Sequence No.: 81
 Sample ID: YD51 MB3 TWC

Autosampler Location: 360
 Date Collected: 3/26/2014 3:55:05 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD51 MB3 TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

 Mean Data: YD51 MB3 TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2864537.4	101.1	%	0.09			0.08%
ScR 361.383	250780.0	101.7	%	0.10			0.10%
Ag 328.068†	-33.1	-0.00017	mg/L	0.000228	-0.00017 mg/L	0.000228	132.78%
Al 308.215†	5.9	0.00453	mg/L	0.001494	0.00453 mg/L	0.001494	32.95%
As 188.979†	3.8	0.00216	mg/L	0.000709	0.00216 mg/L	0.000709	32.80%
B 249.677†	37.5	0.00663	mg/L	0.000816	0.00663 mg/L	0.000816	12.30%
Ba 233.527†	-1.5	-0.00040	mg/L	0.000750	-0.00040 mg/L	0.000750	187.84%
Be 313.042†	14.6	0.00003	mg/L	0.000010	0.00003 mg/L	0.000010	33.33%
Ca 317.933†	28.2	0.00286	mg/L	0.001226	0.00286 mg/L	0.001226	42.84%
Cd 228.802†	-9.7	-0.00030	mg/L	0.000146	-0.00030 mg/L	0.000146	48.02%
Co 228.616†	-0.2	-0.00000	mg/L	0.000027	-0.00000 mg/L	0.000027	592.06%
Cr 267.716†	-1.5	-0.00030	mg/L	0.000984	-0.00030 mg/L	0.000984	329.19%
Cu 324.752†	-4.6	-0.00002	mg/L	0.000130	-0.00002 mg/L	0.000130	791.34%
Fe 273.955†	-2.2	-0.00192	mg/L	0.001808	-0.00192 mg/L	0.001808	94.37%
K 766.490†	55.8	0.02467	mg/L	0.012994	0.02467 mg/L	0.012994	52.66%
Mg 279.077†	-2.4	-0.00208	mg/L	0.003469	-0.00208 mg/L	0.003469	166.95%
Mn 257.610†	0.7	0.00002	mg/L	0.000100	0.00002 mg/L	0.000100	419.96%
Mo 202.031†	-1.4	-0.00007	mg/L	0.000214	-0.00007 mg/L	0.000214	286.65%
Na 589.592†	545.1	0.04103	mg/L	0.000213	0.04103 mg/L	0.000213	0.52%
Na 330.237†	3.4	0.1631	mg/L	0.03993	0.1631 mg/L	0.03993	24.48%
Ni 231.604†	-3.1	-0.00094	mg/L	0.000848	-0.00094 mg/L	0.000848	89.92%
Pb 220.353†	-0.2	-0.00003	mg/L	0.000279	-0.00003 mg/L	0.000279	>999.9%
Sb 206.836†	3.1	0.00099	mg/L	0.002126	0.00099 mg/L	0.002126	215.18%
Se 196.026†	-2.5	-0.00176	mg/L	0.002501	-0.00176 mg/L	0.002501	142.49%
Si 288.158†	7.6	0.00459	mg/L	0.005076	0.00459 mg/L	0.005076	110.63%
Sn 189.927†	3.0	0.00085	mg/L	0.000496	0.00085 mg/L	0.000496	58.40%
Sr 421.552†	14.4	0.00002	mg/L	0.000020	0.00002 mg/L	0.000020	117.63%
Ti 334.903†	-6.9	-0.00042	mg/L	0.000118	-0.00042 mg/L	0.000118	28.41%
Tl 190.801†	1.0	0.00046	mg/L	0.000937	0.00046 mg/L	0.000937	201.96%
V 292.402†	-11.2	-0.00008	mg/L	0.000015	-0.00008 mg/L	0.000015	19.56%
Zn 206.200†	4.3	0.00129	mg/L	0.000463	0.00129 mg/L	0.000463	35.84%

Sequence No.: 82
 Sample ID: YD51 EDUP TWC

Autosampler Location: 361
 Date Collected: 3/26/2014 3:59:06 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD51 EDUP TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YD51 EDUP TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	2811472.9	99.20 %		0.703			0.71%
ScR 361.383	248599.7	100.9 %		0.07			0.07%
Ag 328.068†	-28.2	-0.00001 mg/L		0.000021	-0.00001 mg/L	0.000021	153.34%
Al 308.215†	13.6	0.01028 mg/L		0.001810	0.01028 mg/L	0.001810	17.62%
As 188.979†	21.0	0.01006 mg/L		0.002354	0.01006 mg/L	0.002354	23.40%
B 249.677†	451.5	0.07985 mg/L		0.000325	0.07985 mg/L	0.000325	0.41%
Ba 233.527†	35.4	0.00940 mg/L		0.001234	0.00940 mg/L	0.001234	13.12%
Be 313.042†	23.6	0.00005 mg/L		0.000004	0.00005 mg/L	0.000004	9.34%
Ca 317.933†	215490.5	21.87 mg/L		0.048	21.87 mg/L	0.048	0.22%
Cd 228.802†	-14.1	-0.00049 mg/L		0.000130	-0.00049 mg/L	0.000130	26.70%
Co 228.616†	8.0	0.00021 mg/L		0.000142	0.00021 mg/L	0.000142	68.93%
Cr 267.716†	6.0	0.00002 mg/L		0.000694	0.00002 mg/L	0.000694	>999.9%
Cu 324.752†	120.0	0.00029 mg/L		0.000321	0.00029 mg/L	0.000321	111.02%
Fe 273.955†	8.2	0.00729 mg/L		0.001415	0.00729 mg/L	0.001415	19.40%
K 766.490†	5809.8	2.571 mg/L		0.0239	2.571 mg/L	0.0239	0.93%
Mg 279.077†	13226.9	11.46 mg/L		0.041	11.46 mg/L	0.041	0.36%
Mn 257.610†	21.5	0.00053 mg/L		0.000060	0.00053 mg/L	0.000060	11.13%
Mo 202.031†	51.1	0.00232 mg/L		0.000153	0.00232 mg/L	0.000153	6.60%
Na 589.592†	144986.6	10.91 mg/L		0.023	10.91 mg/L	0.023	0.21%
Na 330.237†	245.0	11.51 mg/L		0.212	11.51 mg/L	0.212	1.84%
Ni 231.604†	5.5	0.00167 mg/L		0.000612	0.00167 mg/L	0.000612	36.76%
Pb 220.353†	-13.9	-0.00167 mg/L		0.000546	-0.00167 mg/L	0.000546	32.67%
Sb 206.836†	3.1	0.00090 mg/L		0.002050	0.00090 mg/L	0.002050	227.71%
Se 196.026†	3.1	0.00215 mg/L		0.004296	0.00215 mg/L	0.004296	199.86%
Si 288.158†	19595.4	11.81 mg/L		0.078	11.81 mg/L	0.078	0.66%
Sn 189.927†	-30.9	-0.00597 mg/L		0.001081	-0.00597 mg/L	0.001081	18.11%
Sr 421.552†	99705.2	0.1198 mg/L		0.00028	0.1198 mg/L	0.00028	0.23%
Ti 334.903†	27.1	0.00010 mg/L		0.000322	0.00010 mg/L	0.000322	334.33%
Tl 190.801†	7.1	0.00322 mg/L		0.001527	0.00322 mg/L	0.001527	47.48%
V 292.402†	308.5	0.00205 mg/L		0.000122	0.00205 mg/L	0.000122	5.94%
Zn 206.200†	0.6	0.00237 mg/L		0.000873	0.00237 mg/L	0.000873	36.81%

Sequence No.: 83
 Sample ID: YD51 E TWC

Autosampler Location: 362
 Date Collected: 3/26/2014 4:03:06 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD51 E TWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: YD51 E TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2819638.8	99.48 %	0.321			0.32%
ScR 361.383	249675.1	101.3 %	0.53			0.53%
Ag 328.068†	-47.2	-0.00011 mg/L	0.000135	-0.00011 mg/L	0.000135	118.31%
Al 308.215†	12.7	0.00960 mg/L	0.004327	0.00960 mg/L	0.004327	45.06%
As 188.979†	20.5	0.00982 mg/L	0.001486	0.00982 mg/L	0.001486	15.13%
B 249.677†	445.2	0.07873 mg/L	0.001509	0.07873 mg/L	0.001509	1.92%
Ba 233.527†	30.3	0.00807 mg/L	0.000464	0.00807 mg/L	0.000464	5.75%
Be 313.042†	19.7	0.00004 mg/L	0.000018	0.00004 mg/L	0.000018	46.67%
Ca 317.933†	212583.8	21.57 mg/L	0.065	21.57 mg/L	0.065	0.30%
Cd 228.802†	-11.5	-0.00040 mg/L	0.000056	-0.00040 mg/L	0.000056	13.73%
Co 228.616†	4.8	0.00012 mg/L	0.000144	0.00012 mg/L	0.000144	118.63%
Cr 267.716†	6.7	0.00018 mg/L	0.001070	0.00018 mg/L	0.001070	610.70%
Cu 324.752†	130.5	0.00033 mg/L	0.000058	0.00033 mg/L	0.000058	17.67%
Fe 273.955†	9.2	0.00822 mg/L	0.001753	0.00822 mg/L	0.001753	21.34%
K 766.490†	5734.0	2.537 mg/L	0.0050	2.537 mg/L	0.0050	0.20%
Mg 279.077†	13072.4	11.32 mg/L	0.038	11.32 mg/L	0.038	0.34%
Mn 257.610†	21.2	0.00053 mg/L	0.000087	0.00053 mg/L	0.000087	16.51%
Mo 202.031†	46.0	0.00206 mg/L	0.000327	0.00206 mg/L	0.000327	15.87%
Na 589.592†	144143.3	10.85 mg/L	0.048	10.85 mg/L	0.048	0.44%
Na 330.237†	235.6	11.07 mg/L	0.140	11.07 mg/L	0.140	1.27%
Ni 231.604†	5.4	0.00164 mg/L	0.001023	0.00164 mg/L	0.001023	62.42%
Pb 220.353†	-12.8	-0.00155 mg/L	0.000466	-0.00155 mg/L	0.000466	30.07%
Sb 206.836†	3.9	0.00116 mg/L	0.000453	0.00116 mg/L	0.000453	39.12%
Se 196.026†	7.1	0.00494 mg/L	0.003710	0.00494 mg/L	0.003710	75.03%
Si 288.158†	15957.2	9.614 mg/L	0.0411	9.614 mg/L	0.0411	0.43%
Sn 189.927†	-30.5	-0.00591 mg/L	0.000356	-0.00591 mg/L	0.000356	6.03%
Sr 421.552†	98774.0	0.1187 mg/L	0.00045	0.1187 mg/L	0.00045	0.38%
Ti 334.903†	35.1	0.00060 mg/L	0.000319	0.00060 mg/L	0.000319	52.93%
Tl 190.801†	8.4	0.00385 mg/L	0.003706	0.00385 mg/L	0.003706	96.39%
V 292.402†	311.8	0.00207 mg/L	0.000057	0.00207 mg/L	0.000057	2.77%
Zn 206.200†	1.8	0.00233 mg/L	0.000529	0.00233 mg/L	0.000529	22.66%

Sequence No.: 84
 Sample ID: YD51 ESPK TWC

Autosampler Location: 363
 Date Collected: 3/26/2014 4:07:05 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 ESPK TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD51 ESPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2786227.0	98.31 %	0.227			0.23%
ScR 361.383	244033.8	99.00 %	0.859			0.87%
Ag 328.068†	104079.8	0.5403 mg/L	0.00202	0.5403 mg/L	0.00202	0.37%
Al 308.215†	2686.3	2.040 mg/L	0.0188	2.040 mg/L	0.0188	0.92%
As 188.979†	3697.8	2.102 mg/L	0.0058	2.102 mg/L	0.0058	0.28%
B 249.677†	436.5	0.07614 mg/L	0.000866	0.07614 mg/L	0.000866	1.14%
Ba 233.527†	7801.3	2.074 mg/L	0.0181	2.074 mg/L	0.0181	0.87%
Be 313.042†	258201.6	0.5093 mg/L	0.00087	0.5093 mg/L	0.00087	0.17%
Ca 317.933†	315971.9	32.06 mg/L	0.142	32.06 mg/L	0.142	0.44%
Cd 228.802†	17856.3	0.5287 mg/L	0.00046	0.5287 mg/L	0.00046	0.09%
Co 228.616†	19267.9	0.5042 mg/L	0.00036	0.5042 mg/L	0.00036	0.07%
Cr 267.716†	2588.4	0.5244 mg/L	0.00432	0.5244 mg/L	0.00432	0.82%
Cu 324.752†	144911.7	0.5139 mg/L	0.00081	0.5139 mg/L	0.00081	0.16%
Fe 273.955†	2372.9	2.109 mg/L	0.0156	2.109 mg/L	0.0156	0.74%
K 766.490†	29363.4	12.99 mg/L	0.087	12.99 mg/L	0.087	0.67%
Mg 279.077†	25887.9	22.43 mg/L	0.167	22.43 mg/L	0.167	0.74%
Mn 257.610†	15891.1	0.5210 mg/L	0.00311	0.5210 mg/L	0.00311	0.60%
Mo 202.031†	62.5	0.00276 mg/L	0.000078	0.00276 mg/L	0.000078	2.85%
Na 589.592†	286869.4	21.59 mg/L	0.145	21.59 mg/L	0.145	0.67%
Na 330.237†	470.1	22.00 mg/L	0.163	22.00 mg/L	0.163	0.74%
Ni 231.604†	1666.2	0.5076 mg/L	0.00402	0.5076 mg/L	0.00402	0.79%
Pb 220.353†	16978.4	2.055 mg/L	0.0028	2.055 mg/L	0.0028	0.14%
Sb 206.836†	21.6	0.00171 mg/L	0.000555	0.00171 mg/L	0.000555	32.41%
Se 196.026†	2915.2	2.037 mg/L	0.0069	2.037 mg/L	0.0069	0.34%
Si 288.158†	20623.8	12.43 mg/L	0.091	12.43 mg/L	0.091	0.73%
Sn 189.927†	-45.7	-0.00880 mg/L	0.001147	-0.00880 mg/L	0.001147	13.04%
Sr 421.552†	530603.0	0.6377 mg/L	0.00406	0.6377 mg/L	0.00406	0.64%
Ti 334.903†	46.1	0.00043 mg/L	0.000223	0.00043 mg/L	0.000223	51.79%
Tl 190.801†	4413.2	2.011 mg/L	0.0074	2.011 mg/L	0.0074	0.37%
V 292.402†	78759.1	0.5245 mg/L	0.00056	0.5245 mg/L	0.00056	0.11%
Zn 206.200†	1686.7	0.5057 mg/L	0.00384	0.5057 mg/L	0.00384	0.76%

Sequence No.: 85

Autosampler Location: 364

Sample ID: ~~YD51 EPOST TWC~~ 222222

Date Collected: 3/26/2014 4:11:05 PM

Dilution: 1.000000X

BA 3/27/14

Data Type: Original

Nebulizer Parameters: YD51 EPOST TWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YD51 EPOST TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2789116.5	98.41	%	0.837			0.85%
ScR 361.383	246464.4	99.99	%	0.488			0.49%
Ag 328.068†	99242.4	0.5152	mg/L	0.00378	0.5152 mg/L	0.00378	0.73%
Al 308.215†	2683.7	2.038	mg/L	0.0181	2.038 mg/L	0.0181	0.89%
As 188.979†	3711.1	2.109	mg/L	0.0151	2.109 mg/L	0.0151	0.71%
B 249.677†	441.5	0.07701	mg/L	0.001124	0.07701 mg/L	0.001124	1.46%
Ba 233.527†	7727.1	2.054	mg/L	0.0126	2.054 mg/L	0.0126	0.61%
Be 313.042†	245349.8	0.4839	mg/L	0.00096	0.4839 mg/L	0.00096	0.20%
Ca 317.933†	314683.6	31.93	mg/L	0.032	31.93 mg/L	0.032	0.10%
Cd 228.802†	17897.8	0.5299	mg/L	0.00361	0.5299 mg/L	0.00361	0.68%
Co 228.616†	19295.7	0.5049	mg/L	0.00327	0.5049 mg/L	0.00327	0.65%
Cr 267.716†	2595.0	0.5257	mg/L	0.00168	0.5257 mg/L	0.00168	0.32%
Cu 324.752†	146542.6	0.5197	mg/L	0.00407	0.5197 mg/L	0.00407	0.78%
Fe 273.955†	2365.6	2.102	mg/L	0.0182	2.102 mg/L	0.0182	0.87%
K 766.490†	29237.9	12.94	mg/L	0.019	12.94 mg/L	0.019	0.15%
Mg 279.077†	25871.1	22.41	mg/L	0.131	22.41 mg/L	0.131	0.59%
Mn 257.610†	15877.0	0.5205	mg/L	0.00279	0.5205 mg/L	0.00279	0.54%
Mo 202.031†	58.5	0.00255	mg/L	0.000167	0.00255 mg/L	0.000167	6.53%
Na 589.592†	284973.1	21.45	mg/L	0.122	21.45 mg/L	0.122	0.57%
Na 330.237†	458.9	21.47	mg/L	0.104	21.47 mg/L	0.104	0.49%
Ni 231.604†	1680.1	0.5118	mg/L	0.00517	0.5118 mg/L	0.00517	1.01%
Pb 220.353†	16978.3	2.055	mg/L	0.0180	2.055 mg/L	0.0180	0.88%
Sb 206.836†	18.2	0.00066	mg/L	0.001317	0.00066 mg/L	0.001317	199.76%
Se 196.026†	2953.2	2.063	mg/L	0.0069	2.063 mg/L	0.0069	0.33%
Si 288.158†	16595.8	10.00	mg/L	0.089	10.00 mg/L	0.089	0.89%
Sn 189.927†	-43.2	-0.00812	mg/L	0.000387	-0.00812 mg/L	0.000387	4.77%
Sr 421.552†	527967.2	0.6345	mg/L	0.00141	0.6345 mg/L	0.00141	0.22%
Ti 334.903†	46.2	0.00045	mg/L	0.000557	0.00045 mg/L	0.000557	124.67%
Tl 190.801†	4433.8	2.020	mg/L	0.0134	2.020 mg/L	0.0134	0.66%
V 292.402†	78994.3	0.5261	mg/L	0.00348	0.5261 mg/L	0.00348	0.66%
Zn 206.200†	1709.8	0.5121	mg/L	0.00267	0.5121 mg/L	0.00267	0.52%

YD51 : 00152

Sequence No.: 86

Sample ID: YD51 F TWC

Autosampler Location: 365

Date Collected: 3/26/2014 4:15:05 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 F TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD51 F TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2790872.0	98.47 %	0.806			0.82%
ScR 361.383	247920.6	100.6 %	0.44			0.44%
Ag 328.068†	6.7	0.00015 mg/L	0.000156	0.00015 mg/L	0.000156	103.94%
Al 308.215†	110.2	0.08394 mg/L	0.001294	0.08394 mg/L	0.001294	1.54%
As 188.979†	20.9	0.01040 mg/L	0.003367	0.01040 mg/L	0.003367	32.36%
B 249.677†	362.6	0.06414 mg/L	0.001258	0.06414 mg/L	0.001258	1.96%
Ba 233.527†	26.0	0.00689 mg/L	0.000444	0.00689 mg/L	0.000444	6.45%
Be 313.042†	43.4	0.00008 mg/L	0.000009	0.00008 mg/L	0.000009	10.72%
Ca 317.933†	187395.8	19.02 mg/L	0.048	19.02 mg/L	0.048	0.25%
Cd 228.802†	-3.3	-0.00016 mg/L	0.000230	-0.00016 mg/L	0.000230	142.83%
Co 228.616†	6.5	0.00016 mg/L	0.000121	0.00016 mg/L	0.000121	74.84%
Cr 267.716†	10.8	0.00121 mg/L	0.000796	0.00121 mg/L	0.000796	65.98%
Cu 324.752†	322.2	0.00104 mg/L	0.000154	0.00104 mg/L	0.000154	14.81%
Fe 273.955†	240.1	0.2137 mg/L	0.00186	0.2137 mg/L	0.00186	0.87%
K 766.490†	4383.9	1.940 mg/L	0.0138	1.940 mg/L	0.0138	0.71%
Mg 279.077†	10658.7	9.233 mg/L	0.0054	9.233 mg/L	0.0054	0.06%
Mn 257.610†	108.0	0.00340 mg/L	0.000080	0.00340 mg/L	0.000080	2.35%
Mo 202.031†	41.6	0.00187 mg/L	0.000270	0.00187 mg/L	0.000270	14.44%
Na 589.592†	164443.7	12.38 mg/L	0.019	12.38 mg/L	0.019	0.15%
Na 330.237†	274.1	12.91 mg/L	0.216	12.91 mg/L	0.216	1.68%
Ni 231.604†	9.4	0.00287 mg/L	0.000639	0.00287 mg/L	0.000639	22.27%
Pb 220.353†	-18.9	-0.00227 mg/L	0.000758	-0.00227 mg/L	0.000758	33.43%
Sb 206.836†	2.5	0.00072 mg/L	0.000058	0.00072 mg/L	0.000058	8.16%
Se 196.026†	5.0	0.00352 mg/L	0.001938	0.00352 mg/L	0.001938	55.14%
Si 288.158†	20718.0	12.48 mg/L	0.016	12.48 mg/L	0.016	0.12%
Sn 189.927†	-24.9	-0.00464 mg/L	0.001145	-0.00464 mg/L	0.001145	24.66%
Sr 421.552†	90833.4	0.1092 mg/L	0.00008	0.1092 mg/L	0.00008	0.08%
Ti 334.903†	81.5	0.00360 mg/L	0.000087	0.00360 mg/L	0.000087	2.42%
Tl 190.801†	6.6	0.00305 mg/L	0.001864	0.00305 mg/L	0.001864	61.18%
V 292.402†	351.9	0.00233 mg/L	0.000068	0.00233 mg/L	0.000068	2.92%
Zn 206.200†	17.0	0.00738 mg/L	0.000475	0.00738 mg/L	0.000475	6.44%

Sequence No.: 87

Sample ID: YD51 MB3SPK TWC

Autosampler Location: 366

Date Collected: 3/26/2014 4:19:04 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD51 MB3SPK TWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YD51 MB3SPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2810277.6	99.15 %	0.882			0.89%
ScR 361.383	246559.6	100.0 %	0.83			0.83%
Ag 328.068†	103812.6	0.5388 mg/L	0.00567	0.5388 mg/L	0.00567	1.05%
Al 308.215†	2734.0	2.077 mg/L	0.0172	2.077 mg/L	0.0172	0.83%
As 188.979†	3670.6	2.088 mg/L	0.0246	2.088 mg/L	0.0246	1.18%
B 249.677†	38.4	0.00570 mg/L	0.000763	0.00570 mg/L	0.000763	13.38%
Ba 233.527†	7871.4	2.093 mg/L	0.0233	2.093 mg/L	0.0233	1.11%
Be 313.042†	260340.2	0.5135 mg/L	0.00154	0.5135 mg/L	0.00154	0.30%
Ca 317.933†	101840.3	10.33 mg/L	0.013	10.33 mg/L	0.013	0.12%
Cd 228.802†	17824.3	0.5278 mg/L	0.00623	0.5278 mg/L	0.00623	1.18%
Co 228.616†	19509.7	0.5105 mg/L	0.00705	0.5105 mg/L	0.00705	1.38%
Cr 267.716†	2641.9	0.5365 mg/L	0.00415	0.5365 mg/L	0.00415	0.77%
Cu 324.752†	143786.3	0.5101 mg/L	0.00592	0.5101 mg/L	0.00592	1.16%
Fe 273.955†	2419.1	2.150 mg/L	0.0154	2.150 mg/L	0.0154	0.72%
K 766.490†	23464.7	10.38 mg/L	0.045	10.38 mg/L	0.045	0.43%
Mg 279.077†	12217.0	10.59 mg/L	0.082	10.59 mg/L	0.082	0.78%
Mn 257.610†	15512.7	0.5087 mg/L	0.00049	0.5087 mg/L	0.00049	0.10%
Mo 202.031†	22.7	0.00102 mg/L	0.000346	0.00102 mg/L	0.000346	33.88%
Na 589.592†	139312.5	10.48 mg/L	0.035	10.48 mg/L	0.035	0.33%
Na 330.237†	233.6	10.89 mg/L	0.198	10.89 mg/L	0.198	1.82%
Ni 231.604†	1710.2	0.5210 mg/L	0.00360	0.5210 mg/L	0.00360	0.69%
Pb 220.353†	17057.5	2.065 mg/L	0.0321	2.065 mg/L	0.0321	1.55%
Sb 206.836†	12.8	-0.00111 mg/L	0.000721	-0.00111 mg/L	0.000721	64.67%
Se 196.026†	2943.4	2.057 mg/L	0.0174	2.057 mg/L	0.0174	0.85%
Si 288.158†	90.0	0.05788 mg/L	0.025707	0.05788 mg/L	0.025707	44.41%
Sn 189.927†	-16.3	-0.00322 mg/L	0.000357	-0.00322 mg/L	0.000357	11.08%
Sr 421.552†	427393.1	0.5136 mg/L	0.00138	0.5136 mg/L	0.00138	0.27%
Ti 334.903†	7.9	-0.00035 mg/L	0.000472	-0.00035 mg/L	0.000472	134.53%
Tl 190.801†	4440.8	2.023 mg/L	0.0209	2.023 mg/L	0.0209	1.03%
V 292.402†	78450.3	0.5225 mg/L	0.00565	0.5225 mg/L	0.00565	1.08%
Zn 206.200†	1728.9	0.5160 mg/L	0.00549	0.5160 mg/L	0.00549	1.06%

YD51 : 00154

Sequence No.: 88

Sample ID: CV9

Autosampler Location: 7

Date Collected: 3/26/2014 4:23:04 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2811346.6	99.19 %	0.608			0.61%
ScR 361.383	241801.9	98.09 %	0.620			0.63%
Ag 328.068†	205372.9	1.066 mg/L	0.0054	1.066 mg/L	0.0054	0.51%
Al 308.215†	2772.7	2.081 mg/L	0.0115	2.081 mg/L	0.0115	0.55%
As 188.979†	3578.7	2.069 mg/L	0.0029	2.069 mg/L	0.0029	0.14%
B 249.677†	5917.5	1.045 mg/L	0.0029	1.045 mg/L	0.0029	0.28%
Ba 233.527†	3888.5	1.034 mg/L	0.0062	1.034 mg/L	0.0062	0.60%
Be 313.042†	527904.9	1.041 mg/L	0.0032	1.041 mg/L	0.0032	0.31%
Ca 317.933†	21136.5	2.145 mg/L	0.0076	2.145 mg/L	0.0076	0.36%
Cd 228.802†	35155.7	1.052 mg/L	0.0055	1.052 mg/L	0.0055	0.53%
Co 228.616†	38909.5	1.017 mg/L	0.0070	1.017 mg/L	0.0070	0.69%
Cr 267.716†	5282.4	1.075 mg/L	0.0023	1.075 mg/L	0.0023	0.21%
Cu 324.752†	300771.7	1.067 mg/L	0.0074	1.067 mg/L	0.0074	0.69%
Fe 273.955†	2424.8	2.152 mg/L	0.0090	2.152 mg/L	0.0090	0.42%
K 766.490†	46935.6	20.77 mg/L	0.017	20.77 mg/L	0.017	0.08%
Mg 279.077†	2330.3	2.026 mg/L	0.0135	2.026 mg/L	0.0135	0.67%
Mn 257.610†	31010.9	1.017 mg/L	0.0027	1.017 mg/L	0.0027	0.26%
Mo 202.031†	19237.3	1.001 mg/L	0.0038	1.001 mg/L	0.0038	0.38%
Na 589.592†	698397.3	52.56 mg/L	0.095	52.56 mg/L	0.095	0.18%
Na 330.237†	1110.0	52.71 mg/L	0.321	52.71 mg/L	0.321	0.61%
Ni 231.604†	3452.9	1.054 mg/L	0.0040	1.054 mg/L	0.0040	0.38%
Pb 220.353†	17242.7	2.088 mg/L	0.0077	2.088 mg/L	0.0077	0.37%
Sb 206.836†	6709.5	2.101 mg/L	0.0053	2.101 mg/L	0.0053	0.25%
Se 196.026†	2915.8	2.037 mg/L	0.0029	2.037 mg/L	0.0029	0.14%
Si 288.158†	3484.5	2.104 mg/L	0.0340	2.104 mg/L	0.0340	1.62%
Sn 189.927†	3596.7	1.006 mg/L	0.0005	1.006 mg/L	0.0005	0.05%
Sr 421.552†	872320.8	1.048 mg/L	0.0021	1.048 mg/L	0.0021	0.20%
Ti 334.903†	16841.0	1.020 mg/L	0.0014	1.020 mg/L	0.0014	0.14%
Tl 190.801†	4543.4	2.067 mg/L	0.0082	2.067 mg/L	0.0082	0.40%
V 292.402†	156278.7	1.041 mg/L	0.0054	1.041 mg/L	0.0054	0.52%
Zn 206.200†	3493.4	1.042 mg/L	0.0041	1.042 mg/L	0.0041	0.39%

Sequence No.: 89

Sample ID: CB 9

Autosampler Location: 1

Date Collected: 3/26/2014 4:27:08 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2817091.3	99.39	%	0.179			0.18%
ScR 361.383	247026.2	100.2	%	0.47			0.47%
Ag 328.068†	16.1	0.00008	mg/L	0.000271	0.00008 mg/L	0.000271	325.67%
Al 308.215†	7.1	0.00539	mg/L	0.000437	0.00539 mg/L	0.000437	8.09%
As 188.979†	4.4	0.00247	mg/L	0.002265	0.00247 mg/L	0.002265	91.59%
B 249.677†	45.7	0.00809	mg/L	0.000513	0.00809 mg/L	0.000513	6.34%
Ba 233.527†	-2.6	-0.00070	mg/L	0.000542	-0.00070 mg/L	0.000542	77.43%
Be 313.042†	75.9	0.00015	mg/L	0.000015	0.00015 mg/L	0.000015	10.15%
Ca 317.933†	-2.3	-0.00023	mg/L	0.000903	-0.00023 mg/L	0.000903	384.88%
Cd 228.802†	-1.9	-0.00007	mg/L	0.000024	-0.00007 mg/L	0.000024	34.01%
Co 228.616†	4.1	0.00011	mg/L	0.000064	0.00011 mg/L	0.000064	59.76%
Cr 267.716†	-0.6	-0.00012	mg/L	0.000914	-0.00012 mg/L	0.000914	743.82%
Cu 324.752†	51.4	0.00018	mg/L	0.000072	0.00018 mg/L	0.000072	39.60%
Fe 273.955†	0.1	0.00010	mg/L	0.000454	0.00010 mg/L	0.000454	437.37%
K 766.490†	70.1	0.03102	mg/L	0.011046	0.03102 mg/L	0.011046	35.61%
Mg 279.077†	3.8	0.00332	mg/L	0.003064	0.00332 mg/L	0.003064	92.36%
Mn 257.610†	7.5	0.00025	mg/L	0.000030	0.00025 mg/L	0.000030	12.08%
Mo 202.031†	12.9	0.00067	mg/L	0.000176	0.00067 mg/L	0.000176	26.23%
Na 589.592†	539.0	0.04057	mg/L	0.004146	0.04057 mg/L	0.004146	10.22%
Na 330.237†	-4.2	-0.1978	mg/L	0.14510	-0.1978 mg/L	0.14510	73.36%
Ni 231.604†	-1.1	-0.00034	mg/L	0.000945	-0.00034 mg/L	0.000945	281.24%
Pb 220.353†	0.6	0.00007	mg/L	0.001015	0.00007 mg/L	0.001015	>999.9%
Sb 206.836†	26.8	0.00840	mg/L	0.001204	0.00840 mg/L	0.001204	14.34%
Se 196.026†	4.2	0.00293	mg/L	0.001498	0.00293 mg/L	0.001498	51.18%
Si 288.158†	23.2	0.01399	mg/L	0.012853	0.01399 mg/L	0.012853	91.87%
Sn 189.927†	2.4	0.00068	mg/L	0.000530	0.00068 mg/L	0.000530	78.50%
Sr 421.552†	138.8	0.00017	mg/L	0.000049	0.00017 mg/L	0.000049	29.62%
Ti 334.903†	-2.9	-0.00018	mg/L	0.000133	-0.00018 mg/L	0.000133	75.12%
Tl 190.801†	-0.3	-0.00013	mg/L	0.000994	-0.00013 mg/L	0.000994	740.21%
V 292.402†	-0.5	-0.00000	mg/L	0.000036	-0.00000 mg/L	0.000036	>999.9%
Zn 206.200†	-0.0	0.00000	mg/L	0.000331	0.00000 mg/L	0.000331	>999.9%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YD51

HEXAVALENT CHROMIUM BENCHSHEET						Date / Time:	3/19/14 16:00	
Diphenyl carbazide colorimetric (SW-846 7196A)						Analyst:	CDE	
REAGENTS				pH METER				
Sulfuric Acid: ID 10317C				Meter ID: ACCUMET AR60				
Acetone: _____				Electrode ID: 1320016P 16				
Diphenylcarbazide: C001179								
CALIBRATION								
Cr+6 Curve Standard		ARI ID: C000892		Date Prepared:				
Stock	0.0709	g K2Cr2O7 to	500	mL =	50.1	mg/L Cr+6		
Intermediate	5	mL Stock to	50	mL =	5.01	mg/L Cr+6		
Standard Curve Data								
final volume of prepared standards =				50 mL				
TIME: 16:45		Instrument Used: SPEC 1						
ml	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk		Regression Data		
Intermediate		1	2	Corr Abs		Conc = (abs-intercept)/slope		
0.0	0.00	0.000		0.000	= blank abs	intercept = 0.0021		
0.1	0.01	0.008		0.008	E 0.01	slope = 0.7911		
0.5	0.05	0.041		0.041	0.05	r = 1.000		
1.0	0.10	0.082		0.082	0.10	Comment: Calibration OK!		
5.0	0.50	0.403		0.403	0.51	maxabs = 0.793		
10.0	1.00	0.793		0.793	1.00			
Calibration Verification Standard								
Source	ERA # 160412/ B001620			Stock Conc	1,000	mg/L Cr+6		
DQL Int =	0.10	ml stock to	10	mL pH2 =	10.00	mg/L Cr+6		
DQL =	0.20	ml DQL Int. to	50	mL pH2 =	0.04	mg/L Cr+6		
CVS =	0.025	ml stock to	100	mL pH2 =	0.25	mg/L Cr+6		
Prep Check Standard								
Dilution	0.50	ml stock to	40.00	mL DI =	0.63	mg/L Cr+6		
SAMPLE DATA Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL								
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g 1mL diluted to 5mL = 5/1 = 2.0)								
SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data				Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm	(mg/L)		
ICB		1.000	1		0.000	-0.003	< 0.01	Blk OK
ICV		1.000	1		0.204	0.255	0.255	102.09%
Prep Blk		1.250	1		0.000	-0.003	< 0.01	Blk OK
Prep Chk		1.250	1		0.407	0.640	0.640	102.11%
DQL		1.250	1		0.027	0.039	0.039	
YD51 A1		1.250	1		0.001	-0.002	< 0.01	
YD51 A1 dup		1.250	1	0.000	0.000	-0.003	< 0.01	RPD NA
YD51 A1 ms		1.250	1	0.000	0.041	0.061	0.061	% Rec= 98.1
Spike at 0.050		mL stock to 40		mLsample= 0.063		mg/L		Validated
YD51 B1		1.250	1		0.000	-0.003	< 0.01	
CCB		1.000	1		-0.001	-0.004	< 0.01	Blk OK
CCV		1.000	1		0.203	0.254	0.254	101.58%

HEXAVALENT CHROMIUM BENCHSHEET

Diphenyl carbazide colorimetric (SW-846 7196A)

Date / Time: 3-19-14 16:00

Analyst: CWL

REAGENTS

Sulfuric Acid: 10317C
 Acetone: _____
 Diphenylcarbazide: C001179

pH METER

Meter ID: ACCUMET AR60
 Electrode ID: 1520016F IE

CALIBRATION

Cr+6 Curve Standard		ARI ID.	C000892	Date Prepared:
Stock	0.0709	g K2Cr2O7 to	500	mL = 50.1 mg/L Cr+6
Intermediate	5	mL Stock to	50	mL = 5.01 mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL

ml	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk Corr Abs
		1	2	
0.0	0.00	0.000		= blank abs
0.1	0.01	0.008		
0.5	0.05	0.041		
1.0	0.10	0.082		
5.0	0.50	0.403		
10.0	1.00	0.793		

Regression Data	
Conc = (abs-intercept)/slope	
intercept =	
slope =	
r =	
Comment:	
maxabs =	

Calibration Verification Standard

Source	ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6
DQL Int. =	0.10 ml stock to	mL pH2 =	10.00 mg/L Cr+6
DQL =	0.20 ml DQL Int. to	mL pH2 =	0.04 mg/L Cr+6
CVS =	0.025 ml stock to	mL pH2 =	0.25 mg/L Cr+6

Prep Check Standard

Dilution	0.50 ml stock to	40.00 mL DI =	0.63 mg/L Cr+6
----------	------------------	---------------	----------------

SAMPLE DATA

Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL

mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data				Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm	(mg/L)		
ICB		1.000	1		0.000			
ICV		1.000	1		0.204			
Prep Blk		1.250	1		0.000			
Prep Chk		1.250	1		0.407			
DQL		1.250	1		0.027			
YD51 A1		1.250	1		0.001			
A1 d1		1.250	1		0.000			
A1 w1		1.250	1		0.041		0.05 ml stock	
B1		1.250	1		0.000		Out sample	
CCB		1.250	1		0.001			
CCV		1.250	1		0.203			
		1.250	1					
CCB		1.000	1					
CCV		1.000	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
		1.250	1					
CCB		1.000	1					
CCV		1.000	1					

2 0.204

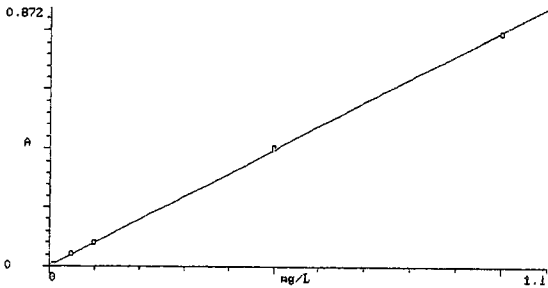
TEST SETUP
GENESYS 10 v2.021 2G2G048006

3 0.000

Standard Curve 16:45 19Mar14
Test Name CHROME 6
Date Standards Measured 19Mar14
Wavelength 540nm
Ref. Wavelength Correction Off
Curve Fit Linear
Number of Standards 6
Units mg/L
ID# (0=OFF) Off
Low/High Limits 0.000/1.000
Statistics Off
Auto Print On

4 0.407

5 0.027



6 0.001

7 0.000

Curve Fit Linear
Slope 0.794
Intercept 0.00155
Std Dev 0.003
Corr Coeff 1.000

8 0.041

9 0.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.041
0.100	0.082
0.500	0.403
1.000	0.793

*3-19-14
CJM*

10 -0.001

11 0.203

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C 16:46 19Mar14
Test Name CHROME 6[Saved]
Measurement Mode Absorbance
Wavelength 540nm
Ref. Wavelength Correction Off
Delay Time (min:sec) 0:00
ID# (0=OFF) 1
Low/High Limits 0.000/1.000
Statistics Off
Auto Print On

ID#	Abs 540nm
1	0.000

Table of Contents: ARI Job YE22

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

	Page From:	Page To:
Inventory Sheet		
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Chain of Custody Documentation	<u>2</u>	<u>5</u>
Case Narrative, Data Qualifiers, Control Limits	<u>6</u>	<u>9</u>
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Signature

April-01-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 3, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YE22

Dear Ian:

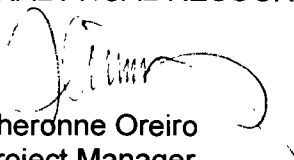
Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.



Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YE22

Enclosures

Chain of Custody Documentation

ARI Job ID: YE22

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: Y50 Turn-around Requested: _____

ARI Client Company: **GeoEngineers** Phone: **253-383-4940**

Client Contact: **Ian Young**

Client Project Name: **Aladden Plating**

Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Date: **3/22/14**

Page: **5** of **1**

No. of Coolers: _____

Cooler Temps: _____

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Relinquished by: (Signature)	
MW15-140321	3/21	850	W	1					
MW25-140321		945	W	1					
MW35-140321		1040	W	1					
MW45-140321		1125	W	1					
MW50-140321		1230	W	1					
MW65-140322	3/22	1400	W	1					

Comments/Special Instructions

- Metals include: chromium, nickel, lead
- Dissolved Nickel not field filtered

Relinquished by: (Signature)	Received by: (Signature)
Printed Name: Paul Robinette	Printed Name: Paul Robinette
Company: BET	Company: ARI
Date & Time: 3/24/14	Date & Time: 3/25/14 1315

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDAPSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: GeoEngineer

Project Name: Aladdin Plating

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: YE22

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
 Time: 1400 9.3

If cooler temperature is out of compliance fill out form 00070F
 Temp Gun ID#: 12241222-1

Cooler Accepted by: _____ Date: 3/25/14 Time: 1315

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI NA
 Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: ANV Date: 3/25/14 Time: 1500

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)
 Peabubbles → "pb" (2 to < 4 mm)
 Large → "lg" (4 to < 6 mm)
 Headspace → "hs" (> 6 mm)



ARI Job No: YE22

PC: Cheronne
VTSR: 03/25/14

Inquiry Number: NONE
Analysis Requested: 03/25/14
Contact: Young, Ian
Client: GeoEngineers
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: Lv4
Deliverables:

Project #: 0504-095-00
Project: Aladden Plating
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET DOC FLT FLT	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
14-5363 YE22A	MW1s-140321						TOT <2 <i>PASS</i>													
14-5364 YE22B	MW2s-140321						TOT <2 <i>PASS</i>													
14-5365 YE22C	MW3s-140321						TOT <2 <i>PASS</i>													
14-5366 YE22D	MW4s-140321						TOT <2 <i>PASS</i>													
14-5367 YE22E	MW4d-140321						TOT <2 <i>PASS</i>													
14-5368 YE22F	MW6s-140322						TOT <2 <i>PASS</i>													

YE22 : 00005

Checked By AV Date 3/25/14

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YE22



Case Narrative

Client: GeoEngineers

Project: Aladden Plating, 0504-095-00

ARI Job No.: YE22

Sample Receipt

Six water samples were received on March 25, 2014 under ARI job YE22. The cooler temperature measured by IR thermometer following ARI SOP was 9.3°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

Sample ID Cross Reference Report



ARI Job No: YE22
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW1s-140321	YE22A	14-5363	Water	03/21/14 08:50	03/25/14 13:15
2. MW2s-140321	YE22B	14-5364	Water	03/21/14 09:45	03/25/14 13:15
3. MW3s-140321	YE22C	14-5365	Water	03/21/14 10:40	03/25/14 13:15
4. MW4s-140321	YE22D	14-5366	Water	03/21/14 11:25	03/25/14 13:15
5. MW4d-140321	YE22E	14-5367	Water	03/21/14 12:30	03/25/14 13:15
6. MW6s-140322	YE22F	14-5368	Water	03/22/14 14:00	03/25/14 13:15



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	RPD	Blank Spike / LCS %R	RPD
Met 6010C (EPA 6010C) in Water								
Preservation: pH<2; HNO ₃ , Cool <6°C								
Container: HDPE NM, 500 mL								
Minimum Sample Volume: 500 mL								
Hold Time: 180 days								
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120	20
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120	20
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120	20
Sodium-I	1.14	50.0 mg/L		20	75 - 125	20	80 - 120	20
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120	20

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YE22

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

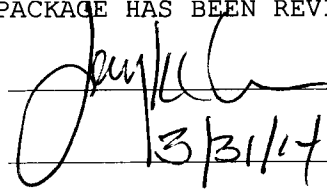
SDG: YE22

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW1s-140321	YE22A	14-5363	
MW1s-140321D	YE22ADUP	14-5363	
MW1s-140321S	YE22ASPK	14-5363	
MW2s-140321	YE22B	14-5364	
PBW	YE22MB1	14-5364	
LCSW	YE22MB1SPK	14-5364	
MW3s-140321	YE22C	14-5365	
MW4s-140321	YE22D	14-5366	
MW4d-140321	YE22E	14-5367	
MW6s-140322	YE22F	14-5368	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn
Date: 3/31/17 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: MW1s-140321
SAMPLE

Lab Sample ID: YE22A

LIMS ID: 14-5363

Matrix: Water

Data Release Authorized: 

Reported: 03/31/14

QC Report No: YE22-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/21/14

Date Received: 03/25/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/26/14	6010C	03/28/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/26/14	6010C	03/28/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/26/14	6010C	03/28/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: MW2s-140321
SAMPLE**

Lab Sample ID: YE22B

LIMS ID: 14-5364

Matrix: Water

Data Release Authorized: 

Reported: 03/31/14

QC Report No: YE22-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/21/14

Date Received: 03/25/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/26/14	6010C	03/28/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/26/14	6010C	03/28/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/26/14	6010C	03/28/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: MW3s-140321

SAMPLE

Lab Sample ID: YE22C

LIMS ID: 14-5365

Matrix: Water

Data Release Authorized:

Reported: 03/31/14

QC Report No: YE22-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/21/14

Date Received: 03/25/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/26/14	6010C	03/28/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/26/14	6010C	03/28/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/26/14	6010C	03/28/14	7440-02-0	Nickel	0.01	0.27	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: MW4s-140321
SAMPLE

Lab Sample ID: YE22D

LIMS ID: 14-5366

Matrix: Water

Data Release Authorized. 

Reported: 03/31/14

QC Report No: YE22-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/21/14

Date Received: 03/25/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/26/14	6010C	03/28/14	7440-47-3	Chromium	0.005	0.098	
3010A	03/26/14	6010C	03/28/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/26/14	6010C	03/28/14	7440-02-0	Nickel	0.01	7.77	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

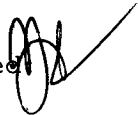
TOTAL METALS

Page 1 of 1

Sample ID: MW4d-140321
SAMPLE

Lab Sample ID: YE22E
LIMS ID: 14-5367
Matrix: Water
Data Release Authorized
Reported: 03/31/14

QC Report No: YE22-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/21/14
Date Received: 03/25/14



Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/26/14	6010C	03/28/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/26/14	6010C	03/28/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/26/14	6010C	03/28/14	7440-02-0	Nickel	0.01	0.01	

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

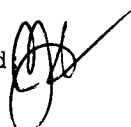
Sample ID: MW6s-140322

SAMPLE

Lab Sample ID: YE22F

LIMS ID: 14-5368

Matrix: Water

Data Release Authorized 

Reported: 03/31/14

QC Report No: YE22-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/22/14

Date Received: 03/25/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/26/14	6010C	03/28/14	7440-47-3	Chromium	0.005	0.010	
3010A	03/26/14	6010C	03/28/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/26/14	6010C	03/28/14	7440-02-0	Nickel	0.01	0.01	

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: MW1s-140321
MATRIX SPIKE**

Lab Sample ID: YE22A

LIMS ID: 14-5363

Matrix: Water

Data Release Authorized 

Reported: 03/31/14

QC Report No: YE22-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/21/14

Date Received: 03/25/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.528	0.500	106%	
Lead	6010C	0.02 U	2.04	2.00	102%	
Nickel	6010C	0.01 U	0.52	0.50	104%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

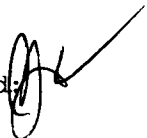
Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: MW1s-140321
DUPLICATE

Lab Sample ID: YE22A
LIMS ID: 14-5363
Matrix: Water
Data Release Authorized: 
Reported: 03/31/14

QC Report No: YE22-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/21/14
Date Received: 03/25/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: LAB CONTROL

Page 1 of 1

Lab Sample ID: YE22LCS


QC Report No: YE22-GeoEngineers

LIMS ID: 14-5364

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized 

Date Sampled: NA

Reported: 03/31/14

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.530	0.500	106%	
Lead	6010C	2.06	2.00	103%	
Nickel	6010C	0.52	0.50	104%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE22MB


QC Report No: YE22-GeoEngineers

LIMS ID: 14-5364

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 03/31/14

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	03/26/14	6010C	03/28/14	7440-47-3	Chromium	0.005	0.005	U
3010A	03/26/14	6010C	03/28/14	7439-92-1	Lead	0.02	0.02	U
3010A	03/26/14	6010C	03/28/14	7440-02-0	Nickel	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE22

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP032871	1000.0	1038.96	103.9	1000.0	1031.07	103.1	1022.56	102.3	1034.15	103.4	1042.84	104.3	1051.53	105.2
Lead	PB	ICP	IP032871	2000.0	2011.21	100.6	2000.0	1977.11	98.9	1981.54	99.1	1993.53	99.7	1970.96	98.5	1983.64	99.2
Nickel	NI	ICP	IP032871	1000.0	1020.31	102.0	1000.0	1011.01	101.1	1005.99	100.6	1021.62	102.2	1028.76	102.9	1037.44	103.7

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP032871	1000.0	1050.27	105.0	1049.73	105.0	1070.33	107.0	1057.23	105.7	1064.23	106.4	1050.78	105.1
Lead	PB	ICP	IP032871	2000.0	1974.14	98.7	1966.04	98.3	2045.77	102.3	2029.43	101.5	2035.00	101.8	2004.26	100.2
Nickel	NI	ICP	IP032871	1000.0	1034.41	103.4	1037.18	103.7	1055.33	105.5	1040.76	104.1	1048.70	104.9	1036.72	103.7

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

YE22 : 00023

CRDL Standard

CLIENT: GeoEngineers
 PROJECT: Aladden Plating

SDG: YE22



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP032871	5.0		5.57	111.4	5.57	111.4								
Lead	PB	ICP	IP032871	20.0		21.10	105.5	20.68	103.4								
Nickel	NI	ICP	IP032871	10.0		11.05	110.5	10.24	102.4								

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Chromium	CR ICP	IP032871	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Lead	PB ICP	IP032871	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Nickel	NI ICP	IP032871	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP032871	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP032871	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP032871	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP032871

SDG: YE22

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSA1 %R	ICSA2	ICSA2 %R	ICSA3	ICSA3 %R	ICSA4	ICSA4 %R
Aluminum	200000	200000	195904.5	98.0	196098.4	98.4	196762.1	98.4		
Antimony	1000	1000	21.2	102.1	19.8	101.4	1014.4	101.4		
Arsenic	1000	1000	25.7	101.6	21.3	101.2	1011.9	101.2		
Barium	1000	1000	-2.3	99.2	-2.0	99.4	994.1	99.4		
Beryllium	1000	1000	0.0	96.9	0.1	97.2	971.6	97.2		
Boron			-7.5	-6.7	-8.7	-7.8				
Cadmium	1000	1000	-0.6	100.6	-0.4	100.4	1003.6	100.4		
Calcium	100000	100000	98676.0	98.9	99962.6	99.8	99810.9	99.8		
Chromium	1000	1000	-0.3	99.8	0.2	100.4	1004.1	100.4		
Cobalt	1000	1000	1.9	93.1	2.0	93.5	934.8	93.5		
Copper	1000	1000	-0.1	103.8	0.4	104.8	1048.3	104.8		
Iron	200000	200000	196287.0	98.5	198426.1	99.5	199008.2	99.5		
Lead	1000	1000	-3.6	96.8	-3.7	97.1	970.8	97.1		
Magnesium	100000	100000	99487.5	96.2	99841.3	97.1	97098.0	97.1		
Manganese	1000	1000	-1.4	97.7	-1.8	94.2	942.4	94.2		
Molybdenum			2.5	2.4	2.0	2.2				
Nickel	1000	1000	0.1	94.8	0.5	95.9	958.7	95.9		
Potassium			10.4	15.5	28.2	27.6				
Selenium	1000	1000	27.2	102.2	31.5	100.7	1007.3	100.7		
Silicon			-13.3	-13.4	-4.2	-8.1				
Silver	1000	1000	-0.5	105.2	-0.7	106.3	1063.2	106.3		
Sodium			12.5	5.7	51.5	47.8				
Strontium			5.4	5.4	5.4	5.4				
Thallium	1000	1000	-0.6	92.9	1.2	93.6	935.5	93.6		
Tin			-15.8	-14.3	-16.2	-16.0				
Titanium			2.4	2.2	2.1	2.1				
Vanadium	1000	1000	-2.1	96.3	-3.2	97.3	973.0	97.3		
Zinc	1000	1000	2.5	94.6	3.2	95.2	951.5	95.2		

FORM IV

YE22 : 00027

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72	10	5.0	4/1/2012	100000.0	1/3/2014	
Lead	PB	ICP	OPTIMA ICP 2	220.35	3	20.0	4/1/2012	300000.0	1/3/2014	
Nickel	NI	ICP	OPTIMA ICP 2	231.60	40	10.0	4/1/2012	100000.0	1/3/2014	

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	EA	EE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	13.0001730	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.1504760	0.0000000	-1.1418810	1.4701580	0.0000000	-0.0444180
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1914790	0.0000000	0.0000000	0.1015620
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.67	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.1178670	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	5.1456370	0.0000000	0.0000000	0.0000000	0.0000000	0.1519640	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0105370	0.0000000	0.0000000	0.0000000	0.0000000	-0.0364800
Cobalt	228.62	0.0000000	0.0000000	0.0956050	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0031370	0.0000000	-0.1731660	0.0000000	0.0000000	-0.0479580
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.3572290	0.0000000	0.0000000
Lead	220.35	-0.3197610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.8955100	1.3683810	0.0487330
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6154620	-1.2018020	0.0000000	0.7453470
Manganese	257.61	0.0085510	0.0000000	0.0000000	0.0000000	0.0051490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0154460	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.4704930	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.8483140	0.0000000	-0.6003380	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	-0.0065610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0801700	0.0000000	5.8939530	0.4135750	0.0000000	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1855780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.1006900	0.0000000	0.0000000	0.1910190	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1255090	0.0000000	0.0251090
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0126620	0.0000000	0.0000000	-0.2680380	0.0000000	0.0000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

IEC DATE: 2/19/2014

SDG: YE22

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.0000000	0.0000000	0.0000000	2.0154950	0.0000000	14.6504130	0.0000000
Antimony	206.84	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7865220	0.0000000	-3.6308690	0.0000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.0000000	0.0000000	0.0000000	-35.7069030	0.0000000	0.0000000	0.0000000
Barium	233.53	0.000000	0.000000	0.0000000	0.1263190	0.0000000	0.0000000	0.0000000	0.0000000	0.2049710	0.0000000
Beryllium	313.04	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0109650	0.0000000	0.2471980	0.0000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.000000	0.000000	0.0000000	-0.9924980	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0519140	0.0000000
Chromium	267.72	0.0714330	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.0000000	0.0000000	1.7865010	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.0000000	0.0000000	0.0000000	0.1968290	0.0000000	0.0000000	0.0000000
Iron	273.96	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.0715790	0.0000000
Lead	220.35	0.000000	0.000000	0.0000000	0.1183620	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0068080	0.000000	0.0000000	0.0000000	-0.2132560	0.0000000	0.0000000	0.0000000	-0.0238460	0.0000000
Molybdenum	202.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.000000	0.000000	0.0000000	0.0000000	0.0000000	-0.5233870	0.0000000	0.4243640	0.0000000	0.0000000
Potassium	766.49	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6221340	0.0000000
Silicon	288.16	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2593400	0.0000000
Sodium	589.59	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.000000	0.000000	-1.6229180	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.93	0.000000	0.000000	0.0000000	0.0000000	-0.0356520	-0.5555490	-0.1890930	0.0000000	3.6063050	0.0000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.0000000	0.0000000	0.0000000	0.5783020	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.0000000	-0.0717780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

YE22: 00030

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: TWC

SDG: YE22

PREPDATE: 3/26/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW1s-140321	YE22A	0.000	50.0	50.0
MW1s-140321D	YE22ADUP	0.000	50.0	50.0
MW1s-140321S	YE22ASPK	0.000	50.0	50.0
MW2s-140321	YE22B	0.000	50.0	50.0
MW3s-140321	YE22C	0.000	50.0	50.0
MW4s-140321	YE22D	0.000	50.0	50.0
MW4d-140321	YE22E	0.000	50.0	50.0
MW6s-140322	YE22F	0.000	50.0	50.0
PBW	YE22MB1	0.000	50.0	50.0
LCSW	YE22MB1SPK	0.000	50.0	50.0

Analysis Run Log



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP032871 METHOD: ICP

START DATE: 3/28/2014

END DATE: 3/28/2014

CLIENT ID	ARI ID	DIL. TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
S0		1.00 0834																																	
S2		1.00 0838																																	
S3		1.00 0840																																	
S4		1.00 0842																																	
S5		1.00 0845																																	
ICV		1.00 0849																																	
ICB		1.00 0853																																	
CRI		1.00 0857																																	
ICSAI		1.00 0901																																	
ICSABI		1.00 0905																																	
CCV		1.00 0910																																	
CCB		1.00 0914																																	
ZZZZZZ		1.00 0918																																	
ZZZZZZ		1.00 0922																																	
ZZZZZZ		1.00 0927																																	
ZZZZZZ		1.00 0931																																	
ZZZZZZ		1.00 0935																																	
ZZZZZZ		1.00 0940																																	
ZZZZZZ		1.00 0944																																	
ZZZZZZ		10.00 0948																																	
CCV		1.00 0952																																	
CCB		1.00 0956																																	
ZZZZZZ		2.00 1000																																	
ZZZZZZ		5.00 1004																																	
ZZZZZZ		1.00 1008																																	
ZZZZZZ		1.00 1012																																	
ZZZZZZ		1.00 1017																																	
ZZZZZZ		1.00 1021																																	
ZZZZZZ		2.00 1026																																	
ZZZZZZ		2.00 1030																																	
ZZZZZZ		2.00 1034																																	
ZZZZZZ		2.00 1038																																	
CCV		1.00 1042																																	
CCB		1.00 1046																																	
ZZZZZZ		2.00 1050																																	



Analysis Run Log

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE22
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP032871
 METHOD: ICP
 START DATE: 3/28/2014
 END DATE: 3/28/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	FG	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN	
ZZZZZZ	YD66C	5.00	1054																																
ZZZZZZ	YD66D	50.00	1058																																
ZZZZZZ	YD87C	2.00	1103																																
ZZZZZZ	YD87D	2.00	1107																																
ZZZZZZ	YD87E	2.00	1111																																
ZZZZZZ	YD87F	2.00	1115																																
ZZZZZZ	YE10B	2.00	1119																																
ZZZZZZ	YE10REF1	2.00	1124																																
ZZZZZZ	YE10MB1SPK	2.00	1127																																
CCV	CCV4	1.00	1131											X																				X	
CCB	CCB4	1.00	1135											X																				X	
ZZZZZZ	YE10A-L	10.00	1139																																
ZZZZZZ	YE10A	2.00	1143																																
ZZZZZZ	YE10ADUP	2.00	1147																																
ZZZZZZ	YE10ASPK	2.00	1151																																
ZZZZZZ	ZZZZZZ	2.00	1155																																
ZZZZZZ	YE10C	2.00	1159																																
ZZZZZZ	YE10D	2.00	1203																																
ZZZZZZ	YE10E	2.00	1208																																
ZZZZZZ	YE10F	2.00	1212																																
CCV	CCV5	1.00	1216											X																				X	
CCB	CCB5	1.00	1220											X																				X	
CRI	CRIF	1.00	1224											X																				X	
ICSA	ICSAF	1.00	1228											X																				X	
ICSAB	ICSABF	1.00	1232											X																				X	
CCV	CCV6	1.00	1236											X																				X	
CCB	CCB6	1.00	1241											X																				X	
ZZZZZZ	YE00MB2	1.00	1245																																
PBW	YE22MB1	1.00	1249																																X
ZZZZZZ	YD88MB1	2.00	1253																																
ZZZZZZ	YD88ADUP	2.00	1257																																
ZZZZZZ	YD88A	2.00	1301																																
ZZZZZZ	YD88ASPK	2.00	1305																																
ZZZZZZ	YD88B	2.00	1309																																X
MW2s-140321	YE22B	1.00	1313											X																				X	

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP032871

METHOD: ICP

START DATE: 3/28/2014

END DATE: 3/28/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN						
LCSW	YE22MB1SPK	1.00	1317											X											X														
ZZZZZZ	YD88MB1SPK	2.00	1321																					X															
CCV	CCV7	1.00	1325											X										X															
CCB	CCB7	1.00	1329											X										X															
ZZZZZZ	YE00MB1	1.00	1333																																				
ZZZZZZ	YE00ADUP	1.00	1337																																				
ZZZZZZ	YE00A	1.00	1341																																				
ZZZZZZ	YE00ASEPK	1.00	1346																																				
ZZZZZZ	ZZZZZZ	1.00	1350																																				
ZZZZZZ	YE00BDUP	1.00	1354																																				
ZZZZZZ	YE00B	1.00	1358																																				
ZZZZZZ	YE00BSPK	1.00	1402																																				
ZZZZZZ	YE00MB2SPK	1.00	1406																																				
ZZZZZZ	YE00MB1SPK	1.00	1410											X										X															
CCV	CCV8	1.00	1414											X										X															
CCB	CCB8	1.00	1418											X										X															
ZZZZZZ	YE47MB1	1.00	1422																																				
ZZZZZZ	YE47A	1.00	1426																																				
ZZZZZZ	YE47B	1.00	1430																																				
ZZZZZZ	YE47C	1.00	1435																																				
ZZZZZZ	YE47D	1.00	1439																																				
ZZZZZZ	YE47MB1SPK	1.00	1443																																				
CCV	CCV9	1.00	1447											X										X															
CCB	CCB9	1.00	1451											X										X															
ZZZZZZ	YE47MB2	1.00	1455																																				
ZZZZZZ	YE47E	1.00	1459																																				
ZZZZZZ	YE47F	1.00	1503																																				
ZZZZZZ	YE47G	1.00	1507																																				
ZZZZZZ	YE47H	1.00	1511																																				
ZZZZZZ	YE47MB2SPK	1.00	1516																																				
CCV	CCV10	1.00	1520											X										X															
CCB	CCB10	1.00	1524											X										X															
MW1s-140321D	YE22ADUP	1.00	1528										X										X																
MW1s-140321	YE22A	1.00	1532										X										X																
MW1s-140321S	YE22ASPK	1.00	1536										X										X																

Analysis Run Log



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE22

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP032871 METHOD: ICP

START DATE: 3/28/2014

END DATE: 3/28/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
ZZZZZZ	ZZZZZZ	1.00	1540																																
MW3s-140321	YE22C	1.00	1544										X											X								X			
MW4s-140321	YE22D	1.00	1548										X											X									X		
MW4d-140321	YE22E	1.00	1552										X											X									X		
MW6s-140322	YE22F	1.00	1556										X											X									X		
CCV	CCV11	1.00	1600										X										X										X		
CCB	CCB11	1.00	1605										X										X											X	

YE22 : 00035

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YE22



SPIKING LOG

Sample ID YE22 ASPK MUSA

Final Volume 500

Final Volume (Hg): _____

Analyst: CS

Date: 3-26-14

Prepcode	T _{Verf}	ICP Routine	ICP NO GFA	GFA
Spike Solution: <u>L216F5</u>				
Standard No.: <u>0-50</u>				
Vol Added (mL):				
Ag	50			2.0
Al	200	200		
As	200			10
Ba	200	200		
Be	50	50		
Ca	1000	1000		
Cd	50			2.0
Co	50	50		
Cr	50	50		
Cu	50	50		
Fe	200	200		
K	1000	1000		
Mg	1000	1000		
Mn	50	50		
Na	1000	1000		
Ni	50	50		
Pb	200			10
Se	200			10
Sr	50	50		
Tl	200			10
V	50	50		
Zn	50	50		

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: LS Date: 3-26-14 Time: 08:10
Matrix: WATER Block ID: 47 Block Temp: 95°C Thermometer: mp52

ARI Sample ID	Btl #	pH<2	Prep Code: <u>TY</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YE21 C	1	↓	50.0	50.0			
" MB	-	-					
" MB205	-	-					
YE22 A	1	↓					
" AC20	1	↓					
" AS20	1	↓					
" B	1	↓					
" C	1	↓					
" D	1	↓					
" E	1	↓					
" F	1	↓					
" MB1	-	-					
" MB150A	-	-					
YE05 A	6	↓					
" B	6	↓					
" MB1	-	-					
" MB150A	-	-	50.0	50.0			
			CG				
			3-26-14				

Chemical/Reagent ID: HNO3, C0082
5061F

HL: C1274

Tube 10 + 18
1309271
Version 005
1/10/12

YE22: 00038

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YE22

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 3-28-14

<u>I2</u>	Analyst <u>BA 3-31-14</u>	Peer <u>HA 3-31-14</u>	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	—	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	<u>See log</u>
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	—	<u>YD88</u>
Matrix Duplicates	✓	—	<u>YE10, YD88</u>
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	✓	✓	<u>CAF- YE10, YD88</u>



IEC Date: 3-26-14

Analysis Date: 3-28-14

Analyst: BA

LR Date: 1-3-14

Page: 1 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1283
		2			C1264
		3			C1265
		4			C1266
		↓ 5			C1267
		ICV			B2567
		ICB			STD 0
		CRI			C1472
		ICSA			C532
		ICSA B			C533
		CCV1			ICV
		CCB1			STD 0
		YD66 MBI	TWC		
		MB2	DMN		
✓		C	↓		Si > LB
✓		D	↓		↓
		B	TWC		
		MBSPK	↓		✓
		↓ MB2SPK	DMN		✓ 0.05 mL 1000ppm Si 3466
		HNO ₃ C1311			
		CCV2			
		CCB2			
		YD87 MBI	SWC	2	
		YD66 A-L	TWC	5	✓



IEC Date:

Analysis Date: 3-28-14

Analyst: BA

LR Date:

Page: 2 of 7

All corrections made by analyst unless otherwise noted. BA 3-28-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YD66 A	TWC		
		↓ ADUP	↓		✓
		↓ ASPK	↓		✓
zzz		↓ 222222 ARST	↓		No STL
		YD87 A	SWC	2	
		↓ B	↓	↓	✓
		↓ MBISPK	↓	↓	✓
		↓ MBISPD	↓	↓	
		CCV3			
		CCB3			
		YE10 MBI	SWC	2	
		YD66 C	DMN	5	
		↓ D	↓	50	
		YD87 C	SWC	2	
		↓ D	↓	↓	
		↓ E	↓	↓	
		↓ F	↓	↓	
		YE10 B			
		↓ BEFI	↓	↓	✓
		↓ MBISPK	↓	↓	✓
		CCV4			
		CCB4			
		YE10 A-L	SWC	10	✓
		↓ A	↓	2	

Continued from previous logbook



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7300
Serial No. - 077C8121202

IEC Date:

Analysis Date: 3-28-14

Analyst: BA

LR Date:

Page: 3 of 7

All corrections made by analyst unless otherwise noted. BA 3-28-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE10 ADUP	SWC	2	✓ Cup RID (CAF)
222		↓ ASPK 222222 APST	↓	↓	✓
		↓ C	↓	↓	
		↓ D	↓	↓	
		↓ E	↓	↓	
		↓ F	↓	↓	
		GCV5			
		CCB5			
		CBI			
		ICSA			
		ICSAB			
		CCV6			
		CCB6			End YDUB, YD87, YE10
		YE00 MB2	WMN		
		YE22 MBI	TWC		
		YD88 MBI	SWC	2	✓
		↓ ADUP	↓	↓	Zn ↑ RID
		↓ A	↓	↓	✓ (CAF)
		↓ ASPK	↓	↓	Zn ↓
		↓ B	↓	↓	
		YE22 B	TWC		
		↓ MBISPK	↓	↓	✓
		YD88 MBISPK	SWC	2	



IEC Date: -

Analysis Date: 3-28-14

Analyst: BA

LR Date: -

Page: 4 of 7

All corrections made by analyst unless otherwise noted. BA 3-28-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV7			
		CCB7			End YD88
		YE00 MBI	TWC		
		ADUP			✓
		A			✓
222		ASPK 222222 APOST			
		BDUP	WMN		
		B			
		BSPK			✓ 0.08 mL ICP Spk B1845
		MB2SPK			✓
		MBISPK	TWC		✓
		CCV8			
		CCB8			End YE00
		YE47 MBI	TWC		
		A			
		B			
		C			
		D			
		MBISPK			✓
		CCV9			
		CCB9			
		YE47 MB2	WMN		
		E			



IEC Date:

Analysis Date: 3-28-14

Analyst: BA

LR Date:

Page: 5 of 7

All corrections made by analyst unless otherwise noted. BA 3-28-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE47 F	WmN		
		↓ G	↓		
		↓ H	↓		
		↓ MB2SK	↓		✓ 0.08 mL ICP Spk B1845
		CCV10			
		CCB10			
		YE22 ADUP	TWC		✓
		↓ A	↓		
		ASPK			✓
222		222222			
		APOST			
		↓ C	↓		
		↓ D	↓		
		↓ E	↓		
		↓ F	↓		
		CCV11			
		CCB11			End Pkg (YE22)
<hr/>					
		YD99 MB2	DMN		
		↓ G	↓		
		↓ H	↓		
		↓ I	↓		
		↓ J	↓		
		FDUP			✓
		↓ F	↓		
		↓ FSPK	↓		✓ 0.08 mL ICP Spk B1845 0.016 mL ICP Spk B464

Nebulizer Parameters: Hg ReAlign

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min
=====

3/28/2014 8:01:35 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.000 Slit adjustment: 0
=====

Analysis Begun

Start Time: 3/28/2014 8:05:40 AM Plasma On Time: 3/28/2014 7:10:57 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV; S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: I2140328
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 3/28/2014 8:05:46 AM
Data Type: Original
Dilution: 1.000000X

Nebulizer Parameters: B1
Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

BA
3/28/14

=====
Analysis Begun

Start Time: 3/28/2014 8:34:45 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 3/28/2014 7:10:57 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0328.sif
Batch ID:
Results Data Set: I2140328
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 3/28/2014 8:34:46 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2850526.3	8038.23	0.28%	100.0 %
ScR 361.383	245857.5	581.55	0.24%	100.0 %
Ag 328.068†	117.5	46.29	39.39%	[0.00] mg/L
Al 308.215†	100.8	1.95	1.93%	[0.00] mg/L
As 188.979†	-9.1	3.86	42.23%	[0.00] mg/L
B 249.677†	38.0	5.50	14.47%	[0.00] mg/L
Ba 233.527†	13.6	2.95	21.65%	[0.00] mg/L
Be 313.042†	697.8	13.34	1.91%	[0.00] mg/L
Ca 317.933†	-146.9	15.28	10.40%	[0.00] mg/L
Cd 228.802†	314.9	6.52	2.07%	[0.00] mg/L
Co 228.616†	-74.5	2.59	3.48%	[0.00] mg/L
Cr 267.716†	-74.3	6.87	9.25%	[0.00] mg/L
Cu 324.752†	4423.2	64.86	1.47%	[0.00] mg/L
Fe 273.955†	45.5	2.20	4.83%	[0.00] mg/L
K 766.490†	577.0	37.23	6.45%	[0.00] mg/L
Mg 279.077†	60.6	3.01	4.97%	[0.00] mg/L
Mn 257.610†	130.2	2.78	2.13%	[0.00] mg/L
Mo 202.031†	51.4	5.88	11.42%	[0.00] mg/L
Na 589.592†	-320.4	51.31	16.01%	[0.00] mg/L
Na 330.237†	-150.2	2.12	1.41%	[0.00] mg/L
Ni 231.604†	-17.9	4.40	24.58%	[0.00] mg/L
Pb 220.353†	45.7	1.99	4.36%	[0.00] mg/L
Sb 206.836†	72.2	2.65	3.67%	[0.00] mg/L
Se 196.026†	-33.0	4.34	13.16%	[0.00] mg/L
Si 288.158†	70.0	8.90	12.70%	[0.00] mg/L
Sn 189.927†	-3.5	1.40	39.96%	[0.00] mg/L
Sr 421.552†	257.1	3.15	1.23%	[0.00] mg/L
Ti 334.903†	-33.7	3.02	8.96%	[0.00] mg/L
Tl 190.801†	-32.3	4.66	14.42%	[0.00] mg/L
V 292.402†	69.5	38.75	55.74%	[0.00] mg/L
Zn 206.200†	10.8	0.87	8.06%	[0.00] mg/L

=====
Sequence No.: 2
Sample ID: STD2
Autosampler Location: 2
Date Collected: 3/28/2014 8:38:47 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: STD2
Mean Corrected Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2868160.9	6709.98	0.23%	100.6	%
ScR 361.383	246640.0	650.01	0.26%	100.3	%
Ba 233.527†	38885.6	147.21	0.38%	[10]	mg/L
Cd 228.802†	324688.3	649.35	0.20%	[10]	mg/L
Co 228.616†	387452.5	575.11	0.15%	[10]	mg/L
Cr 267.716†	49359.9	144.72	0.29%	[10]	mg/L
Cu 324.752†	2807464.5	2783.09	0.10%	[10]	mg/L
Mn 257.610†	302712.6	1414.59	0.47%	[10]	mg/L
V 292.402†	1516432.3	2836.34	0.19%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 3/28/2014 8:40:35 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2846033.3	4852.36	0.17%	99.84	%
ScR 361.383	245239.6	1373.79	0.56%	99.75	%
Ag 328.068†	194811.0	924.34	0.47%	[1.0]	mg/L
As 188.979†	17319.0	89.07	0.51%	[10]	mg/L
B 249.677†	56535.6	112.28	0.20%	[10]	mg/L
Be 313.042†	2489424.4	25123.72	1.01%	[5.0]	mg/L
Na 589.592†	663527.3	1882.17	0.28%	[50]	mg/L
Ni 231.604†	33649.4	90.06	0.27%	[10]	mg/L
Pb 220.353†	82062.5	407.01	0.50%	[10]	mg/L
Se 196.026†	13999.8	54.51	0.39%	[10]	mg/L
Sr 421.552†	4115193.7	11650.72	0.28%	[5]	mg/L
Ti 190.801†	21620.3	67.60	0.31%	[10]	mg/L
Zn 206.200†	34120.9	38.52	0.11%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 3/28/2014 8:42:53 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2906794.6	14144.35	0.49%	102.0	%
ScR 361.383	246368.9	1142.28	0.46%	100.2	%
Mo 202.031†	185580.3	1295.61	0.70%	[10]	mg/L
Sb 206.836†	31272.6	224.97	0.72%	[10]	mg/L
Si 288.158†	17119.2	286.15	1.67%	[10]	mg/L
Sn 189.927†	34060.2	369.98	1.09%	[10]	mg/L
Ti 334.903†	163000.6	603.96	0.37%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 3/28/2014 8:45:08 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2730960.9	12047.34	0.44%	95.81	%
ScR 361.383	244938.7	390.63	0.16%	99.63	%
Al 308.215†	39213.4	225.66	0.58%	[30]	mg/L
Ca 317.933†	295956.4	2021.69	0.68%	[30]	mg/L
Fe 273.955†	110660.8	493.88	0.45%	[100]	mg/L
K 766.490†	225037.3	728.77	0.32%	[100]	mg/L
Mg 279.077†	34672.3	254.93	0.74%	[30]	mg/L
Na 330.237†	2107.1	23.46	1.11%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	194800	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1307	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1732	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5654	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3889	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	497900	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9865	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	32470	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	38750	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4936	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	280700	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1107	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2250	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1156	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	30270	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18560	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13270	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	21.07	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3365	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8206	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3127	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1400	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1712	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3406	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	823000	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16300	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2162	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	151600	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3412	0.00000	1.000000	

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Analysis Begun

Start Time: 3/28/2014 8:49:09 AM

Plasma On Time: 3/28/2014 7:10:57 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0328.sif

Batch ID:

Results Data Set: I2140328

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: CV

Date Collected: 3/28/2014 8:49:10 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2867526.4	100.6 %	0.41			0.41%
ScR 361.383	238694.4	97.09 %	0.616			0.63%
Ag 328.068†	201168.4	1.033 mg/L	0.0080	1.033 mg/L	0.0080	0.78%
Al 308.215†	2694.7	2.030 mg/L	0.0099	2.030 mg/L	0.0099	0.49%
As 188.979†	3434.0	2.014 mg/L	0.0076	2.014 mg/L	0.0076	0.38%
B 249.677†	5751.1	1.016 mg/L	0.0044	1.016 mg/L	0.0044	0.43%
Ba 233.527†	3987.3	1.025 mg/L	0.0058	1.025 mg/L	0.0058	0.56%
Be 313.042†	491189.2	0.9863 mg/L	0.00751	0.9863 mg/L	0.00751	0.76%
Ca 317.933†	20442.2	2.072 mg/L	0.0145	2.072 mg/L	0.0145	0.70%
Cd 228.802†	33347.2	1.018 mg/L	0.0052	1.018 mg/L	0.0052	0.51%
Co 228.616†	38034.0	0.9798 mg/L	0.00588	0.9798 mg/L	0.00588	0.60%
Cr 267.716†	5130.8	1.039 mg/L	0.0067	1.039 mg/L	0.0067	0.65%
Cu 324.752†	288952.8	1.029 mg/L	0.0070	1.029 mg/L	0.0070	0.68%
Fe 273.955†	2290.1	2.063 mg/L	0.0227	2.063 mg/L	0.0227	1.10%
K 766.490†	44518.3	19.78 mg/L	0.028	19.78 mg/L	0.028	0.14%
Mg 279.077†	2272.1	1.972 mg/L	0.0109	1.972 mg/L	0.0109	0.55%
Mn 257.610†	30477.8	1.007 mg/L	0.0079	1.007 mg/L	0.0079	0.79%
Mo 202.031†	18142.9	0.9776 mg/L	0.00227	0.9776 mg/L	0.00227	0.23%
Na 589.592†	670883.7	50.55 mg/L	0.259	50.55 mg/L	0.259	0.51%
Na 330.237†	1081.8	51.30 mg/L	0.272	51.30 mg/L	0.272	0.53%
Ni 231.604†	3432.6	1.020 mg/L	0.0076	1.020 mg/L	0.0076	0.75%
Pb 220.353†	16495.5	2.011 mg/L	0.0031	2.011 mg/L	0.0031	0.15%
Sb 206.836†	6444.6	2.059 mg/L	0.0035	2.059 mg/L	0.0035	0.17%
Se 196.026†	2779.6	1.984 mg/L	0.0046	1.984 mg/L	0.0046	0.23%
Si 288.158†	3373.6	1.975 mg/L	0.0162	1.975 mg/L	0.0162	0.82%
Sn 189.927†	3332.4	0.9800 mg/L	0.00202	0.9800 mg/L	0.00202	0.21%
Sr 421.552†	826653.9	1.004 mg/L	0.0049	1.004 mg/L	0.0049	0.48%
Ti 334.903†	16083.0	0.9854 mg/L	0.00419	0.9854 mg/L	0.00419	0.42%
Tl 190.801†	4385.9	2.021 mg/L	0.0063	2.021 mg/L	0.0063	0.31%
V 292.402†	151009.3	1.000 mg/L	0.0062	1.000 mg/L	0.0062	0.62%
Zn 206.200†	3439.7	1.009 mg/L	0.0092	1.009 mg/L	0.0092	0.92%

Sequence No.: 2
 Sample ID: ICB

Autosampler Location: 1
 Date Collected: 3/28/2014 8:53:13 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2874417.5	100.8	%	0.39				0.39%
ScR 361.383	246785.0	100.4	%	1.12				1.12%
Ag 328.068†	-14.3	-0.00007	mg/L	0.000268	-0.00007	mg/L	0.000268	363.84%
Al 308.215†	-1.5	-0.00117	mg/L	0.003871	-0.00117	mg/L	0.003871	330.20%
As 188.979†	0.9	0.00053	mg/L	0.000946	0.00053	mg/L	0.000946	179.73%
B 249.677†	14.3	0.00253	mg/L	0.000636	0.00253	mg/L	0.000636	25.10%
Ba 233.527†	-1.3	-0.00034	mg/L	0.001325	-0.00034	mg/L	0.001325	389.33%
Be 313.042†	65.2	0.00013	mg/L	0.000010	0.00013	mg/L	0.000010	7.70%
Ca 317.933†	-4.4	-0.00044	mg/L	0.001620	-0.00044	mg/L	0.001620	367.25%
Cd 228.802†	3.4	0.00010	mg/L	0.000115	0.00010	mg/L	0.000115	113.19%
Co 228.616†	5.0	0.00013	mg/L	0.000035	0.00013	mg/L	0.000035	27.20%
Cr 267.716†	7.3	0.00147	mg/L	0.000611	0.00147	mg/L	0.000611	41.50%
Cu 324.752†	137.3	0.00049	mg/L	0.000339	0.00049	mg/L	0.000339	69.26%
Fe 273.955†	1.5	0.00134	mg/L	0.001321	0.00134	mg/L	0.001321	98.82%
K 766.490†	2.6	0.00115	mg/L	0.019833	0.00115	mg/L	0.019833	>999.9%
Mg 279.077†	1.9	0.00162	mg/L	0.004395	0.00162	mg/L	0.004395	270.94%
Mn 257.610†	4.7	0.00015	mg/L	0.000012	0.00015	mg/L	0.000012	7.99%
Mo 202.031†	20.0	0.00108	mg/L	0.000169	0.00108	mg/L	0.000169	15.71%
Na 589.592†	73.6	0.00555	mg/L	0.004551	0.00555	mg/L	0.004551	82.05%
Na 330.237†	0.5	0.02263	mg/L	0.206446	0.02263	mg/L	0.206446	912.23%
Ni 231.604†	1.9	0.00056	mg/L	0.001254	0.00056	mg/L	0.001254	222.99%
Pb 220.353†	3.2	0.00039	mg/L	0.000469	0.00039	mg/L	0.000469	120.99%
Sb 206.836†	28.6	0.00913	mg/L	0.000708	0.00913	mg/L	0.000708	7.75%
Se 196.026†	1.7	0.00125	mg/L	0.002743	0.00125	mg/L	0.002743	220.06%
Si 288.158†	-5.2	-0.00304	mg/L	0.001861	-0.00304	mg/L	0.001861	61.27%
Sn 189.927†	0.5	0.00014	mg/L	0.001572	0.00014	mg/L	0.001572	>999.9%
Sr 421.552†	122.1	0.00015	mg/L	0.000025	0.00015	mg/L	0.000025	17.03%
Ti 334.903†	3.6	0.00022	mg/L	0.000467	0.00022	mg/L	0.000467	212.49%
Tl 190.801†	-2.6	-0.00121	mg/L	0.001130	-0.00121	mg/L	0.001130	93.35%
V 292.402†	30.9	0.00021	mg/L	0.000098	0.00021	mg/L	0.000098	46.81%
Zn 206.200†	2.8	0.00083	mg/L	0.000409	0.00083	mg/L	0.000409	49.55%

Sequence No.: 3
Sample ID: CRI

Autosampler Location: 301
Date Collected: 3/28/2014 8:57:13 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2898259.6	101.7 %	0.36			0.35%
ScR 361.383	247279.5	100.6 %	0.26			0.26%
Ag 328.068†	584.6	0.00300 mg/L	0.000078	0.00300 mg/L	0.000078	2.60%
Al 308.215†	65.4	0.04992 mg/L	0.000948	0.04992 mg/L	0.000948	1.90%
As 188.979†	86.9	0.05034 mg/L	0.001107	0.05034 mg/L	0.001107	2.20%
B 249.677†	122.8	0.02172 mg/L	0.000637	0.02172 mg/L	0.000637	2.94%
Ba 233.527†	10.9	0.00280 mg/L	0.000065	0.00280 mg/L	0.000065	2.31%
Be 313.042†	464.2	0.00093 mg/L	0.000040	0.00093 mg/L	0.000040	4.29%
Ca 317.933†	502.0	0.05089 mg/L	0.000964	0.05089 mg/L	0.000964	1.89%
Cd 228.802†	72.3	0.00198 mg/L	0.000083	0.00198 mg/L	0.000083	4.19%
Co 228.616†	119.3	0.00307 mg/L	0.000121	0.00307 mg/L	0.000121	3.93%
Cr 267.716†	27.5	0.00557 mg/L	0.000348	0.00557 mg/L	0.000348	6.25%
Cu 324.752†	620.3	0.00221 mg/L	0.000300	0.00221 mg/L	0.000300	13.59%
Fe 273.955†	57.8	0.05225 mg/L	0.001806	0.05225 mg/L	0.001806	3.46%
K 766.490†	1146.9	0.5096 mg/L	0.00637	0.5096 mg/L	0.00637	1.25%
Mg 279.077†	53.8	0.04653 mg/L	0.003774	0.04653 mg/L	0.003774	8.11%
Mn 257.610†	27.6	0.00091 mg/L	0.000075	0.00091 mg/L	0.000075	8.24%
Mo 202.031†	96.4	0.00519 mg/L	0.000265	0.00519 mg/L	0.000265	5.10%
Na 589.592†	6662.1	0.5020 mg/L	0.00658	0.5020 mg/L	0.00658	1.31%
Na 330.237†	18.5	0.8785 mg/L	0.10284	0.8785 mg/L	0.10284	11.71%
Ni 231.604†	37.2	0.01105 mg/L	0.002002	0.01105 mg/L	0.002002	18.12%
Pb 220.353†	173.0	0.02110 mg/L	0.000858	0.02110 mg/L	0.000858	4.07%
Sb 206.836†	163.5	0.05231 mg/L	0.000838	0.05231 mg/L	0.000838	1.60%
Se 196.026†	69.7	0.04976 mg/L	0.005120	0.04976 mg/L	0.005120	10.29%
Si 288.158†	92.7	0.05416 mg/L	0.005102	0.05416 mg/L	0.005102	9.42%
Sn 189.927†	35.8	0.01054 mg/L	0.000327	0.01054 mg/L	0.000327	3.10%
Sr 421.552†	870.2	0.00106 mg/L	0.000034	0.00106 mg/L	0.000034	3.25%
Tl 334.903†	85.6	0.00524 mg/L	0.000517	0.00524 mg/L	0.000517	9.86%
Tl 190.801†	105.4	0.04875 mg/L	0.001876	0.04875 mg/L	0.001876	3.85%
V 292.402†	459.5	0.00305 mg/L	0.000233	0.00305 mg/L	0.000233	7.62%
Zn 206.200†	34.1	0.01002 mg/L	0.000533	0.01002 mg/L	0.000533	5.32%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 3/28/2014 9:01:29 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2776645.4	97.41	%	0.714				0.73%
ScR 361.383	242354.2	98.58	%	0.147				0.15%
Ag 328.068†	-215.7	-0.00051	mg/L	0.000167	-0.00051	mg/L	0.000167	32.72%
Al 308.215†	256069.5	195.9	mg/L	0.19	195.9	mg/L	0.19	0.10%
As 188.979†	59.0	0.02573	mg/L	0.003435	0.02573	mg/L	0.003435	13.35%
B 249.677†	-42.3	-0.00749	mg/L	0.002141	-0.00749	mg/L	0.002141	28.60%
Ba 233.527†	108.9	-0.00229	mg/L	0.000761	-0.00229	mg/L	0.000761	33.18%
Be 313.042†	19.0	0.00004	mg/L	0.000011	0.00004	mg/L	0.000011	30.35%
Ca 317.933†	973459.6	98.68	mg/L	0.164	98.68	mg/L	0.164	0.17%
Cd 228.802†	42.3	-0.00058	mg/L	0.000088	-0.00058	mg/L	0.000088	15.12%
Co 228.616†	75.0	0.00192	mg/L	0.000196	0.00192	mg/L	0.000196	10.20%
Cr 267.716†	15.4	-0.00034	mg/L	0.001119	-0.00034	mg/L	0.001119	333.23%
Cu 324.752†	-2301.8	-0.00006	mg/L	0.000070	-0.00006	mg/L	0.000070	122.09%
Fe 273.955†	217212.8	196.3	mg/L	0.55	196.3	mg/L	0.55	0.28%
K 766.490†	23.5	0.01045	mg/L	0.011531	0.01045	mg/L	0.011531	110.38%
Mg 279.077†	115139.0	99.49	mg/L	0.774	99.49	mg/L	0.774	0.78%
Mn 257.610†	31.8	-0.00137	mg/L	0.000273	-0.00137	mg/L	0.000273	19.99%
Mo 202.031†	74.2	0.00247	mg/L	0.000530	0.00247	mg/L	0.000530	21.49%
Na 589.592†	165.7	0.01249	mg/L	0.000695	0.01249	mg/L	0.000695	5.57%
Na 330.237†	15.1	0.1171	mg/L	0.09140	0.1171	mg/L	0.09140	78.05%
Ni 231.604†	0.2	0.00007	mg/L	0.002139	0.00007	mg/L	0.002139	>999.9%
Pb 220.353†	-355.5	-0.00364	mg/L	0.001214	-0.00364	mg/L	0.001214	33.32%
Sb 206.836†	66.9	0.02117	mg/L	0.000599	0.02117	mg/L	0.000599	2.83%
Se 196.026†	38.1	0.02720	mg/L	0.010297	0.02720	mg/L	0.010297	37.86%
Si 288.158†	-43.1	-0.01333	mg/L	0.003065	-0.01333	mg/L	0.003065	23.00%
Sn 189.927†	-94.6	-0.01582	mg/L	0.001069	-0.01582	mg/L	0.001069	6.75%
Sr 421.552†	4475.6	0.00544	mg/L	0.000025	0.00544	mg/L	0.000025	0.45%
Ti 334.903†	153.1	0.00242	mg/L	0.000646	0.00242	mg/L	0.000646	26.67%
Tl 190.801†	-50.2	-0.00061	mg/L	0.003537	-0.00061	mg/L	0.003537	576.64%
V 292.402†	1352.9	-0.00214	mg/L	0.000315	-0.00214	mg/L	0.000315	14.70%
Zn 206.200†	8.6	0.00251	mg/L	0.000919	0.00251	mg/L	0.000919	36.57%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 3/28/2014 9:05:44 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2814158.8	98.72 %	0.145			0.15%
ScR 361.383	242337.9	98.57 %	0.612			0.62%
Ag 328.068†	204834.4	1.052 mg/L	0.0034	1.052 mg/L	0.0034	0.33%
Al 308.215†	256090.9	195.9 mg/L	0.24	195.9 mg/L	0.24	0.12%
As 188.979†	1775.4	1.016 mg/L	0.0036	1.016 mg/L	0.0036	0.35%
B 249.677†	-26.7	-0.00669 mg/L	0.000883	-0.00669 mg/L	0.000883	13.21%
Ba 233.527†	3975.3	0.9918 mg/L	0.00924	0.9918 mg/L	0.00924	0.93%
Be 313.042†	482791.1	0.9694 mg/L	0.00584	0.9694 mg/L	0.00584	0.60%
Ca 317.933†	975639.2	98.90 mg/L	0.229	98.90 mg/L	0.229	0.23%
Cd 228.802†	32879.8	1.006 mg/L	0.0060	1.006 mg/L	0.0060	0.60%
Co 228.616†	36065.4	0.9306 mg/L	0.00346	0.9306 mg/L	0.00346	0.37%
Cr 267.716†	4944.8	0.9983 mg/L	0.00494	0.9983 mg/L	0.00494	0.50%
Cu 324.752†	289082.1	1.038 mg/L	0.0043	1.038 mg/L	0.0043	0.42%
Fe 273.955†	217943.5	196.9 mg/L	0.68	196.9 mg/L	0.68	0.35%
K 766.490†	34.9	0.01553 mg/L	0.011772	0.01553 mg/L	0.011772	75.81%
Mg 279.077†	111327.0	96.19 mg/L	0.018	96.19 mg/L	0.018	0.02%
Mn 257.610†	29630.6	0.9767 mg/L	0.00726	0.9767 mg/L	0.00726	0.74%
Mo 202.031†	73.4	0.00242 mg/L	0.000360	0.00242 mg/L	0.000360	14.90%
Na 589.592†	75.8	0.00572 mg/L	0.000685	0.00572 mg/L	0.000685	11.98%
Na 330.237†	19.7	0.05793 mg/L	0.119394	0.05793 mg/L	0.119394	206.09%
Ni 231.604†	3189.5	0.9480 mg/L	0.00553	0.9480 mg/L	0.00553	0.58%
Pb 220.353†	7609.7	0.9675 mg/L	0.00447	0.9675 mg/L	0.00447	0.46%
Sb 206.836†	3221.7	1.020 mg/L	0.0082	1.020 mg/L	0.0082	0.81%
Se 196.026†	1432.8	1.022 mg/L	0.0074	1.022 mg/L	0.0074	0.72%
Si 288.158†	-50.2	-0.01338 mg/L	0.002385	-0.01338 mg/L	0.002385	17.82%
Sn 189.927†	-91.5	-0.01429 mg/L	0.001183	-0.01429 mg/L	0.001183	8.28%
Sr 421.552†	4431.3	0.00538 mg/L	0.000053	0.00538 mg/L	0.000053	0.99%
Ti 334.903†	152.0	0.00215 mg/L	0.000088	0.00215 mg/L	0.000088	4.09%
Tl 190.801†	1980.4	0.9293 mg/L	0.00315	0.9293 mg/L	0.00315	0.34%
V 292.402†	147074.7	0.9630 mg/L	0.00314	0.9630 mg/L	0.00314	0.33%
Zn 206.200†	3224.9	0.9455 mg/L	0.00670	0.9455 mg/L	0.00670	0.71%

Sequence No.: 6

Autosampler Location: 7

Sample ID: CV |

Date Collected: 3/28/2014 9:10:48 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2868138.6	100.6 %	0.42			0.42%
ScR 361.383	241704.1	98.31 %	0.950			0.97%
Ag 328.068†	204178.8	1.048 mg/L	0.0092	1.048 mg/L	0.0092	0.87%
Al 308.215†	2681.6	2.020 mg/L	0.0282	2.020 mg/L	0.0282	1.40%
As 188.979†	3472.4	2.036 mg/L	0.0069	2.036 mg/L	0.0069	0.34%
B 249.677†	5692.0	1.006 mg/L	0.0136	1.006 mg/L	0.0136	1.35%
Ba 233.527†	3943.8	1.014 mg/L	0.0139	1.014 mg/L	0.0139	1.37%
Be 313.042†	487329.8	0.9785 mg/L	0.00381	0.9785 mg/L	0.00381	0.39%
Ca 317.933†	20323.2	2.060 mg/L	0.0224	2.060 mg/L	0.0224	1.09%
Cd 228.802†	33541.0	1.023 mg/L	0.0091	1.023 mg/L	0.0091	0.89%
Co 228.616†	38324.0	0.9873 mg/L	0.00980	0.9873 mg/L	0.00980	0.99%
Cr 267.716†	5091.8	1.031 mg/L	0.0118	1.031 mg/L	0.0118	1.14%
Cu 324.752†	279036.2	0.9937 mg/L	0.00185	0.9937 mg/L	0.00185	0.19%
Fe 273.955†	2290.2	2.063 mg/L	0.0222	2.063 mg/L	0.0222	1.08%
K 766.490†	44295.9	19.68 mg/L	0.015	19.68 mg/L	0.015	0.08%
Mg 279.077†	2269.1	1.969 mg/L	0.0252	1.969 mg/L	0.0252	1.28%
Mn 257.610†	29212.8	0.9654 mg/L	0.00243	0.9654 mg/L	0.00243	0.25%
Mo 202.031†	17868.6	0.9628 mg/L	0.01145	0.9628 mg/L	0.01145	1.19%
Na 589.592†	669956.5	50.48 mg/L	0.148	50.48 mg/L	0.148	0.29%
Na 330.237†	1076.1	51.03 mg/L	0.598	51.03 mg/L	0.598	1.17%
Ni 231.604†	3401.2	1.011 mg/L	0.0111	1.011 mg/L	0.0111	1.09%
Pb 220.353†	16215.4	1.977 mg/L	0.0206	1.977 mg/L	0.0206	1.04%
Sb 206.836†	6562.7	2.097 mg/L	0.0032	2.097 mg/L	0.0032	0.15%
Se 196.026†	2796.9	1.997 mg/L	0.0056	1.997 mg/L	0.0056	0.28%
Si 288.158†	3338.3	1.955 mg/L	0.0393	1.955 mg/L	0.0393	2.01%
Sn 189.927†	3374.3	0.9924 mg/L	0.00348	0.9924 mg/L	0.00348	0.35%
Sr 421.552†	823819.1	1.001 mg/L	0.0026	1.001 mg/L	0.0026	0.26%
Ti 334.903†	15997.2	0.9802 mg/L	0.00311	0.9802 mg/L	0.00311	0.32%
Tl 190.801†	4422.7	2.038 mg/L	0.0036	2.038 mg/L	0.0036	0.18%
V 292.402†	152642.9	1.011 mg/L	0.0102	1.011 mg/L	0.0102	1.01%
Zn 206.200†	3412.1	1.001 mg/L	0.0114	1.001 mg/L	0.0114	1.14%

Sequence No.: 7
 Sample ID: CB

Autosampler Location: 1
 Date Collected: 3/28/2014 9:14:53 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2877007.3	100.9	%	0.09			0.09%
ScR 361.383	247543.6	100.7	%	1.24			1.24%
Ag 328.068†	-5.8	-0.00003	mg/L	0.000146	-0.00003 mg/L	0.000146	490.72%
Al 308.215†	5.0	0.00385	mg/L	0.001016	0.00385 mg/L	0.001016	26.41%
As 188.979†	1.0	0.00057	mg/L	0.001193	0.00057 mg/L	0.001193	207.74%
B 249.677†	12.7	0.00224	mg/L	0.001570	0.00224 mg/L	0.001570	69.97%
Ba 233.527†	0.0	0.00000	mg/L	0.000300	0.00000 mg/L	0.000300	>999.9%
Be 313.042†	65.7	0.00013	mg/L	0.000052	0.00013 mg/L	0.000052	39.71%
Ca 317.933†	30.8	0.00312	mg/L	0.000912	0.00312 mg/L	0.000912	29.22%
Cd 228.802†	5.5	0.00017	mg/L	0.000087	0.00017 mg/L	0.000087	51.97%
Co 228.616†	6.6	0.00017	mg/L	0.000189	0.00017 mg/L	0.000189	110.97%
Cr 267.716†	-0.2	-0.00004	mg/L	0.000591	-0.00004 mg/L	0.000591	>999.9%
Cu 324.752†	132.9	0.00047	mg/L	0.000133	0.00047 mg/L	0.000133	28.05%
Fe 273.955†	5.3	0.00477	mg/L	0.003029	0.00477 mg/L	0.003029	63.44%
K 766.490†	-21.9	-0.00971	mg/L	0.021011	-0.00971 mg/L	0.021011	216.31%
Mg 279.077†	-8.1	-0.00698	mg/L	0.010223	-0.00698 mg/L	0.010223	146.52%
Mn 257.610†	1.3	0.00004	mg/L	0.000059	0.00004 mg/L	0.000059	135.29%
Mo 202.031†	15.9	0.00086	mg/L	0.000401	0.00086 mg/L	0.000401	46.89%
Na 589.592†	103.2	0.00778	mg/L	0.002303	0.00778 mg/L	0.002303	29.60%
Na 330.237†	6.2	0.2921	mg/L	0.24712	0.2921 mg/L	0.24712	84.61%
Ni 231.604†	3.0	0.00090	mg/L	0.000937	0.00090 mg/L	0.000937	104.50%
Pb 220.353†	3.9	0.00047	mg/L	0.000500	0.00047 mg/L	0.000500	105.25%
Sb 206.836†	31.0	0.00992	mg/L	0.002921	0.00992 mg/L	0.002921	29.44%
Se 196.026†	1.6	0.00117	mg/L	0.002833	0.00117 mg/L	0.002833	242.78%
Si 288.158†	-2.5	-0.00149	mg/L	0.005088	-0.00149 mg/L	0.005088	342.01%
Sn 189.927†	0.9	0.00026	mg/L	0.000210	0.00026 mg/L	0.000210	80.17%
Sr 421.552†	112.6	0.00014	mg/L	0.000049	0.00014 mg/L	0.000049	35.58%
Ti 334.903†	4.9	0.00030	mg/L	0.000535	0.00030 mg/L	0.000535	179.69%
Tl 190.801†	-5.1	-0.00234	mg/L	0.001480	-0.00234 mg/L	0.001480	63.37%
V 292.402†	15.0	0.00010	mg/L	0.000134	0.00010 mg/L	0.000134	134.99%
Zn 206.200†	3.1	0.00091	mg/L	0.000189	0.00091 mg/L	0.000189	20.72%

Sequence No.: 8
 Sample ID: YD66 MB1 TWC

Autosampler Location: 304
 Date Collected: 3/28/2014 9:18:53 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD66 MB1 TWC

Analyte , Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD66 MB1 TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932345.6	102.9	%	0.57			0.55%
ScR 361.383	249247.7	101.4	%	0.86			0.85%
Ag 328.068†	26.3	0.00014	mg/L	0.000214	0.00014 mg/L	0.000214	158.01%
Al 308.215†	0.2	0.00017	mg/L	0.000506	0.00017 mg/L	0.000506	292.27%
As 188.979†	3.6	0.00206	mg/L	0.000983	0.00206 mg/L	0.000983	47.59%
B 249.677†	2.2	0.00038	mg/L	0.000396	0.00038 mg/L	0.000396	102.89%
Ba 233.527†	-1.6	-0.00041	mg/L	0.000376	-0.00041 mg/L	0.000376	91.38%
Be 313.042†	20.6	0.00004	mg/L	0.000003	0.00004 mg/L	0.000003	6.42%
Ca 317.933†	70.3	0.00712	mg/L	0.000977	0.00712 mg/L	0.000977	13.72%
Cd 228.802†	-7.0	-0.00023	mg/L	0.000102	-0.00023 mg/L	0.000102	45.10%
Co 228.616†	5.5	0.00014	mg/L	0.000128	0.00014 mg/L	0.000128	89.40%
Cr 267.716†	3.8	0.00077	mg/L	0.000742	0.00077 mg/L	0.000742	96.76%
Cu 324.752†	-39.4	-0.00014	mg/L	0.000190	-0.00014 mg/L	0.000190	135.67%
Fe 273.955†	3.8	0.00341	mg/L	0.000406	0.00341 mg/L	0.000406	11.91%
K 766.490†	0.8	0.00037	mg/L	0.005776	0.00037 mg/L	0.005776	>999.9%
Mg 279.077†	-7.3	-0.00629	mg/L	0.004272	-0.00629 mg/L	0.004272	67.94%
Mn 257.610†	0.6	0.00002	mg/L	0.000003	0.00002 mg/L	0.000003	12.44%
Mo 202.031†	3.4	0.00018	mg/L	0.000121	0.00018 mg/L	0.000121	66.12%
Na 589.592†	20.7	0.00156	mg/L	0.004090	0.00156 mg/L	0.004090	261.87%
Na 330.237†	1.4	0.06456	mg/L	0.148718	0.06456 mg/L	0.148718	230.35%
Ni 231.604†	-1.1	-0.00033	mg/L	0.000404	-0.00033 mg/L	0.000404	122.92%
Pb 220.353†	5.9	0.00072	mg/L	0.000131	0.00072 mg/L	0.000131	18.03%
Sb 206.836†	8.5	0.00270	mg/L	0.001729	0.00270 mg/L	0.001729	63.99%
Se 196.026†	0.5	0.00037	mg/L	0.003126	0.00037 mg/L	0.003126	840.23%
Si 288.158†	8.7	0.00509	mg/L	0.001132	0.00509 mg/L	0.001132	22.24%
Sn 189.927†	1.4	0.00042	mg/L	0.000137	0.00042 mg/L	0.000137	32.42%
Sr 421.552†	59.0	0.00007	mg/L	0.000007	0.00007 mg/L	0.000007	10.25%
Ti 334.903†	0.8	0.00005	mg/L	0.000429	0.00005 mg/L	0.000429	859.06%
Tl 190.801†	-0.4	-0.00021	mg/L	0.000238	-0.00021 mg/L	0.000238	114.64%
V 292.402†	12.2	0.00008	mg/L	0.000087	0.00008 mg/L	0.000087	103.92%
Zn 206.200†	4.1	0.00119	mg/L	0.000191	0.00119 mg/L	0.000191	16.08%

Sequence No.: 9
 Sample ID: YD66 MB2 DMN

Autosampler Location: 305
 Date Collected: 3/28/2014 9:22:54 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD66 MB2 DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YD66 MB2 DMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2951831.1	103.6	%	0.34				0.33%
ScR 361.383	253097.2	102.9	%	1.88				1.83%
Ag 328.068†	5.2	0.00003	mg/L	0.000070	0.00003	mg/L	0.000070	259.23%
Al 308.215†	27.3	0.02090	mg/L	0.003400	0.02090	mg/L	0.003400	16.26%
As 188.979†	0.7	0.00040	mg/L	0.000810	0.00040	mg/L	0.000810	203.03%
B 249.677†	55.1	0.00975	mg/L	0.000524	0.00975	mg/L	0.000524	5.37%
Ba 233.527†	-0.1	-0.00003	mg/L	0.001169	-0.00003	mg/L	0.001169	>999.9%
Be 313.042†	16.6	0.00003	mg/L	0.000026	0.00003	mg/L	0.000026	78.42%
Ca 317.933†	455.4	0.04616	mg/L	0.000507	0.04616	mg/L	0.000507	1.10%
Cd 228.802†	-2.0	-0.00007	mg/L	0.000068	-0.00007	mg/L	0.000068	103.94%
Co 228.616†	19.3	0.00050	mg/L	0.000028	0.00050	mg/L	0.000028	5.70%
Cr 267.716†	1.2	0.00024	mg/L	0.000847	0.00024	mg/L	0.000847	347.41%
Cu 324.752†	114.6	0.00041	mg/L	0.000056	0.00041	mg/L	0.000056	13.73%
Fe 273.955†	2.1	0.00187	mg/L	0.000718	0.00187	mg/L	0.000718	38.39%
K 766.490†	8.1	0.00361	mg/L	0.018779	0.00361	mg/L	0.018779	520.32%
Mg 279.077†	-2.3	-0.00203	mg/L	0.001229	-0.00203	mg/L	0.001229	60.59%
Mn 257.610†	4.1	0.00014	mg/L	0.000041	0.00014	mg/L	0.000041	30.46%
Mo 202.031†	-2.8	-0.00015	mg/L	0.000076	-0.00015	mg/L	0.000076	50.55%
Na 589.592†	650.0	0.04898	mg/L	0.001831	0.04898	mg/L	0.001831	3.74%
Na 330.237†	-0.3	-0.01465	mg/L	0.305773	-0.01465	mg/L	0.305773	>999.9%
Ni 231.604†	-2.4	-0.00072	mg/L	0.001541	-0.00072	mg/L	0.001541	214.45%
Pb 220.353†	4.4	0.00054	mg/L	0.000453	0.00054	mg/L	0.000453	83.49%
Sb 206.836†	-8.3	-0.00265	mg/L	0.000886	-0.00265	mg/L	0.000886	33.44%
Se 196.026†	7.9	0.00564	mg/L	0.003076	0.00564	mg/L	0.003076	54.55%
Si 288.158†	-21.0	-0.01227	mg/L	0.001155	-0.01227	mg/L	0.001155	9.41%
Sn 189.927†	2.3	0.00068	mg/L	0.000841	0.00068	mg/L	0.000841	124.18%
Sr 421.552†	211.6	0.00026	mg/L	0.000009	0.00026	mg/L	0.000009	3.49%
Ti 334.903†	-4.2	-0.00026	mg/L	0.000408	-0.00026	mg/L	0.000408	157.38%
Tl 190.801†	1.1	0.00049	mg/L	0.002234	0.00049	mg/L	0.002234	459.17%
V 292.402†	-15.3	-0.00010	mg/L	0.000154	-0.00010	mg/L	0.000154	153.89%
Zn 206.200†	4.0	0.00118	mg/L	0.000239	0.00118	mg/L	0.000239	20.34%

Sequence No.: 10
 Sample ID: YD66 C DMN

Del

Autosampler Location: 306
 Date Collected: 3/28/2014 9:27:08 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD66 C DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD66 C DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2779756.9	97.52	%	0.539			0.55%
ScR 361.383	250307.8	101.8	%	0.56			0.55%
Ag 328.068†	-91.5	-0.00020	mg/L	0.000194	-0.00020 mg/L	0.000194	97.55%
Al 308.215†	2135.4	1.622	mg/L	0.0096	1.622 mg/L	0.0096	0.59%
As 188.979†	-30.2	0.02006	mg/L	0.001154	0.02006 mg/L	0.001154	5.75%
B 249.677†	1900.7	0.3362	mg/L	0.00395	0.3362 mg/L	0.00395	1.18%
Ba 233.527†	254.6	0.06374	mg/L	0.001501	0.06374 mg/L	0.001501	2.36%
Be 313.042†	337.5	0.00052	mg/L	0.000013	0.00052 mg/L	0.000013	2.51%
Ca 317.933†	185421.8	18.80	mg/L	0.046	18.80 mg/L	0.046	0.24%
Cd 228.802†	31.9	0.00097	mg/L	0.000147	0.00097 mg/L	0.000147	15.17%
Co 228.616†	5.7	-0.00182	mg/L	0.000089	-0.00182 mg/L	0.000089	4.86%
Cr 267.716†	176.5	0.03547	mg/L	0.000890	0.03547 mg/L	0.000890	2.51%
Cu 324.752†	441.1	0.00176	mg/L	0.000215	0.00176 mg/L	0.000215	12.19%
Fe 273.955†	11535.0	10.42	mg/L	0.040	10.42 mg/L	0.040	0.39%
K 766.490†	21819.6	9.696	mg/L	0.0585	9.696 mg/L	0.0585	0.60%
Mg 279.077†	3022.2	2.606	mg/L	0.0149	2.606 mg/L	0.0149	0.57%
Mn 257.610†	13380.9	0.4419	mg/L	0.00156	0.4419 mg/L	0.00156	0.35%
Mo 202.031†	87.5	0.00442	mg/L	0.000198	0.00442 mg/L	0.000198	4.49%
Na 589.592†	13597547.5	1025	mg/L	5.79	1025 mg/L	5.79	0.57%
Na 330.237†	21528.0	1022	mg/L	2.30	1022 mg/L	2.30	0.23%
Ni 231.604†	73.9	0.02196	mg/L	0.001280	0.02196 mg/L	0.001280	5.83%
Pb 220.353†	-17.4	-0.00213	mg/L	0.001083	-0.00213 mg/L	0.001083	50.85%
Sb 206.836†	2.6	0.00329	mg/L	0.001882	0.00329 mg/L	0.001882	57.15%
Se 196.026†	67.6	0.04790	mg/L	0.005672	0.04790 mg/L	0.005672	11.84%
Si 288.158†	376310.4	219.8	mg/L	0.75	219.8 mg/L	0.75	0.34%
Sn 189.927†	-64.8	-0.01654	mg/L	0.001390	-0.01654 mg/L	0.001390	8.40%
Sr 421.552†	125321.4	0.1523	mg/L	0.00035	0.1523 mg/L	0.00035	0.23%
Ti 334.903†	17896.2	1.097	mg/L	0.0031	1.097 mg/L	0.0031	0.28%
Tl 190.801†	8.5	0.00293	mg/L	0.001739	0.00293 mg/L	0.001739	59.35%
V 292.402†	92271.9	0.6075	mg/L	0.00223	0.6075 mg/L	0.00223	0.37%
Zn 206.200†	-67.7	0.02115	mg/L	0.000455	0.02115 mg/L	0.000455	2.15%

Sequence No.: 11
Sample ID: YD66 D DMN

DJ

Autosampler Location: 307
Date Collected: 3/28/2014 9:31:30 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD66 D DMN

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YD66 D DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2549743.4	89.45	%	0.446			0.50%
ScR 361.383	239301.2	97.33	%	1.985			2.04%
Ag 328.068†	-77.0	-0.00004	mg/L	0.000113	-0.00004 mg/L	0.000113	300.76%
Al 308.215†	6921.9	5.277	mg/L	0.0776	5.277 mg/L	0.0776	1.47%
As 188.979†	-68.6	-0.02139	mg/L	0.002905	-0.02139 mg/L	0.002905	13.58%
B 249.677†	15889.5	2.811	mg/L	0.0359	2.811 mg/L	0.0359	1.28%
Ba 233.527†	429.6	0.1095	mg/L	0.00221	0.1095 mg/L	0.00221	2.02%
Be 313.042†	204.4	0.00011	mg/L	0.000043	0.00011 mg/L	0.000043	37.68%
Ca 317.933†	84490.1	8.564	mg/L	0.0930	8.564 mg/L	0.0930	1.09%
Cd 228.802†	242.7	0.00762	mg/L	0.000032	0.00762 mg/L	0.000032	0.42%
Co 228.616†	-1725.9	-0.04552	mg/L	0.000285	-0.04552 mg/L	0.000285	0.63%
Cr 267.716†	416.8	0.08405	mg/L	0.001120	0.08405 mg/L	0.001120	1.33%
Cu 324.752†	767.9	0.00282	mg/L	0.000101	0.00282 mg/L	0.000101	3.57%
Fe 273.955†	5557.4	5.013	mg/L	0.0767	5.013 mg/L	0.0767	1.53%
K 766.490†	114034.0	50.67	mg/L	0.629	50.67 mg/L	0.629	1.24%
Mg 279.077†	409.3	0.3500	mg/L	0.01057	0.3500 mg/L	0.01057	3.02%
Mn 257.610†	1507.7	0.04973	mg/L	0.000845	0.04973 mg/L	0.000845	1.70%
Mo 202.031†	363.9	0.01948	mg/L	0.000247	0.01948 mg/L	0.000247	1.27%
Na 589.592†	Saturated3						
Na 330.237†	86230.7	4093	mg/L	44.41	4093 mg/L	44.41	1.09%
Ni 231.604†	123.9	0.03687	mg/L	0.001311	0.03687 mg/L	0.001311	3.56%
Pb 220.353†	-1011.2	-0.1220	mg/L	0.00035	-0.1220 mg/L	0.00035	0.29%
Sb 206.836†	230.0	0.07557	mg/L	0.002562	0.07557 mg/L	0.002562	3.39%
Se 196.026†	68.2	0.04798	mg/L	0.002128	0.04798 mg/L	0.002128	4.43%
Si 288.158†	6373432.5	3723	mg/L	58.10	3723 mg/L	58.10	1.56%
Sn 189.927†	-714.1	-0.2085	mg/L	0.00235	-0.2085 mg/L	0.00235	1.13%
Sr 421.552†	179256.8	0.2178	mg/L	0.00259	0.2178 mg/L	0.00259	1.19%
Ti 334.903†	8767.5	0.5372	mg/L	0.00647	0.5372 mg/L	0.00647	1.20%
Tl 190.801†	-69.6	-0.03561	mg/L	0.001717	-0.03561 mg/L	0.001717	4.82%
V 292.402†	178867.3	1.179	mg/L	0.0048	1.179 mg/L	0.0048	0.41%
Zn 206.200†	-2115.2	0.07426	mg/L	0.001912	0.07426 mg/L	0.001912	2.57%

Sequence No.: 12
Sample ID: YD66 B TWC
Dilution: 1.000000X

Autosampler Location: 308
Date Collected: 3/28/2014 9:35:46 AM
Data Type: Original

Nebulizer Parameters: YD66 B TWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YD66 B TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2629799.6	92.26	%	0.268			0.29%
ScR 361.383	242598.6	98.67	%	0.185			0.19%
Ag 328.068†	-13.8	0.00014	mg/L	0.000118	0.00014 mg/L	0.000118	85.28%
Al 308.215†	10399.3	7.942	mg/L	0.0348	7.942 mg/L	0.0348	0.44%
As 188.979†	-47.1	0.02883	mg/L	0.003394	0.02883 mg/L	0.003394	11.77%
B 249.677†	7081.7	1.253	mg/L	0.0008	1.253 mg/L	0.0008	0.06%
Ba 233.527†	250.0	0.06297	mg/L	0.000474	0.06297 mg/L	0.000474	0.75%
Be 313.042†	163.3	0.00014	mg/L	0.000014	0.00014 mg/L	0.000014	9.44%
Ca 317.933†	57479.1	5.826	mg/L	0.0306	5.826 mg/L	0.0306	0.53%
Cd 228.802†	49.5	0.00159	mg/L	0.000214	0.00159 mg/L	0.000214	13.46%
Co 228.616†	221.5	0.00287	mg/L	0.000164	0.00287 mg/L	0.000164	5.70%
Cr 267.716†	639.5	0.1294	mg/L	0.00110	0.1294 mg/L	0.00110	0.85%
Cu 324.752†	11688.6	0.04163	mg/L	0.000277	0.04163 mg/L	0.000277	0.67%
Fe 273.955†	8478.6	7.657	mg/L	0.0279	7.657 mg/L	0.0279	0.36%
K 766.490†	48883.4	21.72	mg/L	0.134	21.72 mg/L	0.134	0.62%
Mg 279.077†	1750.7	1.510	mg/L	0.0089	1.510 mg/L	0.0089	0.59%
Mn 257.610†	2052.2	0.06772	mg/L	0.000200	0.06772 mg/L	0.000200	0.30%
Mo 202.031†	995.7	0.05356	mg/L	0.000178	0.05356 mg/L	0.000178	0.33%
Na 589.592†	23077514.2	1739	mg/L	3.83	1739 mg/L	3.83	0.22%
Na 330.237†	37051.9	1759	mg/L	2.89	1759 mg/L	2.89	0.16%
Ni 231.604†	104.8	0.03113	mg/L	0.002345	0.03113 mg/L	0.002345	7.53%
Pb 220.353†	5.7	0.00251	mg/L	0.001034	0.00251 mg/L	0.001034	41.12%
Sb 206.836†	-2.4	0.00124	mg/L	0.002412	0.00124 mg/L	0.002412	194.87%
Se 196.026†	16.3	0.01122	mg/L	0.007220	0.01122 mg/L	0.007220	64.37%
Si 288.158†	13060.2	7.629	mg/L	0.6497	7.629 mg/L	0.6497	8.52%
Sn 189.927†	-8.2	-0.00139	mg/L	0.001132	-0.00139 mg/L	0.001132	81.51%
Sr 421.552†	102405.8	0.1244	mg/L	0.00004	0.1244 mg/L	0.00004	0.03%
Ti 334.903†	25973.3	1.593	mg/L	0.0025	1.593 mg/L	0.0025	0.16%
Tl 190.801†	8.4	0.00235	mg/L	0.001895	0.00235 mg/L	0.001895	80.65%
V 292.402†	101856.3	0.6709	mg/L	0.00219	0.6709 mg/L	0.00219	0.33%
Zn 206.200†	112.2	0.03432	mg/L	0.000895	0.03432 mg/L	0.000895	2.61%

Sequence No.: 13
 Sample ID: YD66 MB1SPK TWC

Autosampler Location: 309
 Date Collected: 3/28/2014 9:40:15 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD66 MB1SPK TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

 Mean Data: YD66 MB1SPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2889994.3	101.4 %	0.33			0.33%
ScR 361.383	247051.6	100.5 %	0.44			0.44%
Ag 328.068†	102388.1	0.5258 mg/L	0.00364	0.5258 mg/L	0.00364	0.69%
Al 308.215†	2642.6	2.014 mg/L	0.0083	2.014 mg/L	0.0083	0.41%
As 188.979†	3543.1	2.045 mg/L	0.0044	2.045 mg/L	0.0044	0.21%
B 249.677†	33.5	0.00488 mg/L	0.000358	0.00488 mg/L	0.000358	7.33%
Ba 233.527†	7923.1	2.037 mg/L	0.0172	2.037 mg/L	0.0172	0.84%
Be 313.042†	243017.2	0.4880 mg/L	0.00233	0.4880 mg/L	0.00233	0.48%
Ca 317.933†	97540.7	9.887 mg/L	0.0223	9.887 mg/L	0.0223	0.23%
Cd 228.802†	17024.6	0.5142 mg/L	0.00188	0.5142 mg/L	0.00188	0.37%
Co 228.616†	19144.3	0.4938 mg/L	0.00288	0.4938 mg/L	0.00288	0.58%
Cr 267.716†	2537.8	0.5130 mg/L	0.00478	0.5130 mg/L	0.00478	0.93%
Cu 324.752†	139258.4	0.4961 mg/L	0.00272	0.4961 mg/L	0.00272	0.55%
Fe 273.955†	2263.2	2.042 mg/L	0.0105	2.042 mg/L	0.0105	0.51%
K 766.490†	22564.1	10.03 mg/L	0.012	10.03 mg/L	0.012	0.12%
Mg 279.077†	11696.3	10.12 mg/L	0.060	10.12 mg/L	0.060	0.59%
Mn 257.610†	14637.9	0.4839 mg/L	0.00256	0.4839 mg/L	0.00256	0.53%
Mo 202.031†	32.2	0.00158 mg/L	0.000040	0.00158 mg/L	0.000040	2.54%
Na 589.592†	141954.2	10.70 mg/L	0.113	10.70 mg/L	0.113	1.06%
Na 330.237†	239.4	11.16 mg/L	0.165	11.16 mg/L	0.165	1.47%
Ni 231.604†	1681.1	0.4988 mg/L	0.00229	0.4988 mg/L	0.00229	0.46%
Pb 220.353†	16404.4	2.000 mg/L	0.0041	2.000 mg/L	0.0041	0.20%
Sb 206.836†	16.3	0.00031 mg/L	0.001398	0.00031 mg/L	0.001398	449.34%
Se 196.026†	2850.6	2.036 mg/L	0.0118	2.036 mg/L	0.0118	0.58%
Si 288.158†	381.0	0.2261 mg/L	0.08186	0.2261 mg/L	0.08186	36.21%
Sn 189.927†	-18.8	-0.00426 mg/L	0.001353	-0.00426 mg/L	0.001353	31.80%
Sr 421.552†	408597.2	0.4964 mg/L	0.00136	0.4964 mg/L	0.00136	0.27%
Ti 334.903†	42.1	0.00179 mg/L	0.000271	0.00179 mg/L	0.000271	15.18%
Tl 190.801†	4296.6	1.983 mg/L	0.0056	1.983 mg/L	0.0056	0.28%
V 292.402†	75974.4	0.5031 mg/L	0.00232	0.5031 mg/L	0.00232	0.46%
Zn 206.200†	1677.2	0.4919 mg/L	0.00392	0.4919 mg/L	0.00392	0.80%

Sequence No.: 14
 Sample ID: YD66 MB2SPK DMN

Autosampler Location: 310
 Date Collected: 3/28/2014 9:44:15 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD66 MB2SPK DMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YD66 MB2SPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2924788.3	102.6	%	0.10			0.10%
ScR 361.383	251197.0	102.2	%	1.21			1.18%
Ag 328.068†	-79.2	-0.00041	mg/L	0.000179	-0.00041 mg/L	0.000179	44.18%
Al 308.215†	22.5	0.01722	mg/L	0.008449	0.01722 mg/L	0.008449	49.07%
As 188.979†	5.0	0.00290	mg/L	0.001464	0.00290 mg/L	0.001464	50.48%
B 249.677†	63.1	0.01116	mg/L	0.000647	0.01116 mg/L	0.000647	5.80%
Ba 233.527†	0.8	0.00021	mg/L	0.001034	0.00021 mg/L	0.001034	501.63%
Be 313.042†	19.1	0.00004	mg/L	0.000014	0.00004 mg/L	0.000014	37.68%
Ca 317.933†	1222.9	0.1240	mg/L	0.00104	0.1240 mg/L	0.00104	0.84%
Cd 228.802†	-4.6	-0.00016	mg/L	0.000141	-0.00016 mg/L	0.000141	90.27%
Co 228.616†	9.8	0.00025	mg/L	0.000125	0.00025 mg/L	0.000125	49.53%
Cr 267.716†	1.5	0.00030	mg/L	0.000755	0.00030 mg/L	0.000755	253.48%
Cu 324.752†	55.7	0.00020	mg/L	0.000077	0.00020 mg/L	0.000077	38.92%
Fe 273.955†	3.9	0.00356	mg/L	0.000602	0.00356 mg/L	0.000602	16.89%
K 766.490†	138.2	0.06142	mg/L	0.008083	0.06142 mg/L	0.008083	13.16%
Mg 279.077†	-2.3	-0.00199	mg/L	0.002894	-0.00199 mg/L	0.002894	145.25%
Mn 257.610†	2.0	0.00007	mg/L	0.000101	0.00007 mg/L	0.000101	150.80%
Mo 202.031†	-3.6	-0.00020	mg/L	0.000206	-0.00020 mg/L	0.000206	105.36%
Na 589.592†	5572.2	0.4199	mg/L	0.01095	0.4199 mg/L	0.01095	2.61%
Na 330.237†	7.6	0.3592	mg/L	0.18480	0.3592 mg/L	0.18480	51.45%
Ni 231.604†	2.6	0.00076	mg/L	0.001205	0.00076 mg/L	0.001205	158.41%
Pb 220.353†	1.4	0.00017	mg/L	0.000245	0.00017 mg/L	0.000245	140.15%
Sb 206.836†	-11.7	-0.00376	mg/L	0.002388	-0.00376 mg/L	0.002388	63.58%
Se 196.026†	10.7	0.00765	mg/L	0.004519	0.00765 mg/L	0.004519	59.08%
Si 288.158†	17117.6	9.999	mg/L	0.1100	9.999 mg/L	0.1100	1.10%
Sn 189.927†	-4.8	-0.00141	mg/L	0.000923	-0.00141 mg/L	0.000923	65.67%
Sr 421.552†	266.2	0.00032	mg/L	0.000013	0.00032 mg/L	0.000013	3.97%
Ti 334.903†	18.2	0.00111	mg/L	0.000468	0.00111 mg/L	0.000468	42.24%
Tl 190.801†	4.5	0.00207	mg/L	0.002075	0.00207 mg/L	0.002075	100.40%
V 292.402†	0.9	0.00001	mg/L	0.000138	0.00001 mg/L	0.000138	>999.9%
Zn 206.200†	-2.9	0.00102	mg/L	0.000268	0.00102 mg/L	0.000268	26.25%

Sequence No.: 15
Sample ID: HNO3 C1311

Autosampler Location: 311
Date Collected: 3/28/2014 9:48:14 AM
Data Type: Original

Dilution: 10.000000X

Nebulizer Parameters: HNO3 C1311

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: HNO3 C1311

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2831993.9	99.35 %	%	0.278			0.28%
ScR 361.383	243344.2	98.98 %	%	0.524			0.53%
Ag 328.068†	-54.0	-0.00028	mg/L	0.000091	-0.00277	0.000915	33.00%
Al 308.215†	3.1	0.00237	mg/L	0.003351	0.02365	0.033508	141.65%
As 188.979†	-5.5	-0.00319	mg/L	0.001837	-0.03189	0.018372	57.61%
B 249.677†	9.1	0.00162	mg/L	0.001095	0.01617	0.010950	67.73%
Ba 233.527†	0.9	0.00024	mg/L	0.000894	0.00242	0.008939	369.16%
Be 313.042†	-29.0	-0.00006	mg/L	0.000007	-0.00058	0.000068	11.61%
Ca 317.933†	43.1	0.00437	mg/L	0.000668	0.04370	0.006680	15.28%
Cd 228.802†	-4.7	-0.00013	mg/L	0.000176	-0.00130	0.001762	136.00%
Co 228.616†	-22.7	-0.00059	mg/L	0.000060	-0.00587	0.000596	10.16%
Cr 267.716†	2.8	0.00057	mg/L	0.000752	0.00572	0.007523	131.59%
Cu 324.752†	133.7	0.00048	mg/L	0.000119	0.00476	0.001195	25.10%
Fe 273.955†	1.0	0.00091	mg/L	0.001326	0.00908	0.013259	145.96%
K 766.490†	64.7	0.02877	mg/L	0.006300	0.2877	0.06300	21.90%
Mg 279.077†	-5.7	-0.00490	mg/L	0.001760	-0.04902	0.017596	35.90%
Mn 257.610†	-5.8	-0.00019	mg/L	0.000090	-0.00192	0.000898	46.75%
Mo 202.031†	17.5	0.00094	mg/L	0.000158	0.00943	0.001579	16.76%
Na 589.592†	1897.8	0.1430	mg/L	0.00522	1.430	0.0522	3.65%
Na 330.237†	14.2	0.6736	mg/L	0.06701	6.736	0.6701	9.95%
Ni 231.604†	0.7	0.00021	mg/L	0.000286	0.00207	0.002858	138.24%
Pb 220.353†	-3.8	-0.00046	mg/L	0.000466	-0.00465	0.004662	100.26%
Sb 206.836†	10.5	0.00335	mg/L	0.001209	0.03349	0.012094	36.11%
Se 196.026†	-3.1	-0.00220	mg/L	0.003081	-0.02196	0.030809	140.28%
Si 288.158†	417.6	0.2440	mg/L	0.09158	2.440	0.9158	37.54%
Sn 189.927†	0.1	0.00004	mg/L	0.000332	0.00042	0.003315	786.34%
Sr 421.552†	11.7	0.00001	mg/L	0.000018	0.00014	0.000177	124.68%
Ti 334.903†	1.4	0.00009	mg/L	0.000283	0.00086	0.002834	329.50%
Tl 190.801†	-9.2	-0.00424	mg/L	0.002615	-0.04238	0.026148	61.70%
V 292.402†	-7.2	-0.00004	mg/L	0.000202	-0.00045	0.002018	449.32%
Zn 206.200†	4.6	0.00141	mg/L	0.000383	0.01406	0.003830	27.25%

Sequence No.: 16

Sample ID: CV 2

Autosampler Location: 7

Date Collected: 3/28/2014 9:52:13 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2887679.5	101.3 %	0.87			0.86%
ScR 361.383	243695.6	99.12 %	0.857			0.86%
Ag 328.068†	197880.2	1.016 mg/L	0.0144	1.016 mg/L	0.0144	1.42%
Al 308.215†	2642.5	1.990 mg/L	0.0248	1.990 mg/L	0.0248	1.24%
As 188.979†	3371.5	1.978 mg/L	0.0171	1.978 mg/L	0.0171	0.86%
B 249.677†	5645.7	0.9976 mg/L	0.01049	0.9976 mg/L	0.01049	1.05%
Ba 233.527†	3898.4	1.002 mg/L	0.0109	1.002 mg/L	0.0109	1.09%
Be 313.042†	483953.7	0.9718 mg/L	0.00123	0.9718 mg/L	0.00123	0.13%
Ca 317.933†	20042.3	2.032 mg/L	0.0217	2.032 mg/L	0.0217	1.07%
Cd 228.802†	32805.2	1.001 mg/L	0.0123	1.001 mg/L	0.0123	1.23%
Co 228.616†	37366.3	0.9626 mg/L	0.01361	0.9626 mg/L	0.01361	1.41%
Cr 267.716†	5049.8	1.023 mg/L	0.0110	1.023 mg/L	0.0110	1.08%
Cu 324.752†	286196.1	1.019 mg/L	0.0132	1.019 mg/L	0.0132	1.29%
Fe 273.955†	2260.8	2.036 mg/L	0.0277	2.036 mg/L	0.0277	1.36%
K 766.490†	44285.6	19.68 mg/L	0.077	19.68 mg/L	0.077	0.39%
Mg 279.077†	2226.4	1.932 mg/L	0.0192	1.932 mg/L	0.0192	1.00%
Mn 257.610†	28901.9	0.9552 mg/L	0.00369	0.9552 mg/L	0.00369	0.39%
Mo 202.031†	17852.3	0.9619 mg/L	0.00904	0.9619 mg/L	0.00904	0.94%
Na 589.592†	666693.5	50.24 mg/L	0.068	50.24 mg/L	0.068	0.14%
Na 330.237†	1072.4	50.86 mg/L	0.229	50.86 mg/L	0.229	0.45%
Ni 231.604†	3384.4	1.006 mg/L	0.0119	1.006 mg/L	0.0119	1.18%
Pb 220.353†	16252.2	1.982 mg/L	0.0160	1.982 mg/L	0.0160	0.81%
Sb 206.836†	6325.1	2.021 mg/L	0.0204	2.021 mg/L	0.0204	1.01%
Se 196.026†	2727.7	1.947 mg/L	0.0204	1.947 mg/L	0.0204	1.05%
Si 288.158†	3373.8	1.976 mg/L	0.0527	1.976 mg/L	0.0527	2.67%
Sn 189.927†	3283.4	0.9656 mg/L	0.00908	0.9656 mg/L	0.00908	0.94%
Sr 421.552†	819472.2	0.9957 mg/L	0.00087	0.9957 mg/L	0.00087	0.09%
Ti 334.903†	15914.0	0.9751 mg/L	0.00217	0.9751 mg/L	0.00217	0.22%
Tl 190.801†	4308.8	1.985 mg/L	0.0194	1.985 mg/L	0.0194	0.98%
V 292.402†	148123.2	0.9810 mg/L	0.01164	0.9810 mg/L	0.01164	1.19%
Zn 206.200†	3375.5	0.9898 mg/L	0.01266	0.9898 mg/L	0.01266	1.28%

Sequence No.: 17

Sample ID: CB 2

Autosampler Location: 1

Date Collected: 3/28/2014 9:56:16 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2915339.6	102.3	%	0.49			0.48%
ScR 361.383	251078.7	102.1	%	0.20			0.20%
Ag 328.068†	-8.1	-0.00004	mg/L	0.000071	-0.00004	0.000071	170.97%
Al 308.215†	0.1	0.00008	mg/L	0.004461	0.00008	0.004461	>999.9%
As 188.979†	-0.4	-0.00021	mg/L	0.000839	-0.00021	0.000839	403.91%
B 249.677†	13.4	0.00237	mg/L	0.000766	0.00237	0.000766	32.40%
Ba 233.527†	-0.3	-0.00009	mg/L	0.000460	-0.00009	0.000460	539.15%
Be 313.042†	34.1	0.00007	mg/L	0.000034	0.00007	0.000034	49.78%
Ca 317.933†	9.9	0.00101	mg/L	0.000750	0.00101	0.000750	74.50%
Cd 228.802†	-6.4	-0.00020	mg/L	0.000110	-0.00020	0.000110	56.29%
Co 228.616†	4.7	0.00012	mg/L	0.000153	0.00012	0.000153	126.88%
Cr 267.716†	1.6	0.00033	mg/L	0.000655	0.00033	0.000655	198.79%
Cu 324.752†	65.8	0.00023	mg/L	0.000115	0.00023	0.000115	49.15%
Fe 273.955†	-1.4	-0.00127	mg/L	0.000913	-0.00127	0.000913	72.13%
K 766.490†	59.5	0.02643	mg/L	0.013509	0.02643	0.013509	51.11%
Mg 279.077†	-6.8	-0.00591	mg/L	0.004800	-0.00591	0.004800	81.19%
Mn 257.610†	-2.0	-0.00007	mg/L	0.000050	-0.00007	0.000050	74.47%
Mo 202.031†	12.7	0.00068	mg/L	0.000376	0.00068	0.000376	55.05%
Na 589.592†	1363.4	0.1027	mg/L	0.00194	0.1027	0.00194	1.89%
Na 330.237†	12.8	0.6070	mg/L	0.13058	0.6070	0.13058	21.51%
Ni 231.604†	0.9	0.00028	mg/L	0.000247	0.00028	0.000247	89.71%
Pb 220.353†	0.0	0.00001	mg/L	0.000178	0.00001	0.000178	>999.9%
Sb 206.836†	20.8	0.00667	mg/L	0.001740	0.00667	0.001740	26.08%
Se 196.026†	2.3	0.00162	mg/L	0.001967	0.00162	0.001967	121.15%
Si 288.158†	22.9	0.01338	mg/L	0.004277	0.01338	0.004277	31.97%
Sn 189.927†	3.7	0.00109	mg/L	0.001123	0.00109	0.001123	102.91%
Sr 421.552†	59.8	0.00007	mg/L	0.000007	0.00007	0.000007	9.91%
Ti 334.903†	11.9	0.00073	mg/L	0.000352	0.00073	0.000352	48.33%
Tl 190.801†	-1.3	-0.00058	mg/L	0.001087	-0.00058	0.001087	185.91%
V 292.402†	3.3	0.00002	mg/L	0.000050	0.00002	0.000050	220.23%
Zn 206.200†	1.8	0.00054	mg/L	0.000554	0.00054	0.000554	101.68%

Sequence No.: 18

Sample ID: YD87 MB1 SWC

Autosampler Location: 312

Date Collected: 3/28/2014 10:00:16 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD87 MB1 SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YD87 MB1 SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905890.1	101.9 %	0.67			0.66%
ScR 361.383	250456.8	101.9 %	0.05			0.05%
Ag 328.068†	-27.6	-0.00014 mg/L	0.000135	-0.00028 mg/L	0.000269	95.17%
Al 308.215†	0.6	0.00049 mg/L	0.004355	0.00099 mg/L	0.008709	882.84%
As 188.979†	-2.5	-0.00142 mg/L	0.001242	-0.00284 mg/L	0.002484	87.40%
B 249.677†	8.1	0.00144 mg/L	0.000317	0.00287 mg/L	0.000634	22.07%
Ba 233.527†	1.3	0.00032 mg/L	0.000442	0.00065 mg/L	0.000885	136.35%
Be 313.042†	5.4	0.00001 mg/L	0.000009	0.00002 mg/L	0.000017	78.77%
Ca 317.933†	61.7	0.00625 mg/L	0.001238	0.01250 mg/L	0.002476	19.80%
Cd 228.802†	-4.3	-0.00013 mg/L	0.000122	-0.00025 mg/L	0.000244	96.28%
Co 228.616†	1.6	0.00004 mg/L	0.000031	0.00008 mg/L	0.000062	74.27%
Cr 267.716†	5.2	0.00106 mg/L	0.000779	0.00212 mg/L	0.001557	73.37%
Cu 324.752†	62.0	0.00022 mg/L	0.000139	0.00044 mg/L	0.000277	62.77%
Fe 273.955†	1.2	0.00106 mg/L	0.002275	0.00212 mg/L	0.004550	214.59%
K 766.490†	40.0	0.01779 mg/L	0.012975	0.03559 mg/L	0.025949	72.91%
Mg 279.077†	-3.5	-0.00303 mg/L	0.002882	-0.00606 mg/L	0.005764	95.12%
Mn 257.610†	-2.4	-0.00008 mg/L	0.000147	-0.00016 mg/L	0.000294	182.02%
Mo 202.031†	4.1	0.00022 mg/L	0.000047	0.00044 mg/L	0.000094	21.61%
Na 589.592†	1242.5	0.09363 mg/L	0.002884	0.1873 mg/L	0.00577	3.08%
Na 330.237†	6.7	0.3197 mg/L	0.12597	0.6395 mg/L	0.25193	39.40%
Ni 231.604†	-1.2	-0.00036 mg/L	0.000764	-0.00073 mg/L	0.001529	210.77%
Pb 220.353†	4.8	0.00058 mg/L	0.000650	0.00116 mg/L	0.001300	111.97%
Sb 206.836†	3.0	0.00096 mg/L	0.002433	0.00191 mg/L	0.004866	254.74%
Se 196.026†	9.3	0.00667 mg/L	0.003348	0.01334 mg/L	0.006696	50.20%
Si 288.158†	16.0	0.00934 mg/L	0.002040	0.01868 mg/L	0.004079	21.84%
Sn 189.927†	2.0	0.00058 mg/L	0.000409	0.00117 mg/L	0.000817	70.09%
Sr 421.552†	20.0	0.00002 mg/L	0.000035	0.00005 mg/L	0.000071	145.09%
Ti 334.903†	1.4	0.00009 mg/L	0.000591	0.00018 mg/L	0.001183	674.32%
Tl 190.801†	-4.6	-0.00214 mg/L	0.000360	-0.00429 mg/L	0.000719	16.77%
V 292.402†	0.7	0.00001 mg/L	0.000101	0.00002 mg/L	0.000202	>999.9%
Zn 206.200†	3.9	0.00115 mg/L	0.000516	0.00231 mg/L	0.001032	44.74%

Sequence No.: 19
 Sample ID: YD66 A-L TWC

Autosampler Location: 313
 Date Collected: 3/28/2014 10:04:17 AM
 Data Type: Original

Dilution: 5.000000X

 Nebulizer Parameters: YD66 A-L TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YD66 A-L TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2834450.3	99.44	%	0.270			0.27%
ScR 361.383	242768.2	98.74	%	0.245			0.25%
Ag 328.068†	17.3	0.00015	mg/L	0.000074	0.00077 mg/L	0.000369	47.97%
Al 308.215†	1225.2	0.9337	mg/L	0.00147	4.668 mg/L	0.0074	0.16%
As 188.979†	-17.2	0.01553	mg/L	0.002035	0.07765 mg/L	0.010173	13.10%
B 249.677†	354.2	0.06266	mg/L	0.000369	0.3133 mg/L	0.00184	0.59%
Ba 233.527†	78.2	0.01951	mg/L	0.000777	0.09757 mg/L	0.003886	3.98%
Be 313.042†	23.7	0.00000	mg/L	0.000017	0.00002 mg/L	0.000083	369.17%
Ca 317.933†	46324.8	4.696	mg/L	0.0330	23.48 mg/L	0.165	0.70%
Cd 228.802†	10.5	0.00034	mg/L	0.000034	0.00172 mg/L	0.000169	9.86%
Co 228.616†	89.8	0.00102	mg/L	0.000220	0.00509 mg/L	0.001101	21.64%
Cr 267.716†	147.9	0.02991	mg/L	0.001969	0.1495 mg/L	0.00984	6.58%
Cu 324.752†	26115.8	0.09303	mg/L	0.000503	0.4651 mg/L	0.00251	0.54%
Fe 273.955†	4006.3	3.619	mg/L	0.0209	18.10 mg/L	0.105	0.58%
K 766.490†	4805.5	2.135	mg/L	0.0171	10.68 mg/L	0.085	0.80%
Mg 279.077†	907.4	0.7823	mg/L	0.00662	3.912 mg/L	0.0331	0.85%
Mn 257.610†	3995.9	0.1320	mg/L	0.00073	0.6599 mg/L	0.00363	0.55%
Mo 202.031†	148.1	0.00791	mg/L	0.000450	0.03953 mg/L	0.002248	5.69%
Na 589.592†	2857904.6	215.4	mg/L	0.70	1077 mg/L	3.51	0.33%
Na 330.237†	4510.3	214.2	mg/L	1.06	1071 mg/L	5.28	0.49%
Ni 231.604†	30.4	0.00904	mg/L	0.001862	0.04519 mg/L	0.009308	20.60%
Pb 220.353†	68.4	0.00834	mg/L	0.000259	0.04169 mg/L	0.001293	3.10%
Sb 206.836†	0.5	0.00084	mg/L	0.000890	0.00418 mg/L	0.004448	106.52%
Se 196.026†	-0.4	-0.00035	mg/L	0.001454	-0.00176 mg/L	0.007271	412.87%
Si 288.158†	1201.8	0.7021	mg/L	0.00425	3.511 mg/L	0.0213	0.61%
Sn 189.927†	-3.9	-0.00044	mg/L	0.001450	-0.00222 mg/L	0.007249	327.03%
Sr 421.552†	33791.6	0.04106	mg/L	0.000275	0.2053 mg/L	0.00138	0.67%
Ti 334.903†	11841.9	0.7261	mg/L	0.00421	3.631 mg/L	0.0211	0.58%
Tl 190.801†	-3.7	-0.00184	mg/L	0.000636	-0.00918 mg/L	0.003179	34.63%
V 292.402†	21518.5	0.1414	mg/L	0.00131	0.7071 mg/L	0.00657	0.93%
Zn 206.200†	31.2	0.00928	mg/L	0.000571	0.04641 mg/L	0.002854	6.15%

Sequence No.: 20
 Sample ID: YD66 A TWC
 Dilution: 1.000000X

Autosampler Location: 314
 Date Collected: 3/28/2014 10:08:33 AM
 Data Type: Original

Nebulizer Parameters: YD66 A TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD66 A TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2725913.3	95.63 %	%	0.399			0.42%
ScR 361.383	243348.4	98.98 %	%	0.795			0.80%
Ag 328.068†	179.1	0.00125 mg/L	mg/L	0.000110	0.00125 mg/L	0.000110	8.79%
Al 308.215†	6030.0	4.595 mg/L	mg/L	0.0689	4.595 mg/L	0.0689	1.50%
As 188.979†	-98.9	0.06910 mg/L	mg/L	0.001879	0.06910 mg/L	0.001879	2.72%
B 249.677†	1726.8	0.3055 mg/L	mg/L	0.00293	0.3055 mg/L	0.00293	0.96%
Ba 233.527†	397.7	0.09939 mg/L	mg/L	0.002003	0.09939 mg/L	0.002003	2.02%
Be 313.042†	166.2	0.00012 mg/L	mg/L	0.000010	0.00012 mg/L	0.000010	8.94%
Ca 317.933†	229368.5	23.25 mg/L	mg/L	0.118	23.25 mg/L	0.118	0.51%
Cd 228.802†	55.1	0.00184 mg/L	mg/L	0.000104	0.00184 mg/L	0.000104	5.68%
Co 228.616†	410.1	0.00414 mg/L	mg/L	0.000175	0.00414 mg/L	0.000175	4.22%
Cr 267.716†	718.2	0.1452 mg/L	mg/L	0.00123	0.1452 mg/L	0.00123	0.85%
Cu 324.752†	139310.0	0.4962 mg/L	mg/L	0.00222	0.4962 mg/L	0.00222	0.45%
Fe 273.955†	19599.8	17.71 mg/L	mg/L	0.273	17.71 mg/L	0.273	1.54%
K 766.490†	24113.5	10.72 mg/L	mg/L	0.047	10.72 mg/L	0.047	0.43%
Mg 279.077†	4409.1	3.801 mg/L	mg/L	0.0490	3.801 mg/L	0.0490	1.29%
Mn 257.610†	19616.4	0.6479 mg/L	mg/L	0.00833	0.6479 mg/L	0.00833	1.29%
Mo 202.031†	762.9	0.04075 mg/L	mg/L	0.000281	0.04075 mg/L	0.000281	0.69%
Na 589.592†	14008219.9	1056 mg/L	mg/L	10.96	1056 mg/L	10.96	1.04%
Na 330.237†	22202.5	1054 mg/L	mg/L	8.00	1054 mg/L	8.00	0.76%
Ni 231.604†	135.6	0.04031 mg/L	mg/L	0.001385	0.04031 mg/L	0.001385	3.44%
Pb 220.353†	306.7	0.03732 mg/L	mg/L	0.000844	0.03732 mg/L	0.000844	2.26%
Sb 206.836†	0.1	0.00351 mg/L	mg/L	0.001412	0.00351 mg/L	0.001412	40.17%
Se 196.026†	17.3	0.01188 mg/L	mg/L	0.003929	0.01188 mg/L	0.003929	33.06%
Si 288.158†	6229.3	3.639 mg/L	mg/L	0.0571	3.639 mg/L	0.0571	1.57%
Sn 189.927†	-33.1	-0.00622 mg/L	mg/L	0.000958	-0.00622 mg/L	0.000958	15.41%
Sr 421.552†	165695.9	0.2013 mg/L	mg/L	0.00146	0.2013 mg/L	0.00146	0.73%
Ti 334.903†	58694.1	3.599 mg/L	mg/L	0.0248	3.599 mg/L	0.0248	0.69%
Tl 190.801†	13.5	0.00562 mg/L	mg/L	0.006919	0.00562 mg/L	0.006919	123.07%
V 292.402†	109714.3	0.7211 mg/L	mg/L	0.00293	0.7211 mg/L	0.00293	0.41%
Zn 206.200†	144.8	0.04314 mg/L	mg/L	0.001051	0.04314 mg/L	0.001051	2.44%

Sequence No.: 21

Sample ID: YD66 ADUP TWC

Autosampler Location: 315

Date Collected: 3/28/2014 10:12:55 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YD66 ADUP TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD66 ADUP TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2662291.9	93.40	%	0.858				0.92%
ScR 361.383	243353.5	98.98	%	0.656				0.66%
Ag 328.068†	173.3	0.00122	mg/L	0.000120	0.00122	mg/L	0.000120	9.82%
Al 308.215†	6094.8	4.644	mg/L	0.0310	4.644	mg/L	0.0310	0.67%
As 188.979†	-103.8	0.06935	mg/L	0.002974	0.06935	mg/L	0.002974	4.29%
B 249.677†	1737.6	0.3074	mg/L	0.00244	0.3074	mg/L	0.00244	0.79%
Ba 233.527†	399.6	0.09984	mg/L	0.002210	0.09984	mg/L	0.002210	2.21%
Be 313.042†	173.4	0.00012	mg/L	0.000015	0.00012	mg/L	0.000015	12.22%
Ca 317.933†	231287.2	23.44	mg/L	0.149	23.44	mg/L	0.149	0.64%
Cd 228.802†	60.7	0.00202	mg/L	0.000081	0.00202	mg/L	0.000081	3.99%
Co 228.616†	421.5	0.00428	mg/L	0.000241	0.00428	mg/L	0.000241	5.64%
Cr 267.716†	735.3	0.1487	mg/L	0.00115	0.1487	mg/L	0.00115	0.78%
Cu 324.752†	146828.3	0.5230	mg/L	0.00696	0.5230	mg/L	0.00696	1.33%
Fe 273.955†	19778.2	17.87	mg/L	0.064	17.87	mg/L	0.064	0.36%
K 766.490†	24218.5	10.76	mg/L	0.041	10.76	mg/L	0.041	0.38%
Mg 279.077†	4424.6	3.815	mg/L	0.0195	3.815	mg/L	0.0195	0.51%
Mn 257.610†	19668.1	0.6496	mg/L	0.00357	0.6496	mg/L	0.00357	0.55%
Mo 202.031†	789.7	0.04219	mg/L	0.000574	0.04219	mg/L	0.000574	1.36%
Na 589.592†	13982843.5	1054	mg/L	5.18	1054	mg/L	5.18	0.49%
Na 330.237†	22218.0	1055	mg/L	3.98	1055	mg/L	3.98	0.38%
Ni 231.604†	138.2	0.04106	mg/L	0.000966	0.04106	mg/L	0.000966	2.35%
Pb 220.353†	311.0	0.03781	mg/L	0.000681	0.03781	mg/L	0.000681	1.80%
Sb 206.836†	-1.4	0.00316	mg/L	0.000961	0.00316	mg/L	0.000961	30.40%
Se 196.026†	17.3	0.01191	mg/L	0.005541	0.01191	mg/L	0.005541	46.51%
Si 288.158†	8004.3	4.676	mg/L	0.0366	4.676	mg/L	0.0366	0.78%
Sn 189.927†	-34.2	-0.00651	mg/L	0.000989	-0.00651	mg/L	0.000989	15.19%
Sr 421.552†	166110.8	0.2018	mg/L	0.00090	0.2018	mg/L	0.00090	0.45%
Ti 334.903†	60121.3	3.687	mg/L	0.0140	3.687	mg/L	0.0140	0.38%
Tl 190.801†	-1.2	-0.00125	mg/L	0.005787	-0.00125	mg/L	0.005787	464.47%
V 292.402†	113170.7	0.7439	mg/L	0.00955	0.7439	mg/L	0.00955	1.28%
Zn 206.200†	143.2	0.04286	mg/L	0.001060	0.04286	mg/L	0.001060	2.47%

Sequence No.: 22
 Sample ID: YD66 ASPK TWC

Autosampler Location: 316
 Date Collected: 3/28/2014 10:17:17 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YD66 ASPK TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YD66 ASPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2714538.8	95.23	%	0.743			0.78%
ScR 361.383	240171.4	97.69	%	0.013			0.01%
Ag 328.068†	106930.5	0.5494	mg/L	0.00629	0.5494 mg/L	0.00629	1.15%
Al 308.215†	8604.1	6.557	mg/L	0.0171	6.557 mg/L	0.0171	0.26%
As 188.979†	3587.3	2.193	mg/L	0.0144	2.193 mg/L	0.0144	0.66%
B 249.677†	1713.9	0.3022	mg/L	0.00046	0.3022 mg/L	0.00046	0.15%
Ba 233.527†	8297.1	2.130	mg/L	0.0060	2.130 mg/L	0.0060	0.28%
Be 313.042†	236989.3	0.4757	mg/L	0.00074	0.4757 mg/L	0.00074	0.16%
Ca 317.933†	328838.6	33.33	mg/L	0.071	33.33 mg/L	0.071	0.21%
Cd 228.802†	17430.7	0.5264	mg/L	0.00591	0.5264 mg/L	0.00591	1.12%
Co 228.616†	18840.5	0.4797	mg/L	0.00636	0.4797 mg/L	0.00636	1.33%
Cr 267.716†	3183.0	0.6435	mg/L	0.00069	0.6435 mg/L	0.00069	0.11%
Cu 324.752†	274841.1	0.9791	mg/L	0.00152	0.9791 mg/L	0.00152	0.15%
Fe 273.955†	22538.0	20.36	mg/L	0.059	20.36 mg/L	0.059	0.29%
K 766.490†	47955.8	21.31	mg/L	0.082	21.31 mg/L	0.082	0.38%
Mg 279.077†	15951.0	13.79	mg/L	0.023	13.79 mg/L	0.023	0.17%
Mn 257.610†	34097.6	1.127	mg/L	0.0013	1.127 mg/L	0.0013	0.12%
Mo 202.031†	744.2	0.03958	mg/L	0.000392	0.03958 mg/L	0.000392	0.99%
Na 589.592†	14433593.2	1088	mg/L	3.58	1088 mg/L	3.58	0.33%
Na 330.237†	23442.9	1113	mg/L	3.25	1113 mg/L	3.25	0.29%
Ni 231.604†	1779.9	0.5282	mg/L	0.00290	0.5282 mg/L	0.00290	0.55%
Pb 220.353†	16193.4	1.974	mg/L	0.0246	1.974 mg/L	0.0246	1.25%
Sb 206.836†	14.0	0.00318	mg/L	0.000890	0.00318 mg/L	0.000890	28.03%
Se 196.026†	1946.5	1.389	mg/L	0.0073	1.389 mg/L	0.0073	0.53%
Si 288.158†	4872.9	2.851	mg/L	0.0013	2.851 mg/L	0.0013	0.05%
Sn 189.927†	-44.8	-0.00838	mg/L	0.000563	-0.00838 mg/L	0.000563	6.72%
Sr 421.552†	573783.3	0.6972	mg/L	0.00089	0.6972 mg/L	0.00089	0.13%
Ti 334.903†	57154.0	3.504	mg/L	0.0054	3.504 mg/L	0.0054	0.15%
Tl 190.801†	4056.1	1.871	mg/L	0.0141	1.871 mg/L	0.0141	0.75%
V 292.402†	185259.3	1.221	mg/L	0.0134	1.221 mg/L	0.0134	1.10%
Zn 206.200†	1842.1	0.5407	mg/L	0.00013	0.5407 mg/L	0.00013	0.02%

Sequence No.: 23

Autosampler Location: 317

Sample ID: ~~YD66 APOST TWC~~ ZZZZZZ

Date Collected: 3/28/2014 10:21:41 AM

Dilution: 1.000000X

BA 3/28/14

Data Type: Original

Nebulizer Parameters: YD66 APOST TWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YD66 APOST TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2729641.9	95.76	%	0.041			0.04%
ScR 361.383	238162.5	96.87	%	0.245			0.25%
Ag 328.068†	102934.1	0.5289	mg/L	0.00285	0.5289 mg/L	0.00285	0.54%
Al 308.215†	8717.9	6.644	mg/L	0.0181	6.644 mg/L	0.0181	0.27%
As 188.979†	3615.2	2.212	mg/L	0.0027	2.212 mg/L	0.0027	0.12%
B 249.677†	1716.2	0.3026	mg/L	0.00108	0.3026 mg/L	0.00108	0.36%
Ba 233.527†	8490.4	2.180	mg/L	0.0039	2.180 mg/L	0.0039	0.18%
Be 313.042†	233855.8	0.4694	mg/L	0.00159	0.4694 mg/L	0.00159	0.34%
Ca 317.933†	332204.1	33.67	mg/L	0.106	33.67 mg/L	0.106	0.32%
Cd 228.802†	17596.5	0.5314	mg/L	0.00184	0.5314 mg/L	0.00184	0.35%
Co 228.616†	19050.7	0.4850	mg/L	0.00297	0.4850 mg/L	0.00297	0.61%
Cr 267.716†	3277.4	0.6626	mg/L	0.00126	0.6626 mg/L	0.00126	0.19%
Cu 324.752†	285739.2	1.018	mg/L	0.0007	1.018 mg/L	0.0007	0.07%
Fe 273.955†	22493.1	20.32	mg/L	0.048	20.32 mg/L	0.048	0.24%
K 766.490†	48626.5	21.61	mg/L	0.021	21.61 mg/L	0.021	0.10%
Mg 279.077†	16322.6	14.11	mg/L	0.035	14.11 mg/L	0.035	0.25%
Mn 257.610†	34422.1	1.137	mg/L	0.0057	1.137 mg/L	0.0057	0.50%
Mo 202.031†	754.9	0.04016	mg/L	0.000181	0.04016 mg/L	0.000181	0.45%
Na 589.592†	14366365.7	1083	mg/L	3.13	1083 mg/L	3.13	0.29%
Na 330.237†	22312.8	1060	mg/L	0.75	1060 mg/L	0.75	0.07%
Ni 231.604†	1832.6	0.5438	mg/L	0.00278	0.5438 mg/L	0.00278	0.51%
Pb 220.353†	16312.2	1.988	mg/L	0.0083	1.988 mg/L	0.0083	0.42%
Sb 206.836†	13.3	0.00277	mg/L	0.001807	0.00277 mg/L	0.001807	65.21%
Se 196.026†	2937.6	2.097	mg/L	0.0071	2.097 mg/L	0.0071	0.34%
Si 288.158†	6492.8	3.797	mg/L	0.0174	3.797 mg/L	0.0174	0.46%
Sn 189.927†	-45.1	-0.00841	mg/L	0.001614	-0.00841 mg/L	0.001614	19.20%
Sr 421.552†	588301.5	0.7148	mg/L	0.00028	0.7148 mg/L	0.00028	0.04%
Ti 334.903†	58408.1	3.581	mg/L	0.0072	3.581 mg/L	0.0072	0.20%
Tl 190.801†	4098.3	1.890	mg/L	0.0062	1.890 mg/L	0.0062	0.33%
V 292.402†	185672.6	1.224	mg/L	0.0039	1.224 mg/L	0.0039	0.32%
Zn 206.200†	1908.8	0.5604	mg/L	0.00132	0.5604 mg/L	0.00132	0.24%

Sequence No.: 24
 Sample ID: YD87 A SWC

Autosampler Location: 318
 Date Collected: 3/28/2014 10:26:04 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YD87 A SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YD87 A SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2888499.7	101.3 %	0.42			0.41%
ScR 361.383	254221.4	103.4 %	1.11			1.07%
Ag 328.068†	-123.0	-0.00037 mg/L	0.000005	-0.00074 mg/L	0.000009	1.28%
Al 308.215†	133833.5	102.4 mg/L	0.90	204.7 mg/L	1.80	0.88%
As 188.979†	-155.2	0.09582 mg/L	0.003608	0.1916 mg/L	0.00722	3.77%
B 249.677†	513.6	0.09074 mg/L	0.000085	0.1815 mg/L	0.00017	0.09%
Ba 233.527†	1232.5	0.2954 mg/L	0.00226	0.5908 mg/L	0.00452	0.76%
Be 313.042†	880.3	0.00163 mg/L	0.000015	0.00326 mg/L	0.000029	0.90%
Ca 317.933†	288886.3	29.28 mg/L	0.201	58.57 mg/L	0.402	0.69%
Cd 228.802†	81.3	0.00184 mg/L	0.000217	0.00367 mg/L	0.000433	11.80%
Co 228.616†	2125.6	0.04540 mg/L	0.000387	0.09080 mg/L	0.000774	0.85%
Cr 267.716†	730.5	0.1490 mg/L	0.00089	0.2981 mg/L	0.00178	0.60%
Cu 324.752†	58923.6	0.2150 mg/L	0.00180	0.4300 mg/L	0.00359	0.84%
Fe 273.955†	154032.1	139.2 mg/L	0.81	278.4 mg/L	1.62	0.58%
K 766.490†	28190.4	12.53 mg/L	0.107	25.05 mg/L	0.215	0.86%
Mg 279.077†	39120.9	33.76 mg/L	0.224	67.52 mg/L	0.448	0.66%
Mn 257.610†	39593.8	1.307 mg/L	0.0051	2.614 mg/L	0.0102	0.39%
Mo 202.031†	133.4	0.00673 mg/L	0.000103	0.01347 mg/L	0.000205	1.52%
Na 589.592†	596669.3	44.96 mg/L	0.129	89.92 mg/L	0.257	0.29%
Na 330.237†	949.0	46.11 mg/L	0.073	92.23 mg/L	0.147	0.16%
Ni 231.604†	354.9	0.1055 mg/L	0.00119	0.2110 mg/L	0.00238	1.13%
Pb 220.353†	800.7	0.1166 mg/L	0.00075	0.2333 mg/L	0.00150	0.64%
Sb 206.836†	30.8	0.01335 mg/L	0.000330	0.02671 mg/L	0.000659	2.47%
Se 196.026†	29.9	0.02109 mg/L	0.004221	0.04218 mg/L	0.008441	20.01%
Si 288.158†	3795.3	2.221 mg/L	0.0155	4.442 mg/L	0.0310	0.70%
Sn 189.927†	34.4	0.01463 mg/L	0.001202	0.02927 mg/L	0.002404	8.21%
Sr 421.552†	354375.2	0.4306 mg/L	0.00164	0.8611 mg/L	0.00328	0.38%
Ti 334.903†	85909.2	5.268 mg/L	0.0362	10.54 mg/L	0.072	0.69%
Tl 190.801†	-29.4	0.00087 mg/L	0.002283	0.00174 mg/L	0.004565	262.53%
V 292.402†	50147.2	0.3206 mg/L	0.00169	0.6412 mg/L	0.00338	0.53%
Zn 206.200†	1647.6	0.4833 mg/L	0.00282	0.9667 mg/L	0.00565	0.58%

Sequence No.: 25
 Sample ID: YD87 B SWC

Autosampler Location: 319
 Date Collected: 3/28/2014 10:30:20 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD87 B SWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD87 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904844.9	101.9	%	0.44			0.43%
ScR 361.383	253373.0	103.1	%	0.78			0.75%
Ag 328.068†	-224.9	-0.00087	mg/L	0.000101	-0.00174 mg/L	0.000201	11.59%
Al 308.215†	151721.7	116.1	mg/L	0.67	232.1 mg/L	1.34	0.58%
As 188.979†	-193.1	0.1004	mg/L	0.00137	0.2007 mg/L	0.00275	1.37%
B 249.677†	529.6	0.09354	mg/L	0.002443	0.1871 mg/L	0.00489	2.61%
Ba 233.527†	1606.0	0.3895	mg/L	0.00172	0.7790 mg/L	0.00344	0.44%
Be 313.042†	992.1	0.00184	mg/L	0.000014	0.00368 mg/L	0.000027	0.74%
Ca 317.933†	318426.8	32.28	mg/L	0.210	64.56 mg/L	0.421	0.65%
Cd 228.802†	71.6	0.00155	mg/L	0.000136	0.00310 mg/L	0.000271	8.74%
Co 228.616†	2466.8	0.05286	mg/L	0.000137	0.1057 mg/L	0.00027	0.26%
Cr 267.716†	714.7	0.1459	mg/L	0.00101	0.2917 mg/L	0.00203	0.69%
Cu 324.752†	50477.0	0.1853	mg/L	0.00125	0.3706 mg/L	0.00250	0.68%
Fe 273.955†	167890.4	151.7	mg/L	0.85	303.4 mg/L	1.70	0.56%
K 766.490†	28561.3	12.69	mg/L	0.078	25.38 mg/L	0.155	0.61%
Mg 279.077†	43726.3	37.73	mg/L	0.238	75.47 mg/L	0.477	0.63%
Mn 257.610†	63872.1	2.109	mg/L	0.0112	4.218 mg/L	0.0224	0.53%
Mo 202.031†	81.9	0.00391	mg/L	0.000274	0.00783 mg/L	0.000549	7.01%
Na 589.592†	778182.7	58.64	mg/L	0.287	117.3 mg/L	0.57	0.49%
Na 330.237†	1229.0	59.61	mg/L	0.354	119.2 mg/L	0.71	0.59%
Ni 231.604†	397.8	0.1182	mg/L	0.00109	0.2364 mg/L	0.00218	0.92%
Pb 220.353†	314.7	0.06027	mg/L	0.000771	0.1205 mg/L	0.00154	1.28%
Sb 206.836†	25.9	0.01236	mg/L	0.000857	0.02472 mg/L	0.001715	6.94%
Se 196.026†	28.3	0.01998	mg/L	0.004974	0.03996 mg/L	0.009947	24.90%
Si 288.158†	3256.1	1.907	mg/L	0.0077	3.813 mg/L	0.0155	0.41%
Sn 189.927†	-20.8	-0.00107	mg/L	0.000418	-0.00214 mg/L	0.000836	39.11%
Sr 421.552†	361933.1	0.4398	mg/L	0.00262	0.8795 mg/L	0.00524	0.60%
Ti 334.903†	98087.4	6.015	mg/L	0.0345	12.03 mg/L	0.069	0.57%
Tl 190.801†	-29.5	0.00214	mg/L	0.002093	0.00428 mg/L	0.004187	97.73%
V 292.402†	53491.3	0.3416	mg/L	0.00156	0.6833 mg/L	0.00312	0.46%
Zn 206.200†	1392.6	0.4085	mg/L	0.00459	0.8171 mg/L	0.00918	1.12%

Sequence No.: 26

Sample ID: YD87 MBISPK SWC

Autosampler Location: 320

Date Collected: 3/28/2014 10:34:36 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD87 MBISPK SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YD87 MBISPK SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905133.4	101.9 %	0.72			0.70%
ScR 361.383	249037.1	101.3 %	0.61			0.60%
Ag 328.068†	101268.9	0.5200 mg/L	0.00541	1.040 mg/L	0.0108	1.04%
Al 308.215†	2619.5	1.997 mg/L	0.0157	3.994 mg/L	0.0315	0.79%
As 188.979†	3446.3	1.989 mg/L	0.0058	3.978 mg/L	0.0115	0.29%
B 249.677†	9.9	0.00072 mg/L	0.000899	0.00144 mg/L	0.001798	125.10%
Ba 233.527†	7920.8	2.037 mg/L	0.0213	4.073 mg/L	0.0425	1.04%
Be 313.042†	240598.0	0.4831 mg/L	0.00212	0.9662 mg/L	0.00424	0.44%
Ca 317.933†	97349.2	9.868 mg/L	0.0186	19.74 mg/L	0.037	0.19%
Cd 228.802†	16653.2	0.5030 mg/L	0.00622	1.006 mg/L	0.0124	1.24%
Co 228.616†	18900.1	0.4875 mg/L	0.00444	0.9750 mg/L	0.00887	0.91%
Cr 267.716†	2525.9	0.5106 mg/L	0.00391	1.021 mg/L	0.0078	0.77%
Cu 324.752†	136513.4	0.4863 mg/L	0.00512	0.9727 mg/L	0.01023	1.05%
Fe 273.955†	2255.7	2.035 mg/L	0.0142	4.070 mg/L	0.0284	0.70%
K 766.490†	22384.4	9.947 mg/L	0.0185	19.89 mg/L	0.037	0.19%
Mg 279.077†	11684.3	10.11 mg/L	0.085	20.22 mg/L	0.170	0.84%
Mn 257.610†	14409.7	0.4763 mg/L	0.00297	0.9527 mg/L	0.00593	0.62%
Mo 202.031†	26.7	0.00129 mg/L	0.000137	0.00257 mg/L	0.000273	10.63%
Na 589.592†	136394.8	10.28 mg/L	0.043	20.56 mg/L	0.086	0.42%
Na 330.237†	227.5	10.60 mg/L	0.025	21.19 mg/L	0.051	0.24%
Ni 231.604†	1690.7	0.5016 mg/L	0.00286	1.003 mg/L	0.0057	0.57%
Pb 220.353†	16098.9	1.963 mg/L	0.0207	3.925 mg/L	0.0415	1.06%
Sb 206.836†	12.7	-0.00086 mg/L	0.000956	-0.00172 mg/L	0.001911	111.16%
Se 196.026†	2750.4	1.964 mg/L	0.0128	3.928 mg/L	0.0257	0.65%
Si 288.158†	3.8	0.00573 mg/L	0.005124	0.01145 mg/L	0.010249	89.51%
Sn 189.927†	-19.5	-0.00444 mg/L	0.000628	-0.00889 mg/L	0.001257	14.14%
Sr 421.552†	405212.3	0.4923 mg/L	0.00183	0.9847 mg/L	0.00367	0.37%
Ti 334.903†	88.7	0.00465 mg/L	0.000620	0.00929 mg/L	0.001240	13.35%
Tl 190.801†	4231.4	1.953 mg/L	0.0121	3.905 mg/L	0.0242	0.62%
V 292.402†	74589.9	0.4939 mg/L	0.00550	0.9879 mg/L	0.01100	1.11%
Zn 206.200†	1680.3	0.4927 mg/L	0.00378	0.9855 mg/L	0.00756	0.77%

Sequence No.: 27

Sample ID: YD87 MB1SPD SWC

Autosampler Location: 321

Date Collected: 3/28/2014 10:38:36 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD87 MB1SPD SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD87 MB1SPD SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2907858.1	102.0	%	0.33			0.32%
ScR 361.383	247826.0	100.8	%	0.55			0.55%
Ag 328.068†	103733.6	0.5327	mg/L	0.00570	1.065 mg/L	0.0114	1.07%
Al 308.215†	2682.7	2.045	mg/L	0.0082	4.090 mg/L	0.0165	0.40%
As 188.979†	3561.7	2.056	mg/L	0.0055	4.111 mg/L	0.0109	0.27%
B 249.677†	4.8	-0.00021	mg/L	0.001204	-0.00043 mg/L	0.002409	565.54%
Ba 233.527†	8147.5	2.095	mg/L	0.0121	4.190 mg/L	0.0242	0.58%
Be 313.042†	245662.9	0.4933	mg/L	0.00164	0.9866 mg/L	0.00328	0.33%
Ca 317.933†	98699.8	10.00	mg/L	0.035	20.01 mg/L	0.069	0.35%
Cd 228.802†	17045.4	0.5148	mg/L	0.00560	1.030 mg/L	0.0112	1.09%
Co 228.616†	19296.3	0.4977	mg/L	0.00538	0.9955 mg/L	0.01076	1.08%
Cr 267.716†	2590.3	0.5237	mg/L	0.00151	1.047 mg/L	0.0030	0.29%
Cu 324.752†	139930.6	0.4985	mg/L	0.00510	0.9970 mg/L	0.01021	1.02%
Fe 273.955†	2287.0	2.063	mg/L	0.0169	4.127 mg/L	0.0339	0.82%
K 766.490†	22830.8	10.15	mg/L	0.005	20.29 mg/L	0.011	0.05%
Mg 279.077†	11936.9	10.33	mg/L	0.040	20.65 mg/L	0.080	0.39%
Mn 257.610†	14674.9	0.4851	mg/L	0.00115	0.9702 mg/L	0.00231	0.24%
Mo 202.031†	26.4	0.00127	mg/L	0.000159	0.00253 mg/L	0.000318	12.56%
Na 589.592†	138700.1	10.45	mg/L	0.024	20.90 mg/L	0.048	0.23%
Na 330.237†	236.0	11.00	mg/L	0.050	21.99 mg/L	0.100	0.46%
Ni 231.604†	1726.0	0.5121	mg/L	0.00302	1.024 mg/L	0.0060	0.59%
Pb 220.353†	16449.2	2.005	mg/L	0.0253	4.011 mg/L	0.0506	1.26%
Sb 206.836†	18.7	0.00094	mg/L	0.001397	0.00188 mg/L	0.002794	148.80%
Se 196.026†	2841.7	2.029	mg/L	0.0094	4.059 mg/L	0.0187	0.46%
Si 288.158†	-0.1	0.00350	mg/L	0.005256	0.00700 mg/L	0.010512	150.25%
Sn 189.927†	-18.0	-0.00399	mg/L	0.001007	-0.00798 mg/L	0.002015	25.24%
Sr 421.552†	414018.0	0.5030	mg/L	0.00061	1.006 mg/L	0.0012	0.12%
Ti 334.903†	33.8	0.00127	mg/L	0.000465	0.00254 mg/L	0.000929	36.64%
Tl 190.801†	4350.9	2.008	mg/L	0.0068	4.015 mg/L	0.0136	0.34%
V 292.402†	76525.0	0.5068	mg/L	0.00545	1.014 mg/L	0.0109	1.08%
Zn 206.200†	1706.8	0.5005	mg/L	0.00190	1.001 mg/L	0.0038	0.38%

Sequence No.: 28

Sample ID: CV 3

Autosampler Location: 7

Date Collected: 3/28/2014 10:42:36 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc. Units	Std.Dev.	
ScA 357.253	2886803.4	101.3	%	0.39			0.39%
ScR 361.383	244175.4	99.32	%	1.097			1.10%
Ag 328.068†	201507.9	1.035	mg/L	0.0056	1.035	mg/L	0.0056
Al 308.215†	2662.8	2.006	mg/L	0.0198	2.006	mg/L	0.0198
As 188.979†	3369.8	1.977	mg/L	0.0107	1.977	mg/L	0.0107
B 249.677†	5685.0	1.005	mg/L	0.0133	1.005	mg/L	0.0133
Ba 233.527†	3968.1	1.020	mg/L	0.0094	1.020	mg/L	0.0094
Be 313.042†	488291.9	0.9805	mg/L	0.00211	0.9805	mg/L	0.00211
Ca 317.933†	20290.4	2.057	mg/L	0.0262	2.057	mg/L	0.0262
Cd 228.802†	32819.5	1.002	mg/L	0.0050	1.002	mg/L	0.0050
Co 228.616†	38034.5	0.9798	mg/L	0.00397	0.9798	mg/L	0.00397
Cr 267.716†	5107.0	1.034	mg/L	0.0112	1.034	mg/L	0.0112
Cu 324.752†	288367.9	1.027	mg/L	0.0050	1.027	mg/L	0.0050
Fe 273.955†	2263.5	2.039	mg/L	0.0317	2.039	mg/L	0.0317
K 766.490†	44750.9	19.89	mg/L	0.069	19.89	mg/L	0.069
Mg 279.077†	2260.6	1.962	mg/L	0.0210	1.962	mg/L	0.0210
Mn 257.610†	29028.4	0.9594	mg/L	0.00329	0.9594	mg/L	0.00329
Mo 202.031†	17872.7	0.9630	mg/L	0.00285	0.9630	mg/L	0.00285
Na 589.592†	675149.3	50.88	mg/L	0.144	50.88	mg/L	0.144
Na 330.237†	1070.7	50.77	mg/L	0.447	50.77	mg/L	0.447
Ni 231.604†	3437.0	1.022	mg/L	0.0123	1.022	mg/L	0.0123
Pb 220.353†	16350.5	1.994	mg/L	0.0069	1.994	mg/L	0.0069
Sb 206.836†	6317.6	2.018	mg/L	0.0080	2.018	mg/L	0.0080
Se 196.026†	2711.2	1.936	mg/L	0.0027	1.936	mg/L	0.0027
Si 288.158†	3349.1	1.961	mg/L	0.0375	1.961	mg/L	0.0375
Sn 189.927†	3262.2	0.9594	mg/L	0.00262	0.9594	mg/L	0.00262
Sr 421.552†	826710.7	1.004	mg/L	0.0023	1.004	mg/L	0.0023
Ti 334.903†	16046.3	0.9832	mg/L	0.00111	0.9832	mg/L	0.00111
Tl 190.801†	4358.9	2.008	mg/L	0.0053	2.008	mg/L	0.0053
V 292.402†	150861.3	0.9991	mg/L	0.00457	0.9991	mg/L	0.00457
Zn 206.200†	3431.4	1.006	mg/L	0.0121	1.006	mg/L	0.0121

Sequence No.: 29

Sample ID: CB 3

Autosampler Location: 1

Date Collected: 3/28/2014 10:46:40 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2928832.3	102.7	%	1.08			1.05%
ScR 361.383	252353.0	102.6	%	0.53			0.52%
Ag 328.068†	-9.4	-0.00005	mg/L	0.000080	-0.00005 mg/L	0.000080	166.68%
Al 308.215†	2.3	0.00172	mg/L	0.002075	0.00172 mg/L	0.002075	120.39%
As 188.979†	1.7	0.00101	mg/L	0.001304	0.00101 mg/L	0.001304	129.43%
B 249.677†	10.1	0.00178	mg/L	0.000256	0.00178 mg/L	0.000256	14.32%
Ba 233.527†	0.1	0.00002	mg/L	0.000863	0.00002 mg/L	0.000863	>999.9%
Be 313.042†	25.2	0.00005	mg/L	0.000010	0.00005 mg/L	0.000010	20.68%
Ca 317.933†	9.7	0.00098	mg/L	0.000792	0.00098 mg/L	0.000792	80.70%
Cd 228.802†	-3.8	-0.00012	mg/L	0.000155	-0.00012 mg/L	0.000155	127.21%
Co 228.616†	3.9	0.00010	mg/L	0.000164	0.00010 mg/L	0.000164	166.68%
Cr 267.716†	2.3	0.00047	mg/L	0.000288	0.00047 mg/L	0.000288	60.66%
Cu 324.752†	117.7	0.00042	mg/L	0.000017	0.00042 mg/L	0.000017	4.14%
Fe 273.955†	1.2	0.00105	mg/L	0.000894	0.00105 mg/L	0.000894	85.30%
K 766.490†	87.3	0.03880	mg/L	0.019233	0.03880 mg/L	0.019233	49.57%
Mg 279.077†	-0.6	-0.00052	mg/L	0.004759	-0.00052 mg/L	0.004759	921.79%
Mn 257.610†	-2.4	-0.00008	mg/L	0.000052	-0.00008 mg/L	0.000052	66.33%
Mo 202.031†	16.5	0.00089	mg/L	0.000097	0.00089 mg/L	0.000097	10.98%
Na 589.592†	1695.0	0.1277	mg/L	0.00033	0.1277 mg/L	0.00033	0.25%
Na 330.237†	5.2	0.2490	mg/L	0.06731	0.2490 mg/L	0.06731	27.03%
Ni 231.604†	1.2	0.00036	mg/L	0.000940	0.00036 mg/L	0.000940	262.31%
Pb 220.353†	1.4	0.00017	mg/L	0.000634	0.00017 mg/L	0.000634	365.58%
Sb 206.836†	21.4	0.00685	mg/L	0.000790	0.00685 mg/L	0.000790	11.52%
Se 196.026†	4.0	0.00287	mg/L	0.000712	0.00287 mg/L	0.000712	24.85%
Si 288.158†	5.8	0.00338	mg/L	0.002491	0.00338 mg/L	0.002491	73.74%
Sn 189.927†	0.9	0.00027	mg/L	0.000444	0.00027 mg/L	0.000444	166.57%
Sr 421.552†	68.7	0.00008	mg/L	0.000032	0.00008 mg/L	0.000032	38.60%
Ti 334.903†	12.3	0.00075	mg/L	0.000401	0.00075 mg/L	0.000401	53.13%
Tl 190.801†	-2.2	-0.00104	mg/L	0.001779	-0.00104 mg/L	0.001779	171.80%
V 292.402†	3.9	0.00003	mg/L	0.000148	0.00003 mg/L	0.000148	538.40%
Zn 206.200†	1.9	0.00055	mg/L	0.000576	0.00055 mg/L	0.000576	104.51%

Sequence No.: 30
Sample ID: YE10 MB1 SWC
Dilution: 2.000000X

Autosampler Location: 322
Date Collected: 3/28/2014 10:50:40 AM
Data Type: Original

Nebulizer Parameters: YE10 MB1 SWC
Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE10 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2926004.7	102.6	%	0.51			0.49%
ScR 361.383	252526.9	102.7	%	0.73			0.71%
Ag 328.068†	27.2	0.00014	mg/L	0.000149	0.00028 mg/L	0.000299	106.84%
Al 308.215†	4.6	0.00353	mg/L	0.003242	0.00706 mg/L	0.006484	91.80%
As 188.979†	0.7	0.00044	mg/L	0.000989	0.00088 mg/L	0.001978	225.13%
B 249.677†	4.9	0.00086	mg/L	0.000621	0.00172 mg/L	0.001242	72.13%
Ba 233.527†	-1.6	-0.00042	mg/L	0.000262	-0.00084 mg/L	0.000525	62.17%
Be 313.042†	0.9	0.00000	mg/L	0.000042	0.00000 mg/L	0.000084	>999.9%
Ca 317.933†	45.3	0.00459	mg/L	0.001480	0.00919 mg/L	0.002960	32.22%
Cd 228.802†	-0.2	-0.00001	mg/L	0.000038	-0.00002 mg/L	0.000075	472.47%
Co 228.616†	1.1	0.00003	mg/L	0.000115	0.00006 mg/L	0.000230	415.14%
Cr 267.716†	1.2	0.00025	mg/L	0.000983	0.00050 mg/L	0.001966	390.10%
Cu 324.752†	151.5	0.00054	mg/L	0.000048	0.00108 mg/L	0.000096	8.91%
Fe 273.955†	3.8	0.00340	mg/L	0.000965	0.00680 mg/L	0.001930	28.37%
K 766.490†	147.7	0.06562	mg/L	0.006973	0.1312 mg/L	0.01395	10.63%
Mg 279.077†	-8.9	-0.00773	mg/L	0.001482	-0.01546 mg/L	0.002965	19.18%
Mn 257.610†	-2.4	-0.00008	mg/L	0.000142	-0.00016 mg/L	0.000283	177.09%
Mo 202.031†	-1.2	-0.00006	mg/L	0.000176	-0.00013 mg/L	0.000351	278.08%
Na 589.592†	1628.7	0.1227	mg/L	0.00461	0.2455 mg/L	0.00922	3.75%
Na 330.237†	6.2	0.2950	mg/L	0.25298	0.5900 mg/L	0.50596	85.76%
Ni 231.604†	1.5	0.00044	mg/L	0.001108	0.00089 mg/L	0.002216	250.00%
Pb 220.353†	-0.4	-0.00005	mg/L	0.000481	-0.00010 mg/L	0.000962	957.00%
Sb 206.836†	0.6	0.00019	mg/L	0.001348	0.00039 mg/L	0.002696	694.18%
Se 196.026†	5.7	0.00406	mg/L	0.001998	0.00813 mg/L	0.003997	49.18%
Si 288.158†	0.2	0.00009	mg/L	0.002476	0.00018 mg/L	0.004953	>999.9%
Sn 189.927†	3.1	0.00093	mg/L	0.000085	0.00185 mg/L	0.000171	9.22%
Sr 421.552†	10.2	0.00001	mg/L	0.000021	0.00002 mg/L	0.000042	171.61%
Ti 334.903†	13.6	0.00083	mg/L	0.000043	0.00166 mg/L	0.000086	5.18%
Tl 190.801†	-2.5	-0.00117	mg/L	0.002164	-0.00233 mg/L	0.004327	185.50%
V 292.402†	2.2	0.00001	mg/L	0.000150	0.00003 mg/L	0.000300	>999.9%
Zn 206.200†	3.1	0.00092	mg/L	0.000260	0.00183 mg/L	0.000519	28.37%

Sequence No.: 31
 Sample ID: YD66 C DMN

Autosampler Location: 323
 Date Collected: 3/28/2014 10:54:42 AM
 Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YD66 C DMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YD66 C DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2875880.2	100.9	%	0.15			0.15%
ScR 361.383	244222.4	99.33	%	0.359			0.36%
Ag 328.068†	-14.6	-0.00002	mg/L	0.000020	-0.00010 mg/L	0.000101	97.22%
Al 308.215†	452.0	0.3436	mg/L	0.00335	1.718 mg/L	0.0168	0.98%
As 188.979†	-2.8	0.00628	mg/L	0.001290	0.03140 mg/L	0.006452	20.55%
B 249.677†	401.9	0.07109	mg/L	0.000247	0.3555 mg/L	0.00123	0.35%
Ba 233.527†	56.4	0.01416	mg/L	0.000651	0.07079 mg/L	0.003256	4.60%
Be 313.042†	32.1	0.00003	mg/L	0.000045	0.00016 mg/L	0.000225	138.40%
Ca 317.933†	38489.1	3.901	mg/L	0.0523	19.51 mg/L	0.262	1.34%
Cd 228.802†	10.8	0.00032	mg/L	0.000152	0.00160 mg/L	0.000758	47.26%
Co 228.616†	0.0	-0.00041	mg/L	0.000086	-0.00207 mg/L	0.000430	20.80%
Cr 267.716†	40.6	0.00817	mg/L	0.001060	0.04083 mg/L	0.005301	12.98%
Cu 324.752†	282.7	0.00105	mg/L	0.000237	0.00523 mg/L	0.001185	22.66%
Fe 273.955†	2384.3	2.154	mg/L	0.0184	10.77 mg/L	0.092	0.86%
K 766.490†	4625.9	2.056	mg/L	0.0190	10.28 mg/L	0.095	0.92%
Mg 279.077†	638.5	0.5506	mg/L	0.00816	2.753 mg/L	0.0408	1.48%
Mn 257.610†	2771.7	0.09154	mg/L	0.001048	0.4577 mg/L	0.00524	1.15%
Mo 202.031†	20.0	0.00102	mg/L	0.000251	0.00508 mg/L	0.001256	24.74%
Na 589.592†	2885765.5	217.5	mg/L	1.99	1087 mg/L	9.93	0.91%
Na 330.237†	4520.0	214.5	mg/L	2.31	1073 mg/L	11.55	1.08%
Ni 231.604†	16.5	0.00491	mg/L	0.000318	0.02456 mg/L	0.001590	6.47%
Pb 220.353†	-1.7	-0.00021	mg/L	0.000550	-0.00106 mg/L	0.002749	260.48%
Sb 206.836†	3.2	0.00149	mg/L	0.001494	0.00745 mg/L	0.007468	100.20%
Se 196.026†	27.2	0.01933	mg/L	0.002008	0.09667 mg/L	0.010040	10.39%
Si 288.158†	76732.3	44.82	mg/L	0.603	224.1 mg/L	3.01	1.34%
Sn 189.927†	-13.0	-0.00329	mg/L	0.000819	-0.01645 mg/L	0.004093	24.88%
Sr 421.552†	26401.6	0.03208	mg/L	0.000393	0.1604 mg/L	0.00197	1.23%
Ti 334.903†	3759.6	0.2304	mg/L	0.00329	1.152 mg/L	0.0165	1.43%
Tl 190.801†	-4.6	-0.00229	mg/L	0.000723	-0.01143 mg/L	0.003617	31.64%
V 292.402†	18022.7	0.1186	mg/L	0.00147	0.5932 mg/L	0.00734	1.24%
Zn 206.200†	-13.2	0.00450	mg/L	0.000637	0.02251 mg/L	0.003187	14.16%

Sequence No.: 32
 Sample ID: YD66 D DMN

Autosampler Location: 324
 Date Collected: 3/28/2014 10:58:58 AM
 Data Type: Original

Dilution: 50.000000X

Nebulizer Parameters: YD66 D DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YD66 D DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2874060.2	100.8	%	0.57				0.57%
ScR 361.383	243696.7	99.12	%	0.710				0.72%
Ag 328.068†	7.9	0.00005	mg/L	0.000278	0.00239	mg/L	0.013895	582.27%
Al 308.215†	143.8	0.1097	mg/L	0.00274	5.483	mg/L	0.1370	2.50%
As 188.979†	-1.3	-0.00035	mg/L	0.001504	-0.01760	mg/L	0.075210	427.26%
B 249.677†	356.8	0.06311	mg/L	0.000561	3.156	mg/L	0.0280	0.89%
Ba 233.527†	7.9	0.00201	mg/L	0.000860	0.1003	mg/L	0.04301	42.87%
Be 313.042†	22.9	0.00004	mg/L	0.000009	0.00200	mg/L	0.000470	23.56%
Ca 317.933†	1697.4	0.1721	mg/L	0.00103	8.603	mg/L	0.0517	0.60%
Cd 228.802†	9.0	0.00028	mg/L	0.000059	0.01395	mg/L	0.002972	21.30%
Co 228.616†	-43.6	-0.00115	mg/L	0.000131	-0.05727	mg/L	0.006527	11.40%
Cr 267.716†	4.6	0.00093	mg/L	0.000296	0.04669	mg/L	0.014798	31.69%
Cu 324.752†	178.9	0.00064	mg/L	0.000145	0.03196	mg/L	0.007226	22.61%
Fe 273.955†	118.7	0.1071	mg/L	0.00173	5.355	mg/L	0.0866	1.62%
K 766.490†	2343.1	1.041	mg/L	0.0090	52.06	mg/L	0.451	0.87%
Mg 279.077†	12.5	0.01074	mg/L	0.001861	0.5371	mg/L	0.09307	17.33%
Mn 257.610†	36.3	0.00120	mg/L	0.000091	0.05988	mg/L	0.004546	7.59%
Mo 202.031†	11.4	0.00061	mg/L	0.000225	0.03046	mg/L	0.011243	36.91%
Na 589.592†	1158398.9	87.29	mg/L	0.462	4365	mg/L	23.09	0.53%
Na 330.237†	1811.3	85.96	mg/L	0.615	4298	mg/L	30.74	0.72%
Ni 231.604†	0.6	0.00018	mg/L	0.000602	0.00876	mg/L	0.030101	343.60%
Pb 220.353†	-22.4	-0.00271	mg/L	0.000340	-0.1353	mg/L	0.01700	12.56%
Sb 206.836†	2.7	0.00092	mg/L	0.003101	0.04590	mg/L	0.155035	337.77%
Se 196.026†	5.8	0.00410	mg/L	0.000350	0.2048	mg/L	0.01749	8.54%
Si 288.158†	132564.5	77.44	mg/L	0.356	3872	mg/L	17.81	0.46%
Sn 189.927†	-13.6	-0.00397	mg/L	0.000780	-0.1987	mg/L	0.03902	19.64%
Sr 421.552†	3621.9	0.00440	mg/L	0.000030	0.2200	mg/L	0.00151	0.69%
Ti 334.903†	184.1	0.01128	mg/L	0.000079	0.5640	mg/L	0.00396	0.70%
Tl 190.801†	-2.7	-0.00129	mg/L	0.001213	-0.06474	mg/L	0.060662	93.71%
V 292.402†	3671.8	0.02420	mg/L	0.000385	1.210	mg/L	0.0192	1.59%
Zn 206.200†	-43.2	0.00178	mg/L	0.000537	0.08883	mg/L	0.026865	30.24%

Sequence No.: 33

Sample ID: YD87 C SWC

Autosampler Location: 325

Date Collected: 3/28/2014 11:03:13 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD87 C SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD87 C SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904104.9	101.9 %	0.34			0.33%
ScR 361.383	251379.1	102.2 %	0.65			0.64%
Ag 328.068†	-234.3	-0.00088 mg/L	0.000076	-0.00176 mg/L	0.000151	8.60%
Al 308.215†	160084.1	122.5 mg/L	0.49	244.9 mg/L	0.98	0.40%
As 188.979†	-225.5	0.1031 mg/L	0.00238	0.2062 mg/L	0.00476	2.31%
B 249.677†	509.0	0.08990 mg/L	0.000334	0.1798 mg/L	0.00067	0.37%
Ba 233.527†	1405.0	0.3370 mg/L	0.00331	0.6741 mg/L	0.00662	0.98%
Be 313.042†	962.9	0.00176 mg/L	0.000021	0.00353 mg/L	0.000042	1.19%
Ca 317.933†	362997.0	36.80 mg/L	0.108	73.59 mg/L	0.216	0.29%
Cd 228.802†	69.2	0.00153 mg/L	0.000036	0.00306 mg/L	0.000073	2.39%
Co 228.616†	2433.3	0.05090 mg/L	0.000200	0.1018 mg/L	0.00040	0.39%
Cr 267.716†	797.2	0.1627 mg/L	0.00125	0.3254 mg/L	0.00250	0.77%
Cu 324.752†	55224.7	0.2023 mg/L	0.00073	0.4046 mg/L	0.00146	0.36%
Fe 273.955†	173345.2	156.6 mg/L	1.40	313.3 mg/L	2.81	0.90%
K 766.490†	33277.2	14.79 mg/L	0.064	29.57 mg/L	0.127	0.43%
Mg 279.077†	43160.3	37.24 mg/L	0.146	74.48 mg/L	0.293	0.39%
Mn 257.610†	44577.8	1.471 mg/L	0.0114	2.943 mg/L	0.0228	0.78%
Mo 202.031†	98.5	0.00474 mg/L	0.000339	0.00947 mg/L	0.000679	7.16%
Na 589.592†	529370.8	39.89 mg/L	0.127	79.78 mg/L	0.254	0.32%
Na 330.237†	828.4	40.71 mg/L	0.148	81.42 mg/L	0.296	0.36%
Ni 231.604†	402.1	0.1195 mg/L	0.00103	0.2390 mg/L	0.00207	0.87%
Pb 220.353†	460.7	0.07944 mg/L	0.001521	0.1589 mg/L	0.00304	1.91%
Sb 206.836†	28.6	0.01361 mg/L	0.001307	0.02722 mg/L	0.002614	9.60%
Se 196.026†	22.1	0.01550 mg/L	0.005079	0.03100 mg/L	0.010158	32.77%
Si 288.158†	2880.0	1.687 mg/L	0.0632	3.374 mg/L	0.1265	3.75%
Sn 189.927†	-31.0	-0.00340 mg/L	0.002071	-0.00680 mg/L	0.004142	60.88%
Sr 421.552†	407823.6	0.4955 mg/L	0.00251	0.9910 mg/L	0.00503	0.51%
Ti 334.903†	108084.2	6.628 mg/L	0.0330	13.26 mg/L	0.066	0.50%
Tl 190.801†	-24.5	0.00491 mg/L	0.001377	0.00981 mg/L	0.002753	28.06%
V 292.402†	59297.9	0.3793 mg/L	0.00134	0.7585 mg/L	0.00268	0.35%
Zn 206.200†	1616.6	0.4742 mg/L	0.00286	0.9483 mg/L	0.00573	0.60%

Sequence No.: 34
 Sample ID: YD87 D SWC

Autosampler Location: 326
 Date Collected: 3/28/2014 11:07:14 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YD87 D SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YD87 D SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2912955.0	102.2	%	1.25				1.22%
ScR 361.383	249375.0	101.4	%	0.56				0.55%
Ag 328.068†	-217.9	-0.00074	mg/L	0.000147	-0.00147	mg/L	0.000295	20.03%
Al 308.215†	156940.7	120.0	mg/L	0.06	240.1	mg/L	0.13	0.05%
As 188.979†	-253.5	0.1019	mg/L	0.00248	0.2037	mg/L	0.00497	2.44%
B 249.677†	423.5	0.07476	mg/L	0.001112	0.1495	mg/L	0.00222	1.49%
Ba 233.527†	1519.7	0.3657	mg/L	0.00172	0.7313	mg/L	0.00343	0.47%
Be 313.042†	970.6	0.00177	mg/L	0.000022	0.00355	mg/L	0.000044	1.23%
Ca 317.933†	457258.7	46.35	mg/L	0.115	92.70	mg/L	0.230	0.25%
Cd 228.802†	60.2	0.00132	mg/L	0.000143	0.00265	mg/L	0.000286	10.80%
Co 228.616†	2794.8	0.05944	mg/L	0.000908	0.1189	mg/L	0.00182	1.53%
Cr 267.716†	854.1	0.1739	mg/L	0.00118	0.3479	mg/L	0.00236	0.68%
Cu 324.752†	49616.6	0.1824	mg/L	0.00231	0.3649	mg/L	0.00461	1.26%
Fe 273.955†	179512.3	162.2	mg/L	1.03	324.4	mg/L	2.05	0.63%
K 766.490†	24604.3	10.93	mg/L	0.047	21.87	mg/L	0.094	0.43%
Mg 279.077†	48459.3	41.82	mg/L	0.049	83.64	mg/L	0.098	0.12%
Mn 257.610†	55272.4	1.825	mg/L	0.0104	3.649	mg/L	0.0208	0.57%
Mo 202.031†	76.4	0.00340	mg/L	0.000453	0.00679	mg/L	0.000907	13.34%
Na 589.592†	601686.7	45.34	mg/L	0.074	90.68	mg/L	0.149	0.16%
Na 330.237†	940.0	46.09	mg/L	0.134	92.18	mg/L	0.267	0.29%
Ni 231.604†	536.8	0.1595	mg/L	0.00126	0.3191	mg/L	0.00253	0.79%
Pb 220.353†	179.7	0.04439	mg/L	0.000694	0.08879	mg/L	0.001389	1.56%
Sb 206.836†	27.3	0.01334	mg/L	0.003996	0.02668	mg/L	0.007992	29.95%
Se 196.026†	30.2	0.02128	mg/L	0.001141	0.04255	mg/L	0.002281	5.36%
Si 288.158†	2398.7	1.406	mg/L	0.0308	2.812	mg/L	0.0617	2.19%
Sn 189.927†	-55.9	-0.00947	mg/L	0.001031	-0.01893	mg/L	0.002062	10.89%
Sr 421.552†	351614.5	0.4272	mg/L	0.00039	0.8544	mg/L	0.00079	0.09%
Ti 334.903†	115271.2	7.069	mg/L	0.0057	14.14	mg/L	0.011	0.08%
Tl 190.801†	-29.7	0.00303	mg/L	0.000827	0.00605	mg/L	0.001654	27.32%
V 292.402†	59987.5	0.3833	mg/L	0.00437	0.7667	mg/L	0.00875	1.14%
Zn 206.200†	1329.0	0.3898	mg/L	0.00328	0.7796	mg/L	0.00657	0.84%

Sequence No.: 35
 Sample ID: YD87 E SWC

Autosampler Location: 327
 Date Collected: 3/28/2014 11:11:15 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD87 E SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YD87 E SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2898932.6	101.7	%	0.52			0.51%
ScR 361.383	257140.1	104.6	%	0.39			0.37%
Ag 328.068†	-196.2	-0.00073	mg/L	0.000075	-0.00146 mg/L	0.000149	10.20%
Al 308.215†	141511.5	108.2	mg/L	0.26	216.5 mg/L	0.53	0.24%
As 188.979†	-165.0	0.1058	mg/L	0.00229	0.2116 mg/L	0.00459	2.17%
B 249.677†	648.7	0.1146	mg/L	0.00135	0.2293 mg/L	0.00270	1.18%
Ba 233.527†	1390.6	0.3342	mg/L	0.00274	0.6683 mg/L	0.00547	0.82%
Be 313.042†	905.2	0.00167	mg/L	0.000010	0.00334 mg/L	0.000021	0.61%
Ca 317.933†	306353.7	31.05	mg/L	0.265	62.11 mg/L	0.530	0.85%
Cd 228.802†	79.7	0.00173	mg/L	0.000003	0.00345 mg/L	0.000006	0.18%
Co 228.616†	2267.3	0.04826	mg/L	0.000149	0.09652 mg/L	0.000298	0.31%
Cr 267.716†	856.5	0.1748	mg/L	0.00051	0.3495 mg/L	0.00103	0.29%
Cu 324.752†	55820.6	0.2044	mg/L	0.00102	0.4088 mg/L	0.00204	0.50%
Fe 273.955†	167401.4	151.3	mg/L	0.86	302.5 mg/L	1.72	0.57%
K 766.490†	28730.4	12.77	mg/L	0.028	25.53 mg/L	0.056	0.22%
Mg 279.077†	41565.6	35.87	mg/L	0.047	71.73 mg/L	0.094	0.13%
Mn 257.610†	48093.8	1.588	mg/L	0.0066	3.175 mg/L	0.0131	0.41%
Mo 202.031†	88.4	0.00428	mg/L	0.000279	0.00856 mg/L	0.000558	6.51%
Na 589.592†	721414.0	54.36	mg/L	0.271	108.7 mg/L	0.54	0.50%
Na 330.237†	1136.2	55.12	mg/L	0.324	110.2 mg/L	0.65	0.59%
Ni 231.604†	409.3	0.1217	mg/L	0.00106	0.2433 mg/L	0.00212	0.87%
Pb 220.353†	504.6	0.08152	mg/L	0.000904	0.1630 mg/L	0.00181	1.11%
Sb 206.836†	31.8	0.01359	mg/L	0.001145	0.02718 mg/L	0.002291	8.43%
Se 196.026†	32.9	0.02328	mg/L	0.002102	0.04656 mg/L	0.004205	9.03%
Si 288.158†	3226.5	1.889	mg/L	0.0181	3.778 mg/L	0.0361	0.96%
Sn 189.927†	-28.2	-0.00345	mg/L	0.000543	-0.00690 mg/L	0.001087	15.76%
Sr 421.552†	355401.9	0.4318	mg/L	0.00280	0.8636 mg/L	0.00560	0.65%
Ti 334.903†	93128.8	5.711	mg/L	0.0135	11.42 mg/L	0.027	0.24%
Tl 190.801†	-26.6	0.00349	mg/L	0.001161	0.00698 mg/L	0.002322	33.26%
V 292.402†	51980.8	0.3319	mg/L	0.00213	0.6638 mg/L	0.00427	0.64%
Zn 206.200†	1519.0	0.4456	mg/L	0.00097	0.8912 mg/L	0.00194	0.22%

Sequence No.: 36

Sample ID: YD87 F SWC

Autosampler Location: 328

Date Collected: 3/28/2014 11:15:31 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD87 F SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD87 F SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2908580.2	102.0	%	0.22			0.21%
ScR 361.383	252678.2	102.8	%	1.65			1.61%
Ag 328.068†	-219.4	-0.00082	mg/L	0.000034	-0.00164 mg/L	0.000069	4.19%
Al 308.215†	155774.3	119.2	mg/L	1.27	238.3 mg/L	2.53	1.06%
As 188.979†	-166.2	0.1268	mg/L	0.00454	0.2535 mg/L	0.00908	3.58%
B 249.677†	684.8	0.1210	mg/L	0.00251	0.2420 mg/L	0.00502	2.07%
Ba 233.527†	1567.6	0.3770	mg/L	0.00708	0.7540 mg/L	0.01417	1.88%
Be 313.042†	1024.5	0.00190	mg/L	0.000057	0.00379 mg/L	0.000114	3.00%
Ca 317.933†	339948.1	34.46	mg/L	0.991	68.92 mg/L	1.983	2.88%
Cd 228.802†	93.0	0.00198	mg/L	0.000168	0.00396 mg/L	0.000336	8.49%
Co 228.616†	2482.7	0.05272	mg/L	0.000436	0.1054 mg/L	0.00087	0.83%
Cr 267.716†	761.4	0.1557	mg/L	0.00222	0.3114 mg/L	0.00443	1.42%
Cu 324.752†	63414.0	0.2321	mg/L	0.00060	0.4642 mg/L	0.00121	0.26%
Fe 273.955†	186779.7	168.8	mg/L	2.53	337.6 mg/L	5.07	1.50%
K 766.490†	32085.6	14.26	mg/L	0.145	28.52 mg/L	0.291	1.02%
Mg 279.077†	45852.6	39.56	mg/L	0.373	79.13 mg/L	0.746	0.94%
Mn 257.610†	53835.0	1.777	mg/L	0.0248	3.554 mg/L	0.0497	1.40%
Mo 202.031†	77.6	0.00365	mg/L	0.000242	0.00730 mg/L	0.000484	6.63%
Na 589.592†	785786.5	59.21	mg/L	1.606	118.4 mg/L	3.21	2.71%
Na 330.237†	1227.7	59.59	mg/L	0.880	119.2 mg/L	1.76	1.48%
Ni 231.604†	402.2	0.1195	mg/L	0.00145	0.2391 mg/L	0.00289	1.21%
Pb 220.353†	548.7	0.08873	mg/L	0.000652	0.1775 mg/L	0.00130	0.74%
Sb 206.836†	30.0	0.01387	mg/L	0.000643	0.02774 mg/L	0.001286	4.63%
Se 196.026†	34.6	0.02442	mg/L	0.007283	0.04885 mg/L	0.014566	29.82%
Si 288.158†	3230.7	1.892	mg/L	0.0323	3.784 mg/L	0.0647	1.71%
Sn 189.927†	-18.8	-0.00013	mg/L	0.000474	-0.00027 mg/L	0.000948	352.28%
Sr 421.552†	416802.5	0.5064	mg/L	0.01382	1.013 mg/L	0.0276	2.73%
Ti 334.903†	103128.9	6.324	mg/L	0.0660	12.65 mg/L	0.132	1.04%
Tl 190.801†	-33.8	0.00203	mg/L	0.001186	0.00406 mg/L	0.002372	58.47%
V 292.402†	56711.3	0.3617	mg/L	0.00182	0.7234 mg/L	0.00365	0.50%
Zn 206.200†	1667.2	0.4890	mg/L	0.00941	0.9780 mg/L	0.01883	1.93%

Sequence No.: 37
Sample ID: YE10 B SWC

Autosampler Location: 329
Date Collected: 3/28/2014 11:19:47 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 B SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE10 B SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2897383.6	101.6 %	0.17			0.17%
ScR 361.383	252458.2	102.7 %	0.26			0.26%
Ag 328.068†	-97.5	-0.00019 mg/L	0.000095	-0.00039 mg/L	0.000191	49.48%
Al 308.215†	166427.2	127.3 mg/L	0.05	254.6 mg/L	0.09	0.04%
As 188.979†	-200.9	0.1114 mg/L	0.00320	0.2228 mg/L	0.00640	2.87%
B 249.677†	824.8	0.1458 mg/L	0.00171	0.2915 mg/L	0.00343	1.18%
Ba 233.527†	1346.3	0.3208 mg/L	0.00141	0.6415 mg/L	0.00282	0.44%
Be 313.042†	1014.4	0.00187 mg/L	0.000004	0.00374 mg/L	0.000008	0.22%
Ca 317.933†	338636.2	34.33 mg/L	0.282	68.65 mg/L	0.564	0.82%
Cd 228.802†	103.0	0.00243 mg/L	0.000115	0.00486 mg/L	0.000231	4.75%
Co 228.616†	2608.5	0.05573 mg/L	0.000448	0.1115 mg/L	0.00090	0.80%
Cr 267.716†	799.1	0.1630 mg/L	0.00093	0.3261 mg/L	0.00185	0.57%
Cu 324.752†	76712.8	0.2792 mg/L	0.00066	0.5584 mg/L	0.00132	0.24%
Fe 273.955†	181874.3	164.4 mg/L	1.02	328.7 mg/L	2.05	0.62%
K 766.490†	36095.8	16.04 mg/L	0.022	32.08 mg/L	0.044	0.14%
Mg 279.077†	47374.1	40.88 mg/L	0.058	81.77 mg/L	0.116	0.14%
Mn 257.610†	47225.2	1.559 mg/L	0.0084	3.118 mg/L	0.0169	0.54%
Mo 202.031†	124.5	0.00618 mg/L	0.000076	0.01235 mg/L	0.000151	1.23%
Na 589.592†	795580.6	59.95 mg/L	0.394	119.9 mg/L	0.79	0.66%
Na 330.237†	1252.9	60.81 mg/L	0.244	121.6 mg/L	0.49	0.40%
Ni 231.604†	407.7	0.1212 mg/L	0.00086	0.2424 mg/L	0.00171	0.71%
Pb 220.353†	839.1	0.1263 mg/L	0.00043	0.2526 mg/L	0.00086	0.34%
Sb 206.836†	35.7	0.01576 mg/L	0.000956	0.03153 mg/L	0.001913	6.07%
Se 196.026†	27.9	0.01967 mg/L	0.002829	0.03935 mg/L	0.005658	14.38%
Si 288.158†	3340.6	1.956 mg/L	0.0078	3.913 mg/L	0.0156	0.40%
Sn 189.927†	-20.6	-0.00065 mg/L	0.001311	-0.00130 mg/L	0.002621	201.40%
Sr 421.552†	406144.6	0.4935 mg/L	0.00336	0.9869 mg/L	0.00672	0.68%
Ti 334.903†	105266.4	6.456 mg/L	0.0100	12.91 mg/L	0.020	0.16%
Ti 190.801†	-32.9	0.00188 mg/L	0.002438	0.00376 mg/L	0.004877	129.79%
V 292.402†	58758.7	0.3754 mg/L	0.00155	0.7508 mg/L	0.00309	0.41%
Zn 206.200†	1858.1	0.5450 mg/L	0.00299	1.090 mg/L	0.0060	0.55%

Sequence No.: 38

Sample ID: YE10 REF1 SWC

Autosampler Location: 330

Date Collected: 3/28/2014 11:24:03 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 REF1 SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE10 REF1 SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2902853.7	101.8 %	0.34			0.34%
ScR 361.383	247325.3	100.6 %	0.12			0.12%
Ag 328.068†	120951.3	0.6215 mg/L	0.00525	1.243 mg/L	0.0105	0.84%
Al 308.215†	139806.6	106.9 mg/L	0.24	213.9 mg/L	0.48	0.22%
As 188.979†	3155.7	1.893 mg/L	0.0091	3.786 mg/L	0.0182	0.48%
B 249.677†	5457.8	0.9624 mg/L	0.00516	1.925 mg/L	0.0103	0.54%
Ba 233.527†	5963.1	1.513 mg/L	0.0169	3.025 mg/L	0.0338	1.12%
Be 313.042†	477569.3	0.9589 mg/L	0.00146	1.918 mg/L	0.0029	0.15%
Ca 317.933†	617493.5	62.59 mg/L	0.118	125.2 mg/L	0.24	0.19%
Cd 228.802†	20901.4	0.6342 mg/L	0.00108	1.268 mg/L	0.0022	0.17%
Co 228.616†	62096.3	1.598 mg/L	0.0141	3.197 mg/L	0.0282	0.88%
Cr 267.716†	6453.6	1.308 mg/L	0.0075	2.617 mg/L	0.0151	0.58%
Cu 324.752†	236060.5	0.8465 mg/L	0.00737	1.693 mg/L	0.0147	0.87%
Fe 273.955†	149979.6	135.5 mg/L	1.55	271.0 mg/L	3.10	1.14%
K 766.490†	68022.8	30.23 mg/L	0.091	60.45 mg/L	0.181	0.30%
Mg 279.077†	32616.9	28.13 mg/L	0.181	56.27 mg/L	0.361	0.64%
Mn 257.610†	83723.5	2.765 mg/L	0.0235	5.530 mg/L	0.0470	0.85%
Mo 202.031†	6976.5	0.3750 mg/L	0.00110	0.7499 mg/L	0.00220	0.29%
Na 589.592†	62029.1	4.674 mg/L	0.0112	9.348 mg/L	0.0224	0.24%
Na 330.237†	99.5	4.316 mg/L	0.1599	8.632 mg/L	0.3198	3.70%
Ni 231.604†	4440.6	1.319 mg/L	0.0020	2.639 mg/L	0.0039	0.15%
Pb 220.353†	11156.2	1.381 mg/L	0.0040	2.763 mg/L	0.0079	0.29%
Sb 206.836†	1494.2	0.4772 mg/L	0.00261	0.9544 mg/L	0.00522	0.55%
Se 196.026†	1247.6	0.8898 mg/L	0.00857	1.780 mg/L	0.0171	0.96%
Si 288.158†	2988.0	1.752 mg/L	0.0197	3.504 mg/L	0.0394	1.12%
Sn 189.927†	4955.7	1.463 mg/L	0.0036	2.927 mg/L	0.0071	0.24%
Sr 421.552†	944247.3	1.147 mg/L	0.0031	2.295 mg/L	0.0062	0.27%
Ti 334.903†	35584.2	2.178 mg/L	0.0038	4.356 mg/L	0.0076	0.17%
Tl 190.801†	3034.2	1.406 mg/L	0.0069	2.812 mg/L	0.0139	0.49%
V 292.402†	157584.6	1.036 mg/L	0.0099	2.073 mg/L	0.0198	0.96%
Zn 206.200†	7102.5	2.082 mg/L	0.0140	4.164 mg/L	0.0280	0.67%

Sequence No.: 39
Sample ID: YE10 MB1SPK SWC

Autosampler Location: 331
Date Collected: 3/28/2014 11:27:21 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 MB1SPK SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE10 MB1SPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2891028.4	101.4	%	0.83			0.82%
ScR 361.383	249409.0	101.4	%	0.81			0.80%
Ag 328.068†	106244.2	0.5456	mg/L	0.00729	1.091 mg/L	0.0146	1.34%
Al 308.215†	2712.9	2.068	mg/L	0.0230	4.136 mg/L	0.0460	1.11%
As 188.979†	3630.6	2.095	mg/L	0.0194	4.191 mg/L	0.0388	0.93%
B 249.677†	12.1	0.00106	mg/L	0.000472	0.00213 mg/L	0.000945	44.45%
Ba 233.527†	8201.3	2.109	mg/L	0.0262	4.217 mg/L	0.0523	1.24%
Be 313.042†	249507.1	0.5010	mg/L	0.00120	1.002 mg/L	0.0024	0.24%
Ca 317.933†	100693.9	10.21	mg/L	0.039	20.41 mg/L	0.078	0.38%
Cd 228.802†	17504.1	0.5287	mg/L	0.01006	1.057 mg/L	0.0201	1.90%
Co 228.616†	19863.5	0.5124	mg/L	0.00636	1.025 mg/L	0.0127	1.24%
Cr 267.716†	2615.4	0.5287	mg/L	0.00524	1.057 mg/L	0.0105	0.99%
Cu 324.752†	143654.5	0.5118	mg/L	0.00806	1.024 mg/L	0.0161	1.58%
Fe 273.955†	2332.4	2.104	mg/L	0.0195	4.209 mg/L	0.0390	0.93%
K 766.490†	23110.8	10.27	mg/L	0.033	20.54 mg/L	0.066	0.32%
Mg 279.077†	12066.6	10.44	mg/L	0.097	20.88 mg/L	0.195	0.93%
Mn 257.610†	14941.2	0.4939	mg/L	0.00218	0.9878 mg/L	0.00436	0.44%
Mo 202.031†	35.0	0.00173	mg/L	0.000333	0.00346 mg/L	0.000666	19.24%
Na 589.592†	139404.2	10.50	mg/L	0.042	21.01 mg/L	0.084	0.40%
Na 330.237†	231.6	10.78	mg/L	0.144	21.56 mg/L	0.288	1.34%
Ni 231.604†	1747.6	0.5185	mg/L	0.00666	1.037 mg/L	0.0133	1.28%
Pb 220.353†	16968.3	2.069	mg/L	0.0329	4.137 mg/L	0.0658	1.59%
Sb 206.836†	34.9	0.00613	mg/L	0.000402	0.01226 mg/L	0.000804	6.55%
Se 196.026†	2902.4	2.073	mg/L	0.0192	4.145 mg/L	0.0383	0.92%
Si 288.158†	6.7	0.00754	mg/L	0.005531	0.01508 mg/L	0.011061	73.36%
Sn 189.927†	-12.0	-0.00222	mg/L	0.001042	-0.00444 mg/L	0.002084	46.95%
Sr 421.552†	418040.9	0.5079	mg/L	0.00188	1.016 mg/L	0.0038	0.37%
Ti 334.903†	42.8	0.00180	mg/L	0.000321	0.00360 mg/L	0.000642	17.83%
Tl 190.801†	4424.1	2.041	mg/L	0.0162	4.083 mg/L	0.0325	0.80%
V 292.402†	78419.5	0.5193	mg/L	0.00719	1.039 mg/L	0.0144	1.38%
Zn 206.200†	1736.1	0.5091	mg/L	0.00454	1.018 mg/L	0.0091	0.89%

Sequence No.: 40

Sample ID: CV 4

Autosampler Location: 7

Date Collected: 3/28/2014 11:31:22 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2881454.6	101.1	%	0.43				0.43%
ScR 361.383	245463.8	99.84	%	0.732				0.73%
Ag 328.068†	205591.4	1.056	mg/L	0.0025	1.056	mg/L	0.0025	0.24%
Al 308.215†	2670.9	2.012	mg/L	0.0134	2.012	mg/L	0.0134	0.67%
As 188.979†	3457.4	2.028	mg/L	0.0124	2.028	mg/L	0.0124	0.61%
B 249.677†	5723.4	1.011	mg/L	0.0076	1.011	mg/L	0.0076	0.75%
Ba 233.527†	3994.7	1.027	mg/L	0.0045	1.027	mg/L	0.0045	0.44%
Be 313.042†	489791.3	0.9835	mg/L	0.00626	0.9835	mg/L	0.00626	0.64%
Ca 317.933†	20463.1	2.074	mg/L	0.0133	2.074	mg/L	0.0133	0.64%
Cd 228.802†	33379.4	1.019	mg/L	0.0057	1.019	mg/L	0.0057	0.56%
Co 228.616†	38399.5	0.9892	mg/L	0.00637	0.9892	mg/L	0.00637	0.64%
Cr 267.716†	5149.9	1.043	mg/L	0.0078	1.043	mg/L	0.0078	0.75%
Cu 324.752†	281593.6	1.003	mg/L	0.0020	1.003	mg/L	0.0020	0.20%
Fe 273.955†	2286.4	2.059	mg/L	0.0144	2.059	mg/L	0.0144	0.70%
K 766.490†	44935.1	19.97	mg/L	0.107	19.97	mg/L	0.107	0.53%
Mg 279.077†	2274.9	1.974	mg/L	0.0164	1.974	mg/L	0.0164	0.83%
Mn 257.610†	29199.5	0.9650	mg/L	0.00564	0.9650	mg/L	0.00564	0.58%
Mo 202.031†	17637.3	0.9504	mg/L	0.00431	0.9504	mg/L	0.00431	0.45%
Na 589.592†	675442.7	50.90	mg/L	0.266	50.90	mg/L	0.266	0.52%
Na 330.237†	1077.1	51.08	mg/L	0.208	51.08	mg/L	0.208	0.41%
Ni 231.604†	3461.0	1.029	mg/L	0.0072	1.029	mg/L	0.0072	0.70%
Pb 220.353†	16164.9	1.971	mg/L	0.0084	1.971	mg/L	0.0084	0.43%
Sb 206.836†	6454.2	2.062	mg/L	0.0109	2.062	mg/L	0.0109	0.53%
Se 196.026†	2770.0	1.977	mg/L	0.0056	1.977	mg/L	0.0056	0.28%
Si 288.158†	3393.7	1.987	mg/L	0.0387	1.987	mg/L	0.0387	1.95%
Sn 189.927†	3329.5	0.9792	mg/L	0.00502	0.9792	mg/L	0.00502	0.51%
Sr 421.552†	829305.6	1.008	mg/L	0.0046	1.008	mg/L	0.0046	0.46%
Ti 334.903†	16115.6	0.9874	mg/L	0.00275	0.9874	mg/L	0.00275	0.28%
Tl 190.801†	4390.7	2.023	mg/L	0.0060	2.023	mg/L	0.0060	0.30%
V 292.402†	153772.6	1.018	mg/L	0.0032	1.018	mg/L	0.0032	0.32%
Zn 206.200†	3468.4	1.017	mg/L	0.0082	1.017	mg/L	0.0082	0.81%

Sequence No.: 41

Sample ID: CB 4

Autosampler Location: 1

Date Collected: 3/28/2014 11:35:26 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	*RSD
ScA 357.253	2918592.0	102.4	%	0.37				0.36%
ScR 361.383	250329.1	101.8	%	0.31				0.30%
Ag 328.068†	-13.4	-0.00007	mg/L	0.000284	-0.00007	mg/L	0.000284	414.20%
Al 308.215†	6.2	0.00469	mg/L	0.001570	0.00469	mg/L	0.001570	33.46%
As 188.979†	1.2	0.00067	mg/L	0.000354	0.00067	mg/L	0.000354	52.40%
B 249.677†	6.4	0.00113	mg/L	0.001003	0.00113	mg/L	0.001003	88.72%
Ba 233.527†	-1.9	-0.00048	mg/L	0.001073	-0.00048	mg/L	0.001073	224.69%
Be 313.042†	18.3	0.00004	mg/L	0.000031	0.00004	mg/L	0.000031	82.81%
Ca 317.933†	17.1	0.00173	mg/L	0.000240	0.00173	mg/L	0.000240	13.83%
Cd 228.802†	-3.2	-0.00010	mg/L	0.000079	-0.00010	mg/L	0.000079	77.78%
Co 228.616†	1.3	0.00003	mg/L	0.000085	0.00003	mg/L	0.000085	262.66%
Cr 267.716†	1.4	0.00029	mg/L	0.001725	0.00029	mg/L	0.001725	591.15%
Cu 324.752†	95.4	0.00034	mg/L	0.000130	0.00034	mg/L	0.000130	38.15%
Fe 273.955†	0.8	0.00069	mg/L	0.002314	0.00069	mg/L	0.002314	335.72%
K 766.490†	76.4	0.03393	mg/L	0.003365	0.03393	mg/L	0.003365	9.92%
Mg 279.077†	-4.7	-0.00410	mg/L	0.006514	-0.00410	mg/L	0.006514	159.05%
Mn 257.610†	-1.4	-0.00005	mg/L	0.000039	-0.00005	mg/L	0.000039	85.23%
Mo 202.031†	15.9	0.00085	mg/L	0.000488	0.00085	mg/L	0.000488	57.13%
Na 589.592†	930.8	0.07014	mg/L	0.002050	0.07014	mg/L	0.002050	2.92%
Na 330.237†	3.1	0.1459	mg/L	0.14843	0.1459	mg/L	0.14843	101.72%
Ni 231.604†	-0.1	-0.00003	mg/L	0.000524	-0.00003	mg/L	0.000524	>999.9%
Pb 220.353†	6.2	0.00075	mg/L	0.000128	0.00075	mg/L	0.000128	16.99%
Sb 206.836†	24.2	0.00774	mg/L	0.000677	0.00774	mg/L	0.000677	8.74%
Se 196.026†	1.5	0.00107	mg/L	0.003625	0.00107	mg/L	0.003625	338.90%
Si 288.158†	13.7	0.00803	mg/L	0.005922	0.00803	mg/L	0.005922	73.75%
Sn 189.927†	1.2	0.00037	mg/L	0.001057	0.00037	mg/L	0.001057	286.90%
Sr 421.552†	37.6	0.00005	mg/L	0.000051	0.00005	mg/L	0.000051	110.94%
Ti 334.903†	6.0	0.00037	mg/L	0.000389	0.00037	mg/L	0.000389	106.36%
Tl 190.801†	-6.3	-0.00291	mg/L	0.001435	-0.00291	mg/L	0.001435	49.38%
V 292.402†	-4.4	-0.00003	mg/L	0.000215	-0.00003	mg/L	0.000215	786.90%
Zn 206.200†	-0.4	-0.00013	mg/L	0.000090	-0.00013	mg/L	0.000090	69.93%

Sequence No.: 42

Autosampler Location: 332

Sample ID: YE10 A-L SWC

Date Collected: 3/28/2014 11:39:26 AM

Data Type: Original

Dilution: 10.000000X

Nebulizer Parameters: YE10 A-L SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE10 A-L SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2903354.5	101.9 %	0.54			0.53%
ScR 361.383	251738.7	102.4 %	0.40			0.39%
Ag 328.068†	-69.9	-0.00030 mg/L	0.000294	-0.00303 mg/L	0.002937	96.92%
Al 308.215†	19262.5	14.73 mg/L	0.077	147.3 mg/L	0.77	0.52%
As 188.979†	-31.3	0.02005 mg/L	0.000476	0.2005 mg/L	0.00476	2.37%
B 249.677†	46.7	0.00824 mg/L	0.001994	0.08245 mg/L	0.019942	24.19%
Ba 233.527†	181.6	0.04191 mg/L	0.001490	0.4191 mg/L	0.01490	3.56%
Be 313.042†	114.0	0.00020 mg/L	0.000021	0.00201 mg/L	0.000211	10.54%
Ca 317.933†	62880.5	6.374 mg/L	0.0271	63.74 mg/L	0.271	0.42%
Cd 228.802†	2.3	-0.00009 mg/L	0.000132	-0.00094 mg/L	0.001322	140.12%
Co 228.616†	390.2	0.00813 mg/L	0.000099	0.08129 mg/L	0.000992	1.22%
Cr 267.716†	101.4	0.02098 mg/L	0.001177	0.2098 mg/L	0.01177	5.61%
Cu 324.752†	10366.5	0.03809 mg/L	0.000227	0.3809 mg/L	0.00227	0.59%
Fe 273.955†	34239.1	30.94 mg/L	0.055	309.4 mg/L	0.55	0.18%
K 766.490†	3153.4	1.401 mg/L	0.0187	14.01 mg/L	0.187	1.33%
Mg 279.077†	6046.6	5.212 mg/L	0.0189	52.12 mg/L	0.189	0.36%
Mn 257.610†	8879.2	0.2932 mg/L	0.00064	2.932 mg/L	0.0064	0.22%
Mo 202.031†	34.4	0.00175 mg/L	0.000164	0.01755 mg/L	0.001640	9.34%
Na 589.592†	63370.1	4.775 mg/L	0.0180	47.75 mg/L	0.180	0.38%
Na 330.237†	102.2	5.077 mg/L	0.1218	50.77 mg/L	1.218	2.40%
Ni 231.604†	55.7	0.01657 mg/L	0.000879	0.1657 mg/L	0.00879	5.31%
Pb 220.353†	138.2	0.01908 mg/L	0.000607	0.1908 mg/L	0.00607	3.18%
Sb 206.836†	9.6	0.00389 mg/L	0.001177	0.03894 mg/L	0.011771	30.23%
Se 196.026†	6.5	0.00457 mg/L	0.002824	0.04572 mg/L	0.028242	61.77%
Si 288.158†	454.0	0.2658 mg/L	0.00805	2.658 mg/L	0.0805	3.03%
Sn 189.927†	-6.1	-0.00081 mg/L	0.000939	-0.00806 mg/L	0.009389	116.47%
Sr 421.552†	61311.4	0.07449 mg/L	0.000221	0.7449 mg/L	0.00221	0.30%
Ti 334.903†	17664.8	1.083 mg/L	0.0030	10.83 mg/L	0.030	0.28%
Tl 190.801†	-6.5	0.00027 mg/L	0.001691	0.00269 mg/L	0.016907	629.33%
V 292.402†	10135.2	0.06459 mg/L	0.000334	0.6459 mg/L	0.00334	0.52%
Zn 206.200†	228.2	0.06695 mg/L	0.000676	0.6695 mg/L	0.00676	1.01%

YE22:00091

Sequence No.: 43
 Sample ID: YE10 A SWC

Autosampler Location: 333
 Date Collected: 3/28/2014 11:43:27 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE10 A SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YE10 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2908081.0	102.0	%	0.79			0.78%
ScR 361.383	250163.4	101.8	%	0.76			0.75%
Ag 328.068†	-283.7	-0.00118	mg/L	0.000223	-0.00236 mg/L	0.000446	18.92%
Al 308.215†	96660.9	73.93	mg/L	0.519	147.9 mg/L	1.04	0.70%
As 188.979†	-184.0	0.08350	mg/L	0.001341	0.1670 mg/L	0.00268	1.61%
B 249.677†	226.5	0.03997	mg/L	0.001184	0.07994 mg/L	0.002369	2.96%
Ba 233.527†	910.4	0.2105	mg/L	0.00125	0.4210 mg/L	0.00251	0.60%
Be 313.042†	556.4	0.00098	mg/L	0.000028	0.00195 mg/L	0.000055	2.82%
Ca 317.933†	310915.0	31.52	mg/L	0.043	63.03 mg/L	0.086	0.14%
Cd 228.802†	50.6	0.00084	mg/L	0.000056	0.00167 mg/L	0.000111	6.65%
Co 228.616†	1894.2	0.03922	mg/L	0.000419	0.07844 mg/L	0.000838	1.07%
Cr 267.716†	481.0	0.09973	mg/L	0.000057	0.1995 mg/L	0.00011	0.06%
Cu 324.752†	53283.3	0.1955	mg/L	0.00244	0.3911 mg/L	0.00488	1.25%
Fe 273.955†	168916.5	152.6	mg/L	0.63	305.3 mg/L	1.26	0.41%
K 766.490†	15769.7	7.008	mg/L	0.0404	14.02 mg/L	0.081	0.58%
Mg 279.077†	28428.4	24.50	mg/L	0.090	49.00 mg/L	0.180	0.37%
Mn 257.610†	43954.6	1.451	mg/L	0.0043	2.903 mg/L	0.0086	0.30%
Mo 202.031†	144.9	0.00732	mg/L	0.000532	0.01464 mg/L	0.001063	7.26%
Na 589.592†	315156.6	23.75	mg/L	0.127	47.50 mg/L	0.255	0.54%
Na 330.237†	485.3	24.17	mg/L	0.250	48.34 mg/L	0.500	1.03%
Ni 231.604†	277.5	0.08247	mg/L	0.001053	0.1649 mg/L	0.00211	1.28%
Pb 220.353†	669.1	0.09285	mg/L	0.000586	0.1857 mg/L	0.00117	0.63%
Sb 206.836†	24.8	0.01207	mg/L	0.002124	0.02414 mg/L	0.004248	17.60%
Se 196.026†	19.8	0.01388	mg/L	0.003226	0.02776 mg/L	0.006451	23.24%
Si 288.158†	2210.2	1.294	mg/L	0.0043	2.588 mg/L	0.0087	0.34%
Sn 189.927†	-16.9	-0.00012	mg/L	0.001159	-0.00023 mg/L	0.002319	992.83%
Sr 421.552†	305988.0	0.3718	mg/L	0.00171	0.7436 mg/L	0.00343	0.46%
Ti 334.903†	87933.7	5.392	mg/L	0.0305	10.78 mg/L	0.061	0.57%
Tl 190.801†	-36.8	-0.00096	mg/L	0.004095	-0.00191 mg/L	0.008189	427.93%
V 292.402†	50224.0	0.3201	mg/L	0.00444	0.6402 mg/L	0.00887	1.39%
Zn 206.200†	1128.2	0.3309	mg/L	0.00178	0.6618 mg/L	0.00356	0.54%

Sequence No.: 44

Sample ID: YE10 ADUP SWC

Autosampler Location: 334

Date Collected: 3/28/2014 11:47:28 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 ADUP SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE10 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2872143.9	100.8	%	0.08			0.08%
ScR 361.383	246579.5	100.3	%	0.25			0.25%
Ag 328.068†	-206.0	-0.00078	mg/L	0.000453	-0.00155 mg/L	0.000906	58.36%
Al 308.215†	95629.7	73.14	mg/L	0.321	146.3 mg/L	0.64	0.44%
As 188.979†	-187.7	0.09587	mg/L	0.002533	0.1917 mg/L	0.00507	2.64%
B 249.677†	241.7	0.04265	mg/L	0.001146	0.08531 mg/L	0.002291	2.69%
Ba 233.527†	878.9	0.2013	mg/L	0.00068	0.4027 mg/L	0.00136	0.34%
Be 313.042†	611.1	0.00108	mg/L	0.000024	0.00216 mg/L	0.000048	2.23%
Ca 317.933†	313881.8	31.82	mg/L	0.115	63.63 mg/L	0.230	0.36%
Cd 228.802†	56.8	0.00098	mg/L	0.000073	0.00196 mg/L	0.000146	7.47%
Co 228.616†	1991.1	0.04099	mg/L	0.000231	0.08198 mg/L	0.000462	0.56%
Cr 267.716†	522.9	0.1083	mg/L	0.00188	0.2166 mg/L	0.00377	1.74%
Cu 324.752†	38863.5	0.1444	mg/L	0.00038	0.2888 mg/L	0.00077	0.27%
Fe 273.955†	176466.4	159.5	mg/L	0.52	318.9 mg/L	1.05	0.33%
K 766.490†	15706.5	6.980	mg/L	0.0118	13.96 mg/L	0.024	0.17%
Mg 279.077†	29994.0	25.85	mg/L	0.112	51.70 mg/L	0.225	0.43%
Mn 257.610†	50077.0	1.654	mg/L	0.0080	3.307 mg/L	0.0159	0.48%
Mo 202.031†	160.8	0.00817	mg/L	0.000461	0.01634 mg/L	0.000922	5.65%
Na 589.592†	302058.1	22.76	mg/L	0.087	45.52 mg/L	0.174	0.38%
Na 330.237†	466.3	23.37	mg/L	0.082	46.74 mg/L	0.164	0.35%
Ni 231.604†	281.2	0.08356	mg/L	0.001344	0.1671 mg/L	0.00269	1.61%
Pb 220.353†	778.5	0.1058	mg/L	0.00032	0.2115 mg/L	0.00063	0.30%
Sb 206.836†	25.3	0.01250	mg/L	0.002907	0.02500 mg/L	0.005815	23.26%
Se 196.026†	20.3	0.01427	mg/L	0.003605	0.02854 mg/L	0.007210	25.27%
Si 288.158†	2071.4	1.213	mg/L	0.0178	2.426 mg/L	0.0355	1.46%
Sn 189.927†	-16.9	-0.00001	mg/L	0.000680	-0.00002 mg/L	0.001361	>999.9%
Sr 421.552†	306594.2	0.3725	mg/L	0.00148	0.7450 mg/L	0.00296	0.40%
Ti 334.903†	94584.0	5.800	mg/L	0.0205	11.60 mg/L	0.041	0.35%
Tl 190.801†	-30.5	0.00270	mg/L	0.000210	0.00539 mg/L	0.000421	7.81%
V 292.402†	52410.3	0.3340	mg/L	0.00225	0.6679 mg/L	0.00450	0.67%
Zn 206.200†	1215.2	0.3564	mg/L	0.00116	0.7128 mg/L	0.00232	0.32%

YE22:00093

Sequence No.: 45

Autosampler Location: 335

Sample ID: YE10 ASPK SWC

Date Collected: 3/28/2014 11:51:29 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 ASPK SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE10 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2886773.0	101.3	%	0.31			0.31%
ScR 361.383	250064.6	101.7	%	0.82			0.80%
Ag 328.068†	101313.3	0.5205	mg/L	0.00096	1.041 mg/L	0.0019	0.18%
Al 308.215†	92130.0	70.46	mg/L	0.333	140.9 mg/L	0.67	0.47%
As 188.979†	3328.8	2.100	mg/L	0.0081	4.200 mg/L	0.0161	0.38%
B 249.677†	225.4	0.03874	mg/L	0.001385	0.07747 mg/L	0.002769	3.57%
Ba 233.527†	8943.1	2.276	mg/L	0.0034	4.552 mg/L	0.0068	0.15%
Be 313.042†	243068.2	0.4879	mg/L	0.00363	0.9759 mg/L	0.00726	0.74%
Ca 317.933†	400369.6	40.58	mg/L	0.340	81.17 mg/L	0.681	0.84%
Cd 228.802†	17496.4	0.5281	mg/L	0.00025	1.056 mg/L	0.0005	0.05%
Co 228.616†	21052.6	0.5340	mg/L	0.00127	1.068 mg/L	0.0025	0.24%
Cr 267.716†	3004.2	0.6100	mg/L	0.00223	1.220 mg/L	0.0045	0.37%
Cu 324.752†	180077.1	0.6472	mg/L	0.00168	1.294 mg/L	0.0034	0.26%
Fe 273.955†	168456.1	152.2	mg/L	1.52	304.4 mg/L	3.05	1.00%
K 766.490†	37057.4	16.47	mg/L	0.100	32.93 mg/L	0.199	0.61%
Mg 279.077†	36958.0	31.88	mg/L	0.220	63.76 mg/L	0.439	0.69%
Mn 257.610†	58498.5	1.932	mg/L	0.0186	3.864 mg/L	0.0373	0.96%
Mo 202.031†	149.7	0.00744	mg/L	0.000507	0.01487 mg/L	0.001015	6.82%
Na 589.592†	437870.6	33.00	mg/L	0.152	65.99 mg/L	0.305	0.46%
Na 330.237†	678.7	33.08	mg/L	0.148	66.15 mg/L	0.297	0.45%
Ni 231.604†	1910.0	0.5668	mg/L	0.00144	1.134 mg/L	0.0029	0.25%
Pb 220.353†	17198.2	2.107	mg/L	0.0069	4.213 mg/L	0.0138	0.33%
Sb 206.836†	35.8	0.01044	mg/L	0.000662	0.02088 mg/L	0.001324	6.34%
Se 196.026†	2836.1	2.025	mg/L	0.0076	4.050 mg/L	0.0152	0.37%
Si 288.158†	2175.9	1.277	mg/L	0.0110	2.555 mg/L	0.0221	0.86%
Sn 189.927†	-7.2	0.00385	mg/L	0.001175	0.00770 mg/L	0.002349	30.50%
Sr 421.552†	705259.0	0.8569	mg/L	0.00417	1.714 mg/L	0.0083	0.49%
Ti 334.903†	82954.3	5.086	mg/L	0.0339	10.17 mg/L	0.068	0.67%
Tl 190.801†	4149.1	1.930	mg/L	0.0035	3.861 mg/L	0.0070	0.18%
V 292.402†	122295.5	0.7977	mg/L	0.00244	1.595 mg/L	0.0049	0.31%
Zn 206.200†	2765.7	0.8111	mg/L	0.00052	1.622 mg/L	0.0010	0.06%

Sequence No.: 46

Sample ID: ~~YE10 APOST SWC~~ 222222

Autosampler Location: 336

Date Collected: 3/28/2014 11:55:30 AM

Data Type: Original

Dilution: 2.000000X

BA 3/28/14

Nebulizer Parameters: YE10 APOST SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE10 APOST SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2874431.5	100.8 %	0.42			0.42%
ScR 361.383	246317.9	100.2 %	0.75			0.75%
Ag 328.068†	98214.5	0.5046 mg/L	0.00296	1.009 mg/L	0.0059	0.59%
Al 308.215†	99112.2	75.80 mg/L	0.430	151.6 mg/L	0.86	0.57%
As 188.979†	3331.7	2.112 mg/L	0.0182	4.224 mg/L	0.0364	0.86%
B 249.677†	220.6	0.03786 mg/L	0.001147	0.07573 mg/L	0.002294	3.03%
Ba 233.527†	8852.9	2.253 mg/L	0.0366	4.505 mg/L	0.0732	1.63%
Be 313.042†	232213.3	0.4661 mg/L	0.00231	0.9323 mg/L	0.00462	0.50%
Ca 317.933†	411150.1	41.68 mg/L	0.196	83.35 mg/L	0.393	0.47%
Cd 228.802†	17537.6	0.5294 mg/L	0.00351	1.059 mg/L	0.0070	0.66%
Co 228.616†	21210.5	0.5375 mg/L	0.00450	1.075 mg/L	0.0090	0.84%
Cr 267.716†	3026.8	0.6144 mg/L	0.00849	1.229 mg/L	0.0170	1.38%
Cu 324.752†	202865.9	0.7284 mg/L	0.00510	1.457 mg/L	0.0102	0.70%
Fe 273.955†	170736.5	154.3 mg/L	0.26	308.6 mg/L	0.53	0.17%
K 766.490†	38796.1	17.24 mg/L	0.087	34.48 mg/L	0.174	0.50%
Mg 279.077†	39759.9	34.30 mg/L	0.244	68.60 mg/L	0.488	0.71%
Mn 257.610†	58535.0	1.933 mg/L	0.0057	3.866 mg/L	0.0114	0.30%
Mo 202.031†	155.1	0.00771 mg/L	0.000457	0.01542 mg/L	0.000914	5.93%
Na 589.592†	452935.8	34.13 mg/L	0.173	68.26 mg/L	0.346	0.51%
Na 330.237†	704.0	34.34 mg/L	0.521	68.69 mg/L	1.041	1.52%
Ni 231.604†	1967.3	0.5838 mg/L	0.00994	1.168 mg/L	0.0199	1.70%
Pb 220.353†	17154.3	2.102 mg/L	0.0154	4.205 mg/L	0.0307	0.73%
Sb 206.836†	48.4	0.01469 mg/L	0.001507	0.02938 mg/L	0.003014	10.26%
Se 196.026†	2845.6	2.032 mg/L	0.0197	4.064 mg/L	0.0395	0.97%
Si 288.158†	2155.0	1.265 mg/L	0.0196	2.531 mg/L	0.0392	1.55%
Sn 189.927†	-27.4	-0.00190 mg/L	0.000272	-0.00380 mg/L	0.000544	14.29%
Sr 421.552†	721171.2	0.8762 mg/L	0.00366	1.752 mg/L	0.0073	0.42%
Ti 334.903†	87674.9	5.376 mg/L	0.0228	10.75 mg/L	0.046	0.42%
Tl 190.801†	4157.7	1.934 mg/L	0.0202	3.869 mg/L	0.0404	1.04%
V 292.402†	125762.5	0.8203 mg/L	0.00712	1.641 mg/L	0.0142	0.87%
Zn 206.200†	2814.5	0.8254 mg/L	0.01098	1.651 mg/L	0.0220	1.33%

YE22:00095

Sequence No.: 47
 Sample ID: YE10 C SWC

Autosampler Location: 337
 Date Collected: 3/28/2014 11:59:31 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE10 C SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YE10 C SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2893053.3	101.5	%	0.41			0.41%
ScR 361.383	250002.1	101.7	%	1.07			1.05%
Ag 328.068†	-237.7	-0.00091	mg/L	0.000058	-0.00182 mg/L	0.000116	6.41%
Al 308.215†	159942.4	122.3	mg/L	1.32	244.7 mg/L	2.65	1.08%
As 188.979†	-181.3	0.1160	mg/L	0.00186	0.2321 mg/L	0.00372	1.60%
B 249.677†	653.3	0.1154	mg/L	0.00160	0.2308 mg/L	0.00319	1.38%
Ba 233.527†	1645.0	0.3968	mg/L	0.00583	0.7937 mg/L	0.01166	1.47%
Be 313.042†	1064.0	0.00198	mg/L	0.000033	0.00395 mg/L	0.000067	1.69%
Ca 317.933†	351268.7	35.61	mg/L	0.141	71.21 mg/L	0.282	0.40%
Cd 228.802†	79.6	0.00162	mg/L	0.000078	0.00324 mg/L	0.000155	4.80%
Co 228.616†	2531.9	0.05408	mg/L	0.000432	0.1082 mg/L	0.00086	0.80%
Cr 267.716†	783.6	0.1601	mg/L	0.00118	0.3202 mg/L	0.00236	0.74%
Cu 324.752†	55775.4	0.2049	mg/L	0.00123	0.4098 mg/L	0.00247	0.60%
Fe 273.955†	187029.5	169.0	mg/L	1.60	338.0 mg/L	3.19	0.94%
K 766.490†	31377.9	13.94	mg/L	0.169	27.89 mg/L	0.337	1.21%
Mg 279.077†	47047.7	40.60	mg/L	0.472	81.19 mg/L	0.944	1.16%
Mn 257.610†	59881.6	1.977	mg/L	0.0215	3.954 mg/L	0.0430	1.09%
Mo 202.031†	90.4	0.00432	mg/L	0.000173	0.00863 mg/L	0.000346	4.01%
Na 589.592†	809761.2	61.02	mg/L	0.355	122.0 mg/L	0.71	0.58%
Na 330.237†	1260.6	61.14	mg/L	0.709	122.3 mg/L	1.42	1.16%
Ni 231.604†	427.7	0.1271	mg/L	0.00234	0.2543 mg/L	0.00468	1.84%
Pb 220.353†	376.1	0.06852	mg/L	0.001017	0.1370 mg/L	0.00203	1.48%
Sb 206.836†	31.9	0.01434	mg/L	0.001679	0.02868 mg/L	0.003359	11.71%
Se 196.026†	27.5	0.01937	mg/L	0.007661	0.03874 mg/L	0.015321	39.55%
Si 288.158†	3530.8	2.067	mg/L	0.0318	4.135 mg/L	0.0636	1.54%
Sn 189.927†	-41.3	-0.00663	mg/L	0.001655	-0.01326 mg/L	0.003309	24.96%
Sr 421.552†	401869.6	0.4883	mg/L	0.00264	0.9766 mg/L	0.00528	0.54%
Ti 334.903†	102263.1	6.271	mg/L	0.0751	12.54 mg/L	0.150	1.20%
Tl 190.801†	-35.5	0.00126	mg/L	0.000444	0.00252 mg/L	0.000887	35.24%
V 292.402†	56336.8	0.3593	mg/L	0.00232	0.7186 mg/L	0.00463	0.64%
Zn 206.200†	1581.5	0.4639	mg/L	0.00599	0.9279 mg/L	0.01198	1.29%

Sequence No.: 48
 Sample ID: YE10 D SWC

Autosampler Location: 338
 Date Collected: 3/28/2014 12:03:47 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 D SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE10 D SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2907269.4	102.0 %	0.87			0.85%
ScR 361.383	253580.3	103.1 %	0.29			0.28%
Ag 328.068†	-258.5	-0.00102 mg/L	0.000094	-0.00204 mg/L	0.000188	9.23%
Al 308.215†	159829.6	122.3 mg/L	0.34	244.5 mg/L	0.67	0.27%
As 188.979†	-203.3	0.1078 mg/L	0.00191	0.2157 mg/L	0.00383	1.77%
B 249.677†	620.8	0.1097 mg/L	0.00098	0.2193 mg/L	0.00197	0.90%
Ba 233.527†	1561.5	0.3769 mg/L	0.00196	0.7538 mg/L	0.00392	0.52%
Be 313.042†	1037.8	0.00192 mg/L	0.000030	0.00384 mg/L	0.000059	1.54%
Ca 317.933†	343926.1	34.86 mg/L	0.381	69.73 mg/L	0.761	1.09%
Cd 228.802†	71.9	0.00152 mg/L	0.000217	0.00305 mg/L	0.000435	14.27%
Co 228.616†	2525.5	0.05369 mg/L	0.000405	0.1074 mg/L	0.00081	0.75%
Cr 267.716†	757.3	0.1546 mg/L	0.00102	0.3091 mg/L	0.00204	0.66%
Cu 324.752†	53003.5	0.1945 mg/L	0.00097	0.3891 mg/L	0.00194	0.50%
Fe 273.955†	176185.7	159.2 mg/L	1.10	318.4 mg/L	2.19	0.69%
K 766.490†	31296.6	13.91 mg/L	0.060	27.81 mg/L	0.121	0.43%
Mg 279.077†	45370.8	39.15 mg/L	0.213	78.31 mg/L	0.427	0.55%
Mn 257.610†	53489.0	1.766 mg/L	0.0089	3.532 mg/L	0.0178	0.51%
Mo 202.031†	82.1	0.00388 mg/L	0.000320	0.00777 mg/L	0.000639	8.23%
Na 589.592†	752304.3	56.69 mg/L	0.450	113.4 mg/L	0.90	0.79%
Na 330.237†	1179.2	57.32 mg/L	0.201	114.6 mg/L	0.40	0.35%
Ni 231.604†	406.1	0.1207 mg/L	0.00205	0.2414 mg/L	0.00411	1.70%
Pb 220.353†	312.4	0.06119 mg/L	0.000190	0.1224 mg/L	0.00038	0.31%
Sb 206.836†	27.9	0.01324 mg/L	0.002250	0.02647 mg/L	0.004499	17.00%
Se 196.026†	32.9	0.02324 mg/L	0.002232	0.04648 mg/L	0.004463	9.60%
Si 288.158†	3203.2	1.876 mg/L	0.0168	3.752 mg/L	0.0336	0.90%
Sn 189.927†	-44.3	-0.00757 mg/L	0.000321	-0.01515 mg/L	0.000642	4.24%
Sr 421.552†	390607.5	0.4746 mg/L	0.00401	0.9492 mg/L	0.00802	0.85%
Ti 334.903†	104289.4	6.396 mg/L	0.0222	12.79 mg/L	0.044	0.35%
Tl 190.801†	-33.8	0.00092 mg/L	0.004759	0.00183 mg/L	0.009518	519.48%
V 292.402†	56800.2	0.3628 mg/L	0.00174	0.7256 mg/L	0.00348	0.48%
Zn 206.200†	1491.5	0.4375 mg/L	0.00313	0.8750 mg/L	0.00626	0.72%

YE22: 00097

Sequence No.: 49

Sample ID: YE10 E SWC

Autosampler Location: 339

Date Collected: 3/28/2014 12:08:03 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 E SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE10 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2888970.7	101.3	%	0.35			0.35%
ScR 361.383	247047.4	100.5	%	0.81			0.80%
Ag 328.068†	-244.3	-0.00094	mg/L	0.000074	-0.00189 mg/L	0.000147	7.82%
Al 308.215†	158808.6	121.5	mg/L	1.25	243.0 mg/L	2.50	1.03%
As 188.979†	-195.2	0.1135	mg/L	0.00118	0.2270 mg/L	0.00236	1.04%
B 249.677†	578.3	0.1022	mg/L	0.00089	0.2043 mg/L	0.00178	0.87%
Ba 233.527†	1639.7	0.3962	mg/L	0.00328	0.7924 mg/L	0.00656	0.83%
Be 313.042†	1023.8	0.00190	mg/L	0.000048	0.00379 mg/L	0.000095	2.51%
Ca 317.933†	353291.7	35.81	mg/L	0.171	71.62 mg/L	0.343	0.48%
Cd 228.802†	83.8	0.00182	mg/L	0.000183	0.00365 mg/L	0.000365	10.01%
Co 228.616†	2444.4	0.05154	mg/L	0.000415	0.1031 mg/L	0.00083	0.81%
Cr 267.716†	769.3	0.1572	mg/L	0.00106	0.3144 mg/L	0.00212	0.68%
Cu 324.752†	54506.7	0.2001	mg/L	0.00115	0.4003 mg/L	0.00230	0.58%
Fe 273.955†	181891.1	164.4	mg/L	1.60	328.7 mg/L	3.21	0.98%
K 766.490†	30605.0	13.60	mg/L	0.094	27.20 mg/L	0.189	0.69%
Mg 279.077†	45150.9	38.96	mg/L	0.391	77.92 mg/L	0.782	1.00%
Mn 257.610†	54878.8	1.812	mg/L	0.0152	3.623 mg/L	0.0304	0.84%
Mo 202.031†	88.5	0.00421	mg/L	0.000352	0.00843 mg/L	0.000704	8.35%
Na 589.592†	675638.7	50.91	mg/L	0.323	101.8 mg/L	0.65	0.63%
Na 330.237†	1060.5	51.67	mg/L	0.469	103.3 mg/L	0.94	0.91%
Ni 231.604†	409.8	0.1218	mg/L	0.00210	0.2436 mg/L	0.00420	1.72%
Pb 220.353†	422.9	0.07423	mg/L	0.001364	0.1485 mg/L	0.00273	1.84%
Sb 206.836†	25.2	0.01235	mg/L	0.000677	0.02471 mg/L	0.001353	5.48%
Se 196.026†	28.0	0.01973	mg/L	0.005697	0.03947 mg/L	0.011395	28.87%
Si 288.158†	3186.5	1.866	mg/L	0.0145	3.732 mg/L	0.0289	0.77%
Sn 189.927†	-27.8	-0.00260	mg/L	0.001963	-0.00521 mg/L	0.003926	75.36%
Sr 421.552†	394166.9	0.4789	mg/L	0.00268	0.9578 mg/L	0.00536	0.56%
Ti 334.903†	104793.9	6.426	mg/L	0.0548	12.85 mg/L	0.110	0.85%
Tl 190.801†	-34.2	0.00140	mg/L	0.001190	0.00279 mg/L	0.002380	85.23%
V 292.402†	55650.8	0.3549	mg/L	0.00124	0.7098 mg/L	0.00248	0.35%
Zn 206.200†	1639.3	0.4808	mg/L	0.00396	0.9616 mg/L	0.00792	0.82%

YE22:00098

Sequence No.: 50
 Sample ID: YE10 F SWC

Autosampler Location: 340
 Date Collected: 3/28/2014 12:12:19 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE10 F SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE10 F SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2878658.6	101.0	%	0.36			0.36%
ScR 361.383	246450.7	100.2	%	0.33			0.33%
Ag 328.068†	-216.7	-0.00081	mg/L	0.000030	-0.00162 mg/L	0.000059	3.64%
Al 308.215†	156252.1	119.5	mg/L	0.51	239.0 mg/L	1.03	0.43%
As 188.979†	-192.6	0.1100	mg/L	0.00074	0.2201 mg/L	0.00148	0.67%
B 249.677†	607.4	0.1073	mg/L	0.00009	0.2146 mg/L	0.00018	0.09%
Ba 233.527†	1549.5	0.3741	mg/L	0.00137	0.7482 mg/L	0.00275	0.37%
Be 313.042†	987.0	0.00183	mg/L	0.000011	0.00365 mg/L	0.000022	0.60%
Ca 317.933†	342063.4	34.67	mg/L	0.157	69.35 mg/L	0.313	0.45%
Cd 228.802†	73.3	0.00155	mg/L	0.000220	0.00310 mg/L	0.000440	14.17%
Co 228.616†	2408.7	0.05088	mg/L	0.000441	0.1018 mg/L	0.00088	0.87%
Cr 267.716†	738.7	0.1508	mg/L	0.00113	0.3017 mg/L	0.00226	0.75%
Cu 324.752†	51479.7	0.1891	mg/L	0.00059	0.3781 mg/L	0.00118	0.31%
Fe 273.955†	174092.0	157.3	mg/L	0.57	314.6 mg/L	1.15	0.37%
K 766.490†	30966.9	13.76	mg/L	0.008	27.52 mg/L	0.017	0.06%
Mg 279.077†	44281.4	38.21	mg/L	0.101	76.42 mg/L	0.201	0.26%
Mn 257.610†	51894.3	1.713	mg/L	0.0048	3.426 mg/L	0.0097	0.28%
Mo 202.031†	78.9	0.00371	mg/L	0.000040	0.00743 mg/L	0.000080	1.07%
Na 589.592†	718399.2	54.13	mg/L	0.296	108.3 mg/L	0.59	0.55%
Na 330.237†	1123.5	54.64	mg/L	0.214	109.3 mg/L	0.43	0.39%
Ni 231.604†	395.3	0.1175	mg/L	0.00151	0.2350 mg/L	0.00302	1.29%
Pb 220.353†	410.9	0.07260	mg/L	0.000455	0.1452 mg/L	0.00091	0.63%
Sb 206.836†	34.9	0.01538	mg/L	0.003663	0.03076 mg/L	0.007325	23.81%
Se 196.026†	29.0	0.02050	mg/L	0.002958	0.04099 mg/L	0.005916	14.43%
Si 288.158†	3286.5	1.924	mg/L	0.0170	3.849 mg/L	0.0340	0.88%
Sn 189.927†	-34.4	-0.00470	mg/L	0.000654	-0.00941 mg/L	0.001309	13.91%
Sr 421.552†	383268.3	0.4657	mg/L	0.00229	0.9313 mg/L	0.00459	0.49%
Ti 334.903†	102475.7	6.284	mg/L	0.0194	12.57 mg/L	0.039	0.31%
Tl 190.801†	-28.4	0.00332	mg/L	0.000446	0.00664 mg/L	0.000892	13.43%
V 292.402†	53612.8	0.3419	mg/L	0.00056	0.6838 mg/L	0.00111	0.16%
Zn 206.200†	1544.6	0.4531	mg/L	0.00014	0.9062 mg/L	0.00027	0.03%

YE22 : 00099

Sequence No.: 51
 Sample ID: CV 5

Autosampler Location: 7
 Date Collected: 3/28/2014 12:16:35 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2884252.2	101.2 %	0.61			0.60%
ScR 361.383	242642.0	98.69 %	0.816			0.83%
Ag 328.068†	207427.2	1.065 mg/L	0.0057	1.065 mg/L	0.0057	0.53%
Al 308.215†	2708.6	2.040 mg/L	0.0247	2.040 mg/L	0.0247	1.21%
As 188.979†	3473.7	2.038 mg/L	0.0100	2.038 mg/L	0.0100	0.49%
B 249.677†	5773.0	1.020 mg/L	0.0130	1.020 mg/L	0.0130	1.27%
Ba 233.527†	4018.5	1.033 mg/L	0.0113	1.033 mg/L	0.0113	1.09%
Be 313.042†	495793.7	0.9955 mg/L	0.00647	0.9955 mg/L	0.00647	0.65%
Ca 317.933†	20614.5	2.090 mg/L	0.0188	2.090 mg/L	0.0188	0.90%
Cd 228.802†	33759.2	1.030 mg/L	0.0098	1.030 mg/L	0.0098	0.95%
Co 228.616†	38696.2	0.9968 mg/L	0.00978	0.9968 mg/L	0.00978	0.98%
Cr 267.716†	5192.9	1.052 mg/L	0.0103	1.052 mg/L	0.0103	0.98%
Cu 324.752†	282798.3	1.007 mg/L	0.0035	1.007 mg/L	0.0035	0.34%
Fe 273.955†	2324.5	2.094 mg/L	0.0187	2.094 mg/L	0.0187	0.89%
K 766.490†	45478.9	20.21 mg/L	0.077	20.21 mg/L	0.077	0.38%
Mg 279.077†	2291.2	1.989 mg/L	0.0154	1.989 mg/L	0.0154	0.77%
Mn 257.610†	29733.0	0.9826 mg/L	0.00897	0.9826 mg/L	0.00897	0.91%
Mo 202.031†	17756.8	0.9568 mg/L	0.01118	0.9568 mg/L	0.01118	1.17%
Na 589.592†	683486.3	51.50 mg/L	0.243	51.50 mg/L	0.243	0.47%
Na 330.237†	1087.1	51.55 mg/L	0.514	51.55 mg/L	0.514	1.00%
Ni 231.604†	3490.2	1.037 mg/L	0.0120	1.037 mg/L	0.0120	1.15%
Pb 220.353†	16268.7	1.984 mg/L	0.0169	1.984 mg/L	0.0169	0.85%
Sb 206.836†	6499.7	2.077 mg/L	0.0142	2.077 mg/L	0.0142	0.68%
Se 196.026†	2788.5	1.991 mg/L	0.0152	1.991 mg/L	0.0152	0.76%
Si 288.158†	3404.2	1.993 mg/L	0.0398	1.993 mg/L	0.0398	1.99%
Sn 189.927†	3350.7	0.9854 mg/L	0.00527	0.9854 mg/L	0.00527	0.54%
Sr 421.552†	839621.2	1.020 mg/L	0.0051	1.020 mg/L	0.0051	0.50%
Ti 334.903†	16406.2	1.005 mg/L	0.0053	1.005 mg/L	0.0053	0.53%
Tl 190.801†	4415.3	2.034 mg/L	0.0144	2.034 mg/L	0.0144	0.71%
V 292.402†	155197.5	1.028 mg/L	0.0060	1.028 mg/L	0.0060	0.58%
Zn 206.200†	3492.4	1.024 mg/L	0.0107	1.024 mg/L	0.0107	1.04%

Sequence No.: 52

Sample ID: CB 5

Autosampler Location: 1

Date Collected: 3/28/2014 12:20:39 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2883321.4	101.2 %	0.31			0.30%
ScR 361.383	249941.7	101.7 %	1.06			1.05%
Ag 328.068†	-27.4	-0.00014 mg/L	0.000057	-0.00014 mg/L	0.000057	40.58%
Al 308.215†	4.4	0.00331 mg/L	0.005978	0.00331 mg/L	0.005978	180.37%
As 188.979†	1.5	0.00091 mg/L	0.000751	0.00091 mg/L	0.000751	82.73%
B 249.677†	8.2	0.00145 mg/L	0.000999	0.00145 mg/L	0.000999	68.85%
Ba 233.527†	0.1	0.00004 mg/L	0.000879	0.00004 mg/L	0.000879	>999.9%
Be 313.042†	30.5	0.00006 mg/L	0.000014	0.00006 mg/L	0.000014	23.26%
Ca 317.933†	9.9	0.00101 mg/L	0.000627	0.00101 mg/L	0.000627	62.37%
Cd 228.802†	-5.0	-0.00016 mg/L	0.000050	-0.00016 mg/L	0.000050	31.55%
Co 228.616†	6.3	0.00016 mg/L	0.000165	0.00016 mg/L	0.000165	102.93%
Cr 267.716†	2.9	0.00058 mg/L	0.001425	0.00058 mg/L	0.001425	245.80%
Cu 324.752†	130.7	0.00047 mg/L	0.000129	0.00047 mg/L	0.000129	27.70%
Fe 273.955†	1.9	0.00174 mg/L	0.003096	0.00174 mg/L	0.003096	178.31%
K 766.490†	17.1	0.00761 mg/L	0.013113	0.00761 mg/L	0.013113	172.34%
Mg 279.077†	-2.5	-0.00219 mg/L	0.002187	-0.00219 mg/L	0.002187	99.62%
Mn 257.610†	2.3	0.00008 mg/L	0.000114	0.00008 mg/L	0.000114	151.20%
Mo 202.031†	16.9	0.00091 mg/L	0.000324	0.00091 mg/L	0.000324	35.50%
Na 589.592†	634.9	0.04785 mg/L	0.003384	0.04785 mg/L	0.003384	7.07%
Na 330.237†	-1.1	-0.05219 mg/L	0.176024	-0.05219 mg/L	0.176024	337.29%
Ni 231.604†	-2.4	-0.00070 mg/L	0.000884	-0.00070 mg/L	0.000884	126.10%
Pb 220.353†	0.6	0.00007 mg/L	0.000162	0.00007 mg/L	0.000162	221.86%
Sb 206.836†	26.6	0.00850 mg/L	0.003578	0.00850 mg/L	0.003578	42.10%
Se 196.026†	1.1	0.00078 mg/L	0.000879	0.00078 mg/L	0.000879	112.93%
Si 288.158†	4.6	0.00267 mg/L	0.005020	0.00267 mg/L	0.005020	188.18%
Sn 189.927†	4.2	0.00125 mg/L	0.000696	0.00125 mg/L	0.000696	55.78%
Sr 421.552†	38.5	0.00005 mg/L	0.000037	0.00005 mg/L	0.000037	79.06%
Ti 334.903†	12.8	0.00078 mg/L	0.000453	0.00078 mg/L	0.000453	57.89%
Tl 190.801†	-3.0	-0.00140 mg/L	0.000641	-0.00140 mg/L	0.000641	45.66%
V 292.402†	25.3	0.00017 mg/L	0.000197	0.00017 mg/L	0.000197	116.50%
Zn 206.200†	1.9	0.00056 mg/L	0.001083	0.00056 mg/L	0.001083	193.24%

Sequence No.: 53

Autosampler Location: 301

Sample ID: CRI

Date Collected: 3/28/2014 12:24:39 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2894696.2	101.5 %	0.91			0.90%
ScR 361.383	248444.0	101.1 %	0.61			0.60%
Ag 328.068†	618.6	0.00318 mg/L	0.000163	0.00318 mg/L	0.000163	5.12%
Al 308.215†	69.3	0.05288 mg/L	0.002796	0.05288 mg/L	0.002796	5.29%
As 188.979†	88.8	0.05146 mg/L	0.001327	0.05146 mg/L	0.001327	2.58%
B 249.677†	121.5	0.02149 mg/L	0.001143	0.02149 mg/L	0.001143	5.32%
Ba 233.527†	10.3	0.00264 mg/L	0.000587	0.00264 mg/L	0.000587	22.23%
Be 313.042†	513.0	0.00103 mg/L	0.000021	0.00103 mg/L	0.000021	2.00%
Ca 317.933†	493.0	0.04997 mg/L	0.000215	0.04997 mg/L	0.000215	0.43%
Cd 228.802†	77.2	0.00212 mg/L	0.000167	0.00212 mg/L	0.000167	7.87%
Co 228.616†	117.5	0.00302 mg/L	0.000066	0.00302 mg/L	0.000066	2.18%
Cr 267.716†	27.5	0.00557 mg/L	0.000838	0.00557 mg/L	0.000838	15.04%
Cu 324.752†	696.9	0.00248 mg/L	0.000120	0.00248 mg/L	0.000120	4.82%
Fe 273.955†	60.3	0.05448 mg/L	0.001701	0.05448 mg/L	0.001701	3.12%
K 766.490†	1198.2	0.5325 mg/L	0.02618	0.5325 mg/L	0.02618	4.92%
Mg 279.077†	55.9	0.04837 mg/L	0.005471	0.04837 mg/L	0.005471	11.31%
Mn 257.610†	28.0	0.00093 mg/L	0.000225	0.00093 mg/L	0.000225	24.27%
Mo 202.031†	95.6	0.00515 mg/L	0.000088	0.00515 mg/L	0.000088	1.71%
Na 589.592†	7374.7	0.5557 mg/L	0.00022	0.5557 mg/L	0.00022	0.04%
Na 330.237†	17.4	0.8217 mg/L	0.10475	0.8217 mg/L	0.10475	12.75%
Ni 231.604†	34.4	0.01024 mg/L	0.001019	0.01024 mg/L	0.001019	9.95%
Pb 220.353†	169.5	0.02068 mg/L	0.000425	0.02068 mg/L	0.000425	2.06%
Sb 206.836†	157.6	0.05042 mg/L	0.001279	0.05042 mg/L	0.001279	2.54%
Se 196.026†	72.6	0.05183 mg/L	0.001721	0.05183 mg/L	0.001721	3.32%
Si 288.158†	98.0	0.05724 mg/L	0.002559	0.05724 mg/L	0.002559	4.47%
Sn 189.927†	35.9	0.01057 mg/L	0.000937	0.01057 mg/L	0.000937	8.87%
Sr 421.552†	844.1	0.00103 mg/L	0.000001	0.00103 mg/L	0.000001	0.07%
Ti 334.903†	87.9	0.00538 mg/L	0.000502	0.00538 mg/L	0.000502	9.33%
Tl 190.801†	105.3	0.04870 mg/L	0.001149	0.04870 mg/L	0.001149	2.36%
V 292.402†	478.5	0.00318 mg/L	0.000214	0.00318 mg/L	0.000214	6.73%
Zn 206.200†	36.5	0.01071 mg/L	0.000118	0.01071 mg/L	0.000118	1.10%

Sequence No.: 54

Autosampler Location: 302

Sample ID: ICSA

Date Collected: 3/28/2014 12:28:40 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2801076.8	98.27 %	0.194			0.20%
ScR 361.383	246221.7	100.1 %	0.49			0.49%
Ag 328.068†	-247.5	-0.00066 mg/L	0.000160	-0.00066 mg/L	0.000160	24.06%
Al 308.215†	256322.9	196.1 mg/L	1.42	196.1 mg/L	1.42	0.72%
As 188.979†	51.6	0.02132 mg/L	0.003381	0.02132 mg/L	0.003381	15.86%
B 249.677†	-49.4	-0.00874 mg/L	0.002966	-0.00874 mg/L	0.002966	33.92%
Ba 233.527†	111.6	-0.00195 mg/L	0.000909	-0.00195 mg/L	0.000909	46.54%
Be 313.042†	26.7	0.00005 mg/L	0.000024	0.00005 mg/L	0.000024	46.48%
Ca 317.933†	986152.3	99.96 mg/L	0.635	99.96 mg/L	0.635	0.64%
Cd 228.802†	48.4	-0.00039 mg/L	0.000128	-0.00039 mg/L	0.000128	32.97%
Co 228.616†	78.2	0.00200 mg/L	0.000232	0.00200 mg/L	0.000232	11.58%
Cr 267.716†	17.9	0.00020 mg/L	0.000295	0.00020 mg/L	0.000295	150.07%
Cu 324.752†	-2208.2	0.00037 mg/L	0.000264	0.00037 mg/L	0.000264	71.62%
Fe 273.955†	219579.9	198.4 mg/L	1.97	198.4 mg/L	1.97	0.99%
K 766.490†	63.5	0.02823 mg/L	0.010537	0.02823 mg/L	0.010537	37.33%
Mg 279.077†	115549.7	99.84 mg/L	0.093	99.84 mg/L	0.093	0.09%
Mn 257.610†	19.5	-0.00178 mg/L	0.000330	-0.00178 mg/L	0.000330	18.54%
Mo 202.031†	66.4	0.00203 mg/L	0.000233	0.00203 mg/L	0.000233	11.51%
Na 589.592†	682.9	0.05146 mg/L	0.003623	0.05146 mg/L	0.003623	7.04%
Na 330.237†	13.6	0.03340 mg/L	0.018748	0.03340 mg/L	0.018748	56.14%
Ni 231.604†	1.5	0.00047 mg/L	0.001436	0.00047 mg/L	0.001436	304.45%
Pb 220.353†	-356.0	-0.00375 mg/L	0.000316	-0.00375 mg/L	0.000316	8.43%
Sb 206.836†	62.7	0.01981 mg/L	0.002569	0.01981 mg/L	0.002569	12.97%
Se 196.026†	44.1	0.03153 mg/L	0.002997	0.03153 mg/L	0.002997	9.51%
Si 288.158†	-27.5	-0.00416 mg/L	0.004351	-0.00416 mg/L	0.004351	104.63%
Sn 189.927†	-96.3	-0.01618 mg/L	0.001184	-0.01618 mg/L	0.001184	7.32%
Sr 421.552†	4479.6	0.00544 mg/L	0.000042	0.00544 mg/L	0.000042	0.76%
Ti 334.903†	149.1	0.00209 mg/L	0.000498	0.00209 mg/L	0.000498	23.85%
Tl 190.801†	-46.8	0.00117 mg/L	0.004078	0.00117 mg/L	0.004078	349.73%
V 292.402†	1210.0	-0.00320 mg/L	0.000414	-0.00320 mg/L	0.000414	12.94%
Zn 206.200†	10.8	0.00316 mg/L	0.000807	0.00316 mg/L	0.000807	25.53%

Sequence No.: 55

Autosampler Location: 303

Sample ID: ICSAB

Date Collected: 3/28/2014 12:32:55 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2816750.4	98.82	%	0.444			0.45%
ScR 361.383	244633.3	99.50	%	0.560			0.56%
Ag 328.068†	206965.3	1.063	mg/L	0.0027	1.063 mg/L	0.0027	0.25%
Al 308.215†	257209.1	196.8	mg/L	0.96	196.8 mg/L	0.96	0.49%
As 188.979†	1767.8	1.012	mg/L	0.0047	1.012 mg/L	0.0047	0.47%
B 249.677†	-32.7	-0.00775	mg/L	0.000527	-0.00775 mg/L	0.000527	6.80%
Ba 233.527†	3985.8	0.9941	mg/L	0.00826	0.9941 mg/L	0.00826	0.83%
Be 313.042†	483882.1	0.9716	mg/L	0.00718	0.9716 mg/L	0.00718	0.74%
Ca 317.933†	984655.5	99.81	mg/L	0.485	99.81 mg/L	0.485	0.49%
Cd 228.802†	32788.0	1.004	mg/L	0.0052	1.004 mg/L	0.0052	0.52%
Co 228.616†	36227.5	0.9348	mg/L	0.00478	0.9348 mg/L	0.00478	0.51%
Cr 267.716†	4973.5	1.004	mg/L	0.0064	1.004 mg/L	0.0064	0.64%
Cu 324.752†	291927.3	1.048	mg/L	0.0021	1.048 mg/L	0.0021	0.20%
Fe 273.955†	220231.2	199.0	mg/L	0.39	199.0 mg/L	0.39	0.19%
K 766.490†	62.1	0.02759	mg/L	0.016675	0.02759 mg/L	0.016675	60.44%
Mg 279.077†	112376.4	97.10	mg/L	0.496	97.10 mg/L	0.496	0.51%
Mn 257.610†	28592.9	0.9424	mg/L	0.00230	0.9424 mg/L	0.00230	0.24%
Mo 202.031†	69.6	0.00220	mg/L	0.000332	0.00220 mg/L	0.000332	15.08%
Na 589.592†	634.8	0.04784	mg/L	0.004336	0.04784 mg/L	0.004336	9.06%
Na 330.237†	25.1	0.3089	mg/L	0.12252	0.3089 mg/L	0.12252	39.67%
Ni 231.604†	3225.6	0.9587	mg/L	0.00794	0.9587 mg/L	0.00794	0.83%
Pb 220.353†	7635.8	0.9708	mg/L	0.00338	0.9708 mg/L	0.00338	0.35%
Sb 206.836†	3202.9	1.014	mg/L	0.0042	1.014 mg/L	0.0042	0.41%
Se 196.026†	1411.7	1.007	mg/L	0.0020	1.007 mg/L	0.0020	0.20%
Si 288.158†	-41.3	-0.00807	mg/L	0.004529	-0.00807 mg/L	0.004529	56.13%
Sn 189.927†	-97.6	-0.01598	mg/L	0.001276	-0.01598 mg/L	0.001276	7.99%
Sr 421.552†	4442.6	0.00540	mg/L Cont.	0.000025	0.00540 mg/L	0.000025	0.46%
Ti 334.903†	152.5	0.00212	mg/L	0.000171	0.00212 mg/L	0.000171	8.06%
Tl 190.801†	1993.5	0.9355	mg/L	0.00578	0.9355 mg/L	0.00578	0.62%
V 292.402†	148594.7	0.9730	mg/L	0.00200	0.9730 mg/L	0.00200	0.21%
Zn 206.200†	3245.6	0.9515	mg/L	0.00829	0.9515 mg/L	0.00829	0.87%

Sequence No.: 56

Autosampler Location: 7

Sample ID: CV 10

Date Collected: 3/28/2014 12:36:56 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2894931.1	101.6 %	0.53			0.52%
ScR 361.383	244754.2	99.55 %	0.879			0.88%
Ag 328.068†	204676.3	1.051 mg/L	0.0132	1.051 mg/L	0.0132	1.25%
Al 308.215†	2693.6	2.029 mg/L	0.0161	2.029 mg/L	0.0161	0.79%
As 188.979†	3435.9	2.015 mg/L	0.0069	2.015 mg/L	0.0069	0.34%
B 249.677†	5750.1	1.016 mg/L	0.0080	1.016 mg/L	0.0080	0.78%
Ba 233.527†	3995.6	1.027 mg/L	0.0071	1.027 mg/L	0.0071	0.70%
Be 313.042†	494487.5	0.9929 mg/L	0.01032	0.9929 mg/L	0.01032	1.04%
Ca 317.933†	20647.4	2.093 mg/L	0.0107	2.093 mg/L	0.0107	0.51%
Cd 228.802†	33388.8	1.019 mg/L	0.0136	1.019 mg/L	0.0136	1.34%
Co 228.616†	38540.3	0.9928 mg/L	0.01039	0.9928 mg/L	0.01039	1.05%
Cr 267.716†	5186.6	1.050 mg/L	0.0062	1.050 mg/L	0.0062	0.59%
Cu 324.752†	281535.2	1.003 mg/L	0.0046	1.003 mg/L	0.0046	0.46%
Fe 273.955†	2324.6	2.094 mg/L	0.0107	2.094 mg/L	0.0107	0.51%
K 766.490†	45024.9	20.01 mg/L	0.129	20.01 mg/L	0.129	0.65%
Mg 279.077†	2287.6	1.985 mg/L	0.0105	1.985 mg/L	0.0105	0.53%
Mn 257.610†	29418.2	0.9722 mg/L	0.01073	0.9722 mg/L	0.01073	1.10%
Mo 202.031†	17700.8	0.9538 mg/L	0.00969	0.9538 mg/L	0.00969	1.02%
Na 589.592†	676652.0	50.99 mg/L	0.373	50.99 mg/L	0.373	0.73%
Na 330.237†	1083.1	51.35 mg/L	0.431	51.35 mg/L	0.431	0.84%
Ni 231.604†	3480.0	1.034 mg/L	0.0069	1.034 mg/L	0.0069	0.67%
Pb 220.353†	16190.8	1.974 mg/L	0.0230	1.974 mg/L	0.0230	1.17%
Sb 206.836†	6470.2	2.067 mg/L	0.0133	2.067 mg/L	0.0133	0.64%
Se 196.026†	2759.3	1.970 mg/L	0.0123	1.970 mg/L	0.0123	0.63%
Si 288.158†	3388.9	1.984 mg/L	0.0306	1.984 mg/L	0.0306	1.54%
Sn 189.927†	3332.5	0.9801 mg/L	0.00923	0.9801 mg/L	0.00923	0.94%
Sr 421.552†	831639.6	1.010 mg/L	0.0083	1.010 mg/L	0.0083	0.82%
Ti 334.903†	16150.8	0.9896 mg/L	0.00897	0.9896 mg/L	0.00897	0.91%
Tl 190.801†	4398.4	2.026 mg/L	0.0191	2.026 mg/L	0.0191	0.94%
V 292.402†	153431.6	1.016 mg/L	0.0144	1.016 mg/L	0.0144	1.42%
Zn 206.200†	3494.3	1.025 mg/L	0.0041	1.025 mg/L	0.0041	0.40%

Sequence No.: 57
 Sample ID: CB *lp*

Autosampler Location: 1
 Date Collected: 3/28/2014 12:41:01 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2896342.4	101.6	%	1.53			1.50%
ScR 361.383	251840.3	102.4	%	0.11			0.11%
Ag 328.068†	-17.1	-0.00009	mg/L	0.000097	-0.00009 mg/L	0.000097	111.10%
Al 308.215†	2.2	0.00168	mg/L	0.001481	0.00168 mg/L	0.001481	88.01%
As 188.979†	1.1	0.00068	mg/L	0.002541	0.00068 mg/L	0.002541	375.26%
B 249.677†	7.9	0.00139	mg/L	0.000180	0.00139 mg/L	0.000180	12.91%
Ba 233.527†	0.3	0.00009	mg/L	0.000603	0.00009 mg/L	0.000603	676.05%
Be 313.042†	28.6	0.00006	mg/L	0.000021	0.00006 mg/L	0.000021	37.33%
Ca 317.933†	11.3	0.00114	mg/L	0.000764	0.00114 mg/L	0.000764	66.91%
Cd 228.802†	0.3	0.00001	mg/L	0.000298	0.00001 mg/L	0.000298	>999.9%
Co 228.616†	1.6	0.00004	mg/L	0.000144	0.00004 mg/L	0.000144	358.56%
Cr 267.716†	0.1	0.00003	mg/L	0.000540	0.00003 mg/L	0.000540	>999.9%
Cu 324.752†	172.4	0.00061	mg/L	0.000267	0.00061 mg/L	0.000267	43.43%
Fe 273.955†	1.9	0.00169	mg/L	0.002192	0.00169 mg/L	0.002192	129.91%
K 766.490†	35.1	0.01559	mg/L	0.007600	0.01559 mg/L	0.007600	48.75%
Mg 279.077†	-1.1	-0.00094	mg/L	0.002456	-0.00094 mg/L	0.002456	260.94%
Mn 257.610†	-3.3	-0.00011	mg/L	0.000086	-0.00011 mg/L	0.000086	78.80%
Mo 202.031†	13.9	0.00075	mg/L	0.000114	0.00075 mg/L	0.000114	15.20%
Na 589.592†	568.9	0.04287	mg/L	0.003354	0.04287 mg/L	0.003354	7.82%
Na 330.237†	9.0	0.4279	mg/L	0.33553	0.4279 mg/L	0.33553	78.41%
Ni 231.604†	-4.3	-0.00129	mg/L	0.000399	-0.00129 mg/L	0.000399	31.02%
Pb 220.353†	4.1	0.00049	mg/L	0.000196	0.00049 mg/L	0.000196	39.61%
Sb 206.836†	30.9	0.00988	mg/L	0.001860	0.00988 mg/L	0.001860	18.82%
Se 196.026†	4.4	0.00316	mg/L	0.003397	0.00316 mg/L	0.003397	107.59%
Si 288.158†	6.0	0.00348	mg/L	0.001483	0.00348 mg/L	0.001483	42.57%
Sn 189.927†	0.9	0.00026	mg/L	0.000581	0.00026 mg/L	0.000581	225.94%
Sr 421.552†	39.3	0.00005	mg/L	0.000037	0.00005 mg/L	0.000037	78.48%
Ti 334.903†	10.2	0.00063	mg/L	0.000456	0.00063 mg/L	0.000456	72.97%
Tl 190.801†	-2.1	-0.00098	mg/L	0.001819	-0.00098 mg/L	0.001819	185.10%
V 292.402†	2.2	0.00001	mg/L	0.000074	0.00001 mg/L	0.000074	519.73%
Zn 206.200†	2.0	0.00057	mg/L	0.000643	0.00057 mg/L	0.000643	112.06%

Sequence No.: 58
 Sample ID: YE00 MB2 WMN

Autosampler Location: 341
 Date Collected: 3/28/2014 12:45:01 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 MB2 WMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE00 MB2 WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932529.5	102.9	%	0.31			0.30%
ScR 361.383	252390.1	102.7	%	1.64			1.60%
Ag 328.068†	5.0	0.00003	mg/L	0.000188	0.00003 mg/L	0.000188	727.38%
Al 308.215†	5.4	0.00411	mg/L	0.004343	0.00411 mg/L	0.004343	105.61%
As 188.979†	5.2	0.00300	mg/L	0.001602	0.00300 mg/L	0.001602	53.45%
B 249.677†	6.8	0.00119	mg/L	0.000863	0.00119 mg/L	0.000863	72.36%
Ba 233.527†	-0.3	-0.00008	mg/L	0.000593	-0.00008 mg/L	0.000593	785.18%
Be 313.042†	21.5	0.00004	mg/L	0.000027	0.00004 mg/L	0.000027	62.78%
Ca 317.933†	37.7	0.00382	mg/L	0.000385	0.00382 mg/L	0.000385	10.07%
Cd 228.802†	-2.7	-0.00010	mg/L	0.000053	-0.00010 mg/L	0.000053	53.38%
Co 228.616†	16.2	0.00042	mg/L	0.000153	0.00042 mg/L	0.000153	36.72%
Cr 267.716†	0.4	0.00008	mg/L	0.000664	0.00008 mg/L	0.000664	853.79%
Cu 324.752†	123.9	0.00044	mg/L	0.000233	0.00044 mg/L	0.000233	52.80%
Fe 273.955†	0.6	0.00056	mg/L	0.000945	0.00056 mg/L	0.000945	169.11%
K 766.490†	90.1	0.04003	mg/L	0.001873	0.04003 mg/L	0.001873	4.68%
Mg 279.077†	-3.0	-0.00260	mg/L	0.002059	-0.00260 mg/L	0.002059	79.20%
Mn 257.610†	-2.2	-0.00007	mg/L	0.000139	-0.00007 mg/L	0.000139	191.08%
Mo 202.031†	-4.9	-0.00027	mg/L	0.000174	-0.00027 mg/L	0.000174	65.54%
Na 589.592†	846.2	0.06377	mg/L	0.002710	0.06377 mg/L	0.002710	4.25%
Na 330.237†	-4.6	-0.2197	mg/L	0.43110	-0.2197 mg/L	0.43110	196.22%
Ni 231.604†	-0.2	-0.00007	mg/L	0.001715	-0.00007 mg/L	0.001715	>999.9%
Pb 220.353†	1.8	0.00022	mg/L	0.000453	0.00022 mg/L	0.000453	204.36%
Sb 206.836†	-7.4	-0.00235	mg/L	0.000632	-0.00235 mg/L	0.000632	26.92%
Se 196.026†	8.6	0.00617	mg/L	0.002259	0.00617 mg/L	0.002259	36.60%
Si 288.158†	-24.8	-0.01447	mg/L	0.002802	-0.01447 mg/L	0.002802	19.36%
Sn 189.927†	1.4	0.00041	mg/L	0.000264	0.00041 mg/L	0.000264	64.74%
Sr 421.552†	13.7	0.00002	mg/L	0.000014	0.00002 mg/L	0.000014	86.31%
Ti 334.903†	1.0	0.00006	mg/L	0.000378	0.00006 mg/L	0.000378	621.02%
Tl 190.801†	-0.1	-0.00005	mg/L	0.001755	-0.00005 mg/L	0.001755	>999.9%
V 292.402†	9.8	0.00006	mg/L	0.000061	0.00006 mg/L	0.000061	93.85%
Zn 206.200†	2.1	0.00060	mg/L	0.000611	0.00060 mg/L	0.000611	101.25%

Sequence No.: 59

Sample ID: YE22 MB1 TWC

Autosampler Location: 342

Date Collected: 3/28/2014 12:49:17 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE22 MB1 TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE22 MB1 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2923464.6	102.6	%	0.34				0.33%
ScR 361.383	252008.3	102.5	%	0.88				0.86%
Ag 328.068†	3.9	0.00002	mg/L	0.000067	0.00002	mg/L	0.000067	333.79%
Al 308.215†	4.1	0.00310	mg/L	0.002786	0.00310	mg/L	0.002786	90.01%
As 188.979†	2.6	0.00149	mg/L	0.001417	0.00149	mg/L	0.001417	94.97%
B 249.677†	1.9	0.00033	mg/L	0.000847	0.00033	mg/L	0.000847	252.81%
Ba 233.527†	0.2	0.00006	mg/L	0.001195	0.00006	mg/L	0.001195	>999.9%
Be 313.042†	23.7	0.00005	mg/L	0.000001	0.00005	mg/L	0.000001	2.36%
Ca 317.933†	22.4	0.00227	mg/L	0.000133	0.00227	mg/L	0.000133	5.86%
Cd 228.802†	-1.6	-0.00006	mg/L	0.000061	-0.00006	mg/L	0.000061	105.01%
Co 228.616†	4.9	0.00012	mg/L	0.000140	0.00012	mg/L	0.000140	112.88%
Cr 267.716†	-0.5	-0.00010	mg/L	0.000897	-0.00010	mg/L	0.000897	891.01%
Cu 324.752†	176.3	0.00063	mg/L	0.000099	0.00063	mg/L	0.000099	15.70%
Fe 273.955†	2.2	0.00197	mg/L	0.001740	0.00197	mg/L	0.001740	88.18%
K 766.490†	11.1	0.00492	mg/L	0.012438	0.00492	mg/L	0.012438	252.59%
Mg 279.077†	2.6	0.00221	mg/L	0.006230	0.00221	mg/L	0.006230	281.33%
Mn 257.610†	-0.3	-0.00001	mg/L	0.000168	-0.00001	mg/L	0.000168	>999.9%
Mo 202.031†	2.6	0.00014	mg/L	0.000146	0.00014	mg/L	0.000146	105.38%
Na 589.592†	553.4	0.04170	mg/L	0.001731	0.04170	mg/L	0.001731	4.15%
Na 330.237†	3.2	0.1504	mg/L	0.12049	0.1504	mg/L	0.12049	80.14%
Ni 231.604†	2.3	0.00069	mg/L	0.000450	0.00069	mg/L	0.000450	64.92%
Pb 220.353†	3.5	0.00042	mg/L	0.000289	0.00042	mg/L	0.000289	68.63%
Sb 206.836†	0.7	0.00022	mg/L	0.001477	0.00022	mg/L	0.001477	659.67%
Se 196.026†	4.0	0.00288	mg/L	0.001648	0.00288	mg/L	0.001648	57.28%
Si 288.158†	21.3	0.01244	mg/L	0.002679	0.01244	mg/L	0.002679	21.54%
Sn 189.927†	1.1	0.00033	mg/L	0.000559	0.00033	mg/L	0.000559	170.21%
Sr 421.552†	44.3	0.00005	mg/L	0.000006	0.00005	mg/L	0.000006	10.59%
Ti 334.903†	6.3	0.00039	mg/L	0.000455	0.00039	mg/L	0.000455	117.81%
Tl 190.801†	-2.5	-0.00114	mg/L	0.000983	-0.00114	mg/L	0.000983	86.33%
V 292.402†	6.2	0.00004	mg/L	0.000170	0.00004	mg/L	0.000170	425.77%
Zn 206.200†	4.5	0.00131	mg/L	0.000587	0.00131	mg/L	0.000587	44.87%

Sequence No.: 60
 Sample ID: YD88 MBl SWC

Autosampler Location: 343
 Date Collected: 3/28/2014 12:53:16 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YD88 MBl SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YD88 MBl SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2963314.6	104.0	%	0.53				0.51%
ScR 361.383	253265.3	103.0	%	1.31				1.27%
Ag 328.068†	-11.5	-0.00006	mg/L	0.000156	-0.00012	mg/L	0.000313	264.73%
Al 308.215†	7.5	0.00572	mg/L	0.003561	0.01143	mg/L	0.007121	62.29%
As 188.979†	3.3	0.00191	mg/L	0.000810	0.00382	mg/L	0.001620	42.41%
B 249.677†	-4.5	-0.00079	mg/L	0.000598	-0.00159	mg/L	0.001197	75.42%
Ba 233.527†	0.5	0.00012	mg/L	0.000917	0.00024	mg/L	0.001834	757.31%
Be 313.042†	1.3	0.00000	mg/L	0.000013	0.00001	mg/L	0.000025	470.24%
Ca 317.933†	70.9	0.00719	mg/L	0.001011	0.01438	mg/L	0.002022	14.06%
Cd 228.802†	-7.4	-0.00024	mg/L	0.000054	-0.00047	mg/L	0.000109	23.00%
Co 228.616†	11.3	0.00029	mg/L	0.000107	0.00058	mg/L	0.000214	36.76%
Cr 267.716†	2.4	0.00049	mg/L	0.000651	0.00099	mg/L	0.001302	131.60%
Cu 324.752†	39.6	0.00014	mg/L	0.000173	0.00028	mg/L	0.000347	122.81%
Fe 273.955†	1.1	0.00097	mg/L	0.000638	0.00193	mg/L	0.001275	65.93%
K 766.490†	29.9	0.01327	mg/L	0.006373	0.02653	mg/L	0.012745	48.04%
Mg 279.077†	-0.0	-0.00003	mg/L	0.007224	-0.00006	mg/L	0.014447	>999.9%
Mn 257.610†	-2.2	-0.00007	mg/L	0.000122	-0.00015	mg/L	0.000245	166.97%
Mo 202.031†	0.1	0.00001	mg/L	0.000117	0.00001	mg/L	0.000234	>999.9%
Na 589.592†	518.5	0.03907	mg/L	0.000226	0.07814	mg/L	0.000451	0.58%
Na 330.237†	5.0	0.2367	mg/L	0.04561	0.4735	mg/L	0.09123	19.27%
Ni 231.604†	-0.9	-0.00025	mg/L	0.000821	-0.00051	mg/L	0.001643	323.83%
Pb 220.353†	-1.4	-0.00016	mg/L	0.000328	-0.00033	mg/L	0.000655	199.97%
Sb 206.836†	-1.4	-0.00045	mg/L	0.002769	-0.00089	mg/L	0.005538	621.83%
Se 196.026†	7.1	0.00505	mg/L	0.000696	0.01010	mg/L	0.001393	13.79%
Si 288.158†	-5.4	-0.00315	mg/L	0.002369	-0.00631	mg/L	0.004738	75.10%
Sn 189.927†	2.1	0.00061	mg/L	0.000482	0.00122	mg/L	0.000964	78.67%
Sr 421.552†	9.6	0.00001	mg/L	0.000038	0.00002	mg/L	0.000077	328.42%
Ti 334.903†	3.8	0.00023	mg/L	0.000365	0.00046	mg/L	0.000730	157.45%
Tl 190.801†	-6.9	-0.00318	mg/L	0.001748	-0.00636	mg/L	0.003496	54.94%
V 292.402†	10.4	0.00007	mg/L	0.000156	0.00014	mg/L	0.000313	222.01%
Zn 206.200†	0.6	0.00019	mg/L	0.000185	0.00037	mg/L	0.000369	99.27%

Sequence No.: 61
 Sample ID: YD88 ADUP SWC

Autosampler Location: 344
 Date Collected: 3/28/2014 12:57:15 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD88 ADUP SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YD88 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2901240.1	101.8	%	0.60			0.59%
ScR 361.383	252990.2	102.9	%	0.57			0.56%
Ag 328.068†	-120.0	-0.00036	mg/L	0.000068	-0.00072 mg/L	0.000136	18.89%
Al 308.215†	66071.8	50.54	mg/L	0.118	101.1 mg/L	0.24	0.23%
As 188.979†	-110.4	0.05441	mg/L	0.003141	0.1088 mg/L	0.00628	5.77%
B 249.677†	91.4	0.01612	mg/L	0.000920	0.03224 mg/L	0.001841	5.71%
Ba 233.527†	1929.0	0.4835	mg/L	0.00357	0.9670 mg/L	0.00713	0.74%
Be 313.042†	347.4	0.00061	mg/L	0.000022	0.00121 mg/L	0.000043	3.58%
Ca 317.933†	324474.4	32.89	mg/L	0.053	65.78 mg/L	0.107	0.16%
Cd 228.802†	88.0	0.00242	mg/L	0.000211	0.00485 mg/L	0.000422	8.70%
Co 228.616†	1413.1	0.03034	mg/L	0.000291	0.06068 mg/L	0.000583	0.96%
Cr 267.716†	853.8	0.1734	mg/L	0.00146	0.3468 mg/L	0.00291	0.84%
Cu 324.752†	99553.9	0.3575	mg/L	0.00286	0.7149 mg/L	0.00572	0.80%
Fe 273.955†	89650.0	81.01	mg/L	0.344	162.0 mg/L	0.69	0.42%
K 766.490†	7882.3	3.503	mg/L	0.0225	7.005 mg/L	0.0450	0.64%
Mg 279.077†	23185.7	20.01	mg/L	0.037	40.01 mg/L	0.075	0.19%
Mn 257.610†	34282.0	1.132	mg/L	0.0028	2.264 mg/L	0.0057	0.25%
Mo 202.031†	360.0	0.01889	mg/L	0.000242	0.03778 mg/L	0.000485	1.28%
Na 589.592†	48900.2	3.685	mg/L	0.0050	7.370 mg/L	0.0101	0.14%
Na 330.237†	79.7	4.075	mg/L	0.1180	8.150 mg/L	0.2360	2.90%
Ni 231.604†	364.9	0.1085	mg/L	0.00121	0.2169 mg/L	0.00241	1.11%
Pb 220.353†	2268.6	0.2851	mg/L	0.00303	0.5703 mg/L	0.00606	1.06%
Sb 206.836†	30.9	0.01116	mg/L	0.000949	0.02232 mg/L	0.001897	8.50%
Se 196.026†	18.8	0.01326	mg/L	0.001796	0.02652 mg/L	0.003593	13.55%
Si 288.158†	1114.9	0.6537	mg/L	0.00243	1.307 mg/L	0.0049	0.37%
Sn 189.927†	19.1	0.01026	mg/L	0.000843	0.02051 mg/L	0.001686	8.22%
Sr 421.552†	154208.8	0.1874	mg/L	0.00040	0.3747 mg/L	0.00081	0.22%
Ti 334.903†	55397.5	3.396	mg/L	0.0069	6.792 mg/L	0.0138	0.20%
Tl 190.801†	-13.5	0.00204	mg/L	0.005086	0.00409 mg/L	0.010172	248.78%
V 292.402†	33784.2	0.2171	mg/L	0.00165	0.4343 mg/L	0.00329	0.76%
Zn 206.200†	4808.5	1.409	mg/L	0.0088	2.819 mg/L	0.0175	0.62%

Sequence No.: 62
 Sample ID: YD88 A SWC

Autosampler Location: 345
 Date Collected: 3/28/2014 1:01:15 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD88 A SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YD88 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2942406.7	103.2	%	0.53			0.51%
ScR 361.383	253045.1	102.9	%	1.08			1.05%
Ag 328.068†	-113.7	-0.00030	mg/L	0.000043	-0.00059 mg/L	0.000087	14.64%
Al 308.215†	73481.9	56.20	mg/L	0.339	112.4 mg/L	0.68	0.60%
As 188.979†	-141.4	0.05920	mg/L	0.000894	0.1184 mg/L	0.00179	1.51%
B 249.677†	102.4	0.01804	mg/L	0.001006	0.03608 mg/L	0.002013	5.58%
Ba 233.527†	1983.9	0.4952	mg/L	0.00408	0.9903 mg/L	0.00817	0.82%
Be 313.042†	432.3	0.00076	mg/L	0.000042	0.00152 mg/L	0.000084	5.50%
Ca 317.933†	361322.8	36.63	mg/L	0.165	73.25 mg/L	0.329	0.45%
Cd 228.802†	92.5	0.00254	mg/L	0.000073	0.00508 mg/L	0.000146	2.88%
Co 228.616†	1651.2	0.03533	mg/L	0.000286	0.07065 mg/L	0.000572	0.81%
Cr 267.716†	1108.9	0.2248	mg/L	0.00305	0.4496 mg/L	0.00611	1.36%
Cu 324.752†	89585.5	0.3225	mg/L	0.00053	0.6450 mg/L	0.00105	0.16%
Fe 273.955†	107295.5	96.96	mg/L	0.698	193.9 mg/L	1.40	0.72%
K 766.490†	9101.9	4.045	mg/L	0.0432	8.089 mg/L	0.0864	1.07%
Mg 279.077†	33144.2	28.61	mg/L	0.093	57.23 mg/L	0.185	0.32%
Mn 257.610†	42986.4	1.419	mg/L	0.0092	2.839 mg/L	0.0184	0.65%
Mo 202.031†	360.3	0.01885	mg/L	0.000258	0.03769 mg/L	0.000516	1.37%
Na 589.592†	36308.9	2.736	mg/L	0.0144	5.472 mg/L	0.0289	0.53%
Na 330.237†	62.1	3.239	mg/L	0.0762	6.477 mg/L	0.1523	2.35%
Ni 231.604†	445.6	0.1324	mg/L	0.00141	0.2649 mg/L	0.00281	1.06%
Pb 220.353†	2593.1	0.3255	mg/L	0.00133	0.6510 mg/L	0.00267	0.41%
Sb 206.836†	33.1	0.01180	mg/L	0.001792	0.02360 mg/L	0.003583	15.18%
Se 196.026†	16.1	0.01135	mg/L	0.006521	0.02270 mg/L	0.013042	57.46%
Si 288.158†	1194.7	0.7014	mg/L	0.00705	1.403 mg/L	0.0141	1.00%
Sn 189.927†	5.1	0.00672	mg/L	0.000059	0.01344 mg/L	0.000118	0.88%
Sr 421.552†	152318.6	0.1851	mg/L	0.00116	0.3701 mg/L	0.00232	0.63%
Ti 334.903†	65915.4	4.041	mg/L	0.0238	8.082 mg/L	0.0475	0.59%
Tl 190.801†	-18.1	0.00155	mg/L	0.000655	0.00311 mg/L	0.001311	42.16%
V 292.402†	38866.8	0.2496	mg/L	0.00142	0.4993 mg/L	0.00283	0.57%
Zn 206.200†	6595.9	1.933	mg/L	0.0236	3.867 mg/L	0.0471	1.22%

Sequence No.: 63
 Sample ID: YD88 ASPK SWC

Autosampler Location: 346
 Date Collected: 3/28/2014 1:05:15 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD88 ASPK SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YD88 ASPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2887165.7	101.3	%	0.50				0.50%
ScR 361.383	250378.7	101.8	%	0.73				0.72%
Ag 328.068†	100052.0	0.5140	mg/L	0.00248	1.028	mg/L	0.0050	0.48%
Al 308.215†	63230.9	48.36	mg/L	0.312	96.72	mg/L	0.623	0.64%
As 188.979†	3323.1	2.026	mg/L	0.0117	4.051	mg/L	0.0234	0.58%
B 249.677†	106.6	0.01776	mg/L	0.000611	0.03552	mg/L	0.001223	3.44%
Ba 233.527†	9796.9	2.507	mg/L	0.0155	5.014	mg/L	0.0309	0.62%
Be 313.042†	240359.1	0.4826	mg/L	0.00405	0.9651	mg/L	0.00810	0.84%
Ca 317.933†	401315.8	40.68	mg/L	0.250	81.36	mg/L	0.500	0.61%
Cd 228.802†	17124.5	0.5173	mg/L	0.00236	1.035	mg/L	0.0047	0.46%
Co 228.616†	20333.9	0.5189	mg/L	0.00335	1.038	mg/L	0.0067	0.65%
Cr 267.716†	3454.7	0.6991	mg/L	0.00552	1.398	mg/L	0.0110	0.79%
Cu 324.752†	230102.1	0.8224	mg/L	0.00366	1.645	mg/L	0.0073	0.44%
Fe 273.955†	87363.7	78.94	mg/L	0.521	157.9	mg/L	1.04	0.66%
K 766.490†	29107.8	12.93	mg/L	0.012	25.87	mg/L	0.025	0.09%
Mg 279.077†	35456.6	30.63	mg/L	0.216	61.25	mg/L	0.431	0.70%
Mn 257.610†	48363.9	1.597	mg/L	0.0096	3.195	mg/L	0.0193	0.60%
Mo 202.031†	374.4	0.01954	mg/L	0.000575	0.03908	mg/L	0.001151	2.94%
Na 589.592†	171092.2	12.89	mg/L	0.081	25.79	mg/L	0.162	0.63%
Na 330.237†	271.3	12.93	mg/L	0.188	25.85	mg/L	0.377	1.46%
Ni 231.604†	2047.2	0.6076	mg/L	0.00433	1.215	mg/L	0.0087	0.71%
Pb 220.353†	18786.8	2.298	mg/L	0.0150	4.596	mg/L	0.0301	0.65%
Sb 206.836†	46.4	0.01062	mg/L	0.001385	0.02125	mg/L	0.002770	13.04%
Se 196.026†	2755.2	1.967	mg/L	0.0149	3.935	mg/L	0.0299	0.76%
Si 288.158†	1566.4	0.9211	mg/L	0.00880	1.842	mg/L	0.0176	0.96%
Sn 189.927†	-3.1	0.00468	mg/L	0.000778	0.00936	mg/L	0.001556	16.61%
Sr 421.552†	567665.4	0.6897	mg/L	0.00411	1.379	mg/L	0.0082	0.60%
Ti 334.903†	50601.0	3.101	mg/L	0.0204	6.203	mg/L	0.0408	0.66%
Tl 190.801†	4114.5	1.906	mg/L	0.0100	3.813	mg/L	0.0200	0.52%
V 292.402†	102396.7	0.6721	mg/L	0.00412	1.344	mg/L	0.0082	0.61%
Zn 206.200†	6158.2	1.805	mg/L	0.0168	3.611	mg/L	0.0336	0.93%

Sequence No.: 64
 Sample ID: YD88 B SWC

Autosampler Location: 347
 Date Collected: 3/28/2014 1:09:17 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YD88 B SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YD88 B SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2939204.3	103.1	%	0.20				0.19%
ScR 361.383	255563.6	103.9	%	0.29				0.28%
Ag 328.068†	106.3	0.00070	mg/L	0.000125	0.00141	mg/L	0.000249	17.73%
Al 308.215†	35745.5	27.34	mg/L	0.071	54.68	mg/L	0.142	0.26%
As 188.979†	-77.5	0.03675	mg/L	0.001986	0.07349	mg/L	0.003973	5.41%
B 249.677†	188.4	0.03330	mg/L	0.000133	0.06660	mg/L	0.000267	0.40%
Ba 233.527†	1454.6	0.3649	mg/L	0.00235	0.7299	mg/L	0.00469	0.64%
Be 313.042†	234.1	0.00041	mg/L	0.000014	0.00082	mg/L	0.000029	3.52%
Ca 317.933†	197815.8	20.05	mg/L	0.100	40.10	mg/L	0.200	0.50%
Cd 228.802†	111.2	0.00324	mg/L	0.000115	0.00647	mg/L	0.000230	3.56%
Co 228.616†	924.5	0.01963	mg/L	0.000118	0.03926	mg/L	0.000236	0.60%
Cr 267.716†	751.4	0.1528	mg/L	0.00158	0.3056	mg/L	0.00317	1.04%
Cu 324.752†	90407.3	0.3241	mg/L	0.00185	0.6483	mg/L	0.00371	0.57%
Fe 273.955†	65183.5	58.90	mg/L	0.203	117.8	mg/L	0.41	0.35%
K 766.490†	4598.3	2.043	mg/L	0.0084	4.087	mg/L	0.0167	0.41%
Mg 279.077†	13841.7	11.94	mg/L	0.046	23.87	mg/L	0.092	0.39%
Mn 257.610†	25393.7	0.8386	mg/L	0.00261	1.677	mg/L	0.0052	0.31%
Mo 202.031†	387.1	0.02055	mg/L	0.000234	0.04110	mg/L	0.000469	1.14%
Na 589.592†	20452.2	1.541	mg/L	0.0094	3.082	mg/L	0.0188	0.61%
Na 330.237†	39.3	1.980	mg/L	0.1310	3.959	mg/L	0.2619	6.62%
Ni 231.604†	354.1	0.1052	mg/L	0.00107	0.2105	mg/L	0.00214	1.02%
Pb 220.353†	1783.4	0.2213	mg/L	0.00276	0.4426	mg/L	0.00552	1.25%
Sb 206.836†	52.9	0.01740	mg/L	0.001388	0.03481	mg/L	0.002777	7.98%
Se 196.026†	16.0	0.01131	mg/L	0.006964	0.02262	mg/L	0.013928	61.57%
Si 288.158†	1212.3	0.7097	mg/L	0.00832	1.419	mg/L	0.0166	1.17%
Sn 189.927†	52.3	0.01825	mg/L	0.001284	0.03650	mg/L	0.002568	7.04%
Sr 421.552†	94443.4	0.1147	mg/L	0.00032	0.2295	mg/L	0.00064	0.28%
Ti 334.903†	38142.5	2.339	mg/L	0.0070	4.677	mg/L	0.0140	0.30%
Tl 190.801†	-10.6	0.00123	mg/L	0.001015	0.00247	mg/L	0.002030	82.33%
V 292.402†	21148.2	0.1356	mg/L	0.00104	0.2711	mg/L	0.00209	0.77%
Zn 206.200†	4530.3	1.328	mg/L	0.0034	2.656	mg/L	0.0068	0.26%

Sequence No.: 65
Sample ID: YE22 B TWC
Dilution: 1.000000X

Autosampler Location: 348
Date Collected: 3/28/2014 1:13:17 PM
Data Type: Original

Nebulizer Parameters: YE22 B TWC
Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE22 B TWC

Table with 8 columns: Analyte, Mean Corrected Intensity, Calib. Conc. Units, Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective intensity, concentration, and RSD values.

Sequence No.: 66

Sample ID: YE22 MB1SPK TWC

Autosampler Location: 349

Date Collected: 3/28/2014 1:17:32 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE22 MB1SPK TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE22 MB1SPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2908172.7	102.0	%	0.48			0.47%
ScR 361.383	253094.6	102.9	%	0.13			0.13%
Ag 328.068†	105946.7	0.5440	mg/L	0.00397	0.5440	mg/L	0.73%
Al 308.215†	2681.2	2.044	mg/L	0.0096	2.044	mg/L	0.47%
As 188.979†	3604.8	2.080	mg/L	0.0179	2.080	mg/L	0.86%
B 249.677†	-0.6	-0.00118	mg/L	0.001527	-0.00118	mg/L	128.99%
Ba 233.527†	8170.9	2.101	mg/L	0.0113	2.101	mg/L	0.54%
Be 313.042†	249518.3	0.5010	mg/L	0.00331	0.5010	mg/L	0.66%
Ca 317.933†	100845.4	10.22	mg/L	0.057	10.22	mg/L	0.56%
Cd 228.802†	17359.5	0.5243	mg/L	0.00511	0.5243	mg/L	0.98%
Co 228.616†	19807.0	0.5109	mg/L	0.00384	0.5109	mg/L	0.75%
Cr 267.716†	2622.6	0.5302	mg/L	0.00280	0.5302	mg/L	0.53%
Cu 324.752†	143208.5	0.5102	mg/L	0.00400	0.5102	mg/L	0.78%
Fe 273.955†	2326.4	2.099	mg/L	0.0040	2.099	mg/L	0.19%
K 766.490†	23107.8	10.27	mg/L	0.030	10.27	mg/L	0.29%
Mg 279.077†	12055.9	10.43	mg/L	0.051	10.43	mg/L	0.49%
Mn 257.610†	14934.8	0.4937	mg/L	0.00323	0.4937	mg/L	0.65%
Mo 202.031†	24.7	0.00117	mg/L	0.000416	0.00117	mg/L	35.40%
Na 589.592†	138841.7	10.46	mg/L	0.040	10.46	mg/L	0.39%
Na 330.237†	235.7	10.98	mg/L	0.178	10.98	mg/L	1.62%
Ni 231.604†	1754.5	0.5205	mg/L	0.00154	0.5205	mg/L	0.30%
Pb 220.353†	16870.0	2.057	mg/L	0.0205	2.057	mg/L	1.00%
Sb 206.836†	18.6	0.00090	mg/L	0.000906	0.00090	mg/L	100.64%
Se 196.026†	2880.7	2.057	mg/L	0.0172	2.057	mg/L	0.83%
Si 288.158†	102.4	0.06345	mg/L	0.027789	0.06345	mg/L	43.80%
Sn 189.927†	-16.7	-0.00358	mg/L	0.000677	-0.00358	mg/L	18.92%
Sr 421.552†	417820.1	0.5077	mg/L	0.00213	0.5077	mg/L	0.42%
Ti 334.903†	19.4	0.00036	mg/L	0.000189	0.00036	mg/L	51.93%
Tl 190.801†	4379.9	2.021	mg/L	0.0108	2.021	mg/L	0.53%
V 292.402†	78685.5	0.5210	mg/L	0.00420	0.5210	mg/L	0.81%
Zn 206.200†	1736.3	0.5092	mg/L	0.00242	0.5092	mg/L	0.47%

Sequence No.: 67
 Sample ID: YD88 MB1SPK SWC

Autosampler Location: 350
 Date Collected: 3/28/2014 1:21:32 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YD88 MB1SPK SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YD88 MB1SPK SWC

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	2923650.8	102.6 %	%	0.75				0.73%
ScR 361.383	249967.3	101.7 %	%	1.02				1.00%
Ag 328.068†	103971.9	0.5339 mg/L	mg/L	0.00238	1.068 mg/L	0.0048		0.45%
Al 308.215†	2685.5	2.047 mg/L	mg/L	0.0288	4.094 mg/L	0.0576		1.41%
As 188.979†	3536.9	2.041 mg/L	mg/L	0.0120	4.082 mg/L	0.0240		0.59%
B 249.677†	7.5	0.00027 mg/L	mg/L	0.000863	0.00054 mg/L	0.001725	321.48%	
Ba 233.527†	8137.5	2.092 mg/L	mg/L	0.0191	4.185 mg/L	0.0382		0.91%
Be 313.042†	246578.8	0.4951 mg/L	mg/L	0.00348	0.9903 mg/L	0.00695		0.70%
Ca 317.933†	99675.7	10.10 mg/L	mg/L	0.093	20.21 mg/L	0.186		0.92%
Cd 228.802†	17071.5	0.5157 mg/L	mg/L	0.00253	1.031 mg/L	0.0051		0.49%
Co 228.616†	19396.4	0.5003 mg/L	mg/L	0.00109	1.001 mg/L	0.0022		0.22%
Cr 267.716†	2607.7	0.5272 mg/L	mg/L	0.00597	1.054 mg/L	0.0119		1.13%
Cu 324.752†	140387.8	0.5001 mg/L	mg/L	0.00214	1.000 mg/L	0.0043		0.43%
Fe 273.955†	2319.2	2.092 mg/L	mg/L	0.0248	4.185 mg/L	0.0496		1.18%
K 766.490†	22892.4	10.17 mg/L	mg/L	0.102	20.35 mg/L	0.205		1.01%
Mg 279.077†	12010.4	10.39 mg/L	mg/L	0.115	20.78 mg/L	0.230		1.11%
Mn 257.610†	14851.7	0.4909 mg/L	mg/L	0.00399	0.9819 mg/L	0.00798		0.81%
Mo 202.031†	26.6	0.00127 mg/L	mg/L	0.000202	0.00255 mg/L	0.000405		15.88%
Na 589.592†	137756.4	10.38 mg/L	mg/L	0.083	20.76 mg/L	0.166		0.80%
Na 330.237†	234.3	10.91 mg/L	mg/L	0.164	21.82 mg/L	0.328		1.50%
Ni 231.604†	1743.0	0.5171 mg/L	mg/L	0.00435	1.034 mg/L	0.0087		0.84%
Pb 220.353†	16547.4	2.017 mg/L	mg/L	0.0069	4.034 mg/L	0.0138		0.34%
Sb 206.836†	12.7	-0.00099 mg/L	mg/L	0.001736	-0.00198 mg/L	0.003471		175.33%
Se 196.026†	2827.7	2.019 mg/L	mg/L	0.0144	4.038 mg/L	0.0287		0.71%
Si 288.158†	17.0	0.01348 mg/L	mg/L	0.009741	0.02696 mg/L	0.019481		72.26%
Sn 189.927†	-18.0	-0.00398 mg/L	mg/L	0.001201	-0.00796 mg/L	0.002401		30.19%
Sr 421.552†	415180.1	0.5044 mg/L	mg/L	0.00402	1.009 mg/L	0.0080		0.80%
Ti 334.903†	22.0	0.00053 mg/L	mg/L	0.000390	0.00107 mg/L	0.000779		73.16%
Tl 190.801†	4345.5	2.005 mg/L	mg/L	0.0159	4.010 mg/L	0.0318		0.79%
V 292.402†	76878.6	0.5091 mg/L	mg/L	0.00284	1.018 mg/L	0.0057		0.56%
Zn 206.200†	1729.2	0.5071 mg/L	mg/L	0.00549	1.014 mg/L	0.0110		1.08%

Sequence No.: 68

Sample ID: CV 7

Autosampler Location: 7

Date Collected: 3/28/2014 1:25:32 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2898417.8	101.7 %	0.66			0.65%
ScR 361.383	245515.9	99.86 %	0.878			0.88%
Ag 328.068†	204589.9	1.050 mg/L	0.0032	1.050 mg/L	0.0032	0.31%
Al 308.215†	2674.2	2.014 mg/L	0.0108	2.014 mg/L	0.0108	0.53%
As 188.979†	3424.8	2.009 mg/L	0.0072	2.009 mg/L	0.0072	0.36%
B 249.677†	5739.7	1.014 mg/L	0.0063	1.014 mg/L	0.0063	0.62%
Ba 233.527†	4006.0	1.030 mg/L	0.0059	1.030 mg/L	0.0059	0.57%
Be 313.042†	492778.6	0.9895 mg/L	0.00240	0.9895 mg/L	0.00240	0.24%
Ca 317.933†	20593.4	2.087 mg/L	0.0066	2.087 mg/L	0.0066	0.32%
Cd 228.802†	33252.2	1.015 mg/L	0.0039	1.015 mg/L	0.0039	0.38%
Co 228.616†	38281.0	0.9861 mg/L	0.00392	0.9861 mg/L	0.00392	0.40%
Cr 267.716†	5183.9	1.050 mg/L	0.0045	1.050 mg/L	0.0045	0.43%
Cu 324.752†	281549.1	1.003 mg/L	0.0063	1.003 mg/L	0.0063	0.63%
Fe 273.955†	2299.4	2.071 mg/L	0.0098	2.071 mg/L	0.0098	0.48%
K 766.490†	44997.8	20.00 mg/L	0.146	20.00 mg/L	0.146	0.73%
Mg 279.077†	2289.6	1.987 mg/L	0.0040	1.987 mg/L	0.0040	0.20%
Mn 257.610†	29386.7	0.9712 mg/L	0.00439	0.9712 mg/L	0.00439	0.45%
Mo 202.031†	17566.4	0.9465 mg/L	0.00342	0.9465 mg/L	0.00342	0.36%
Na 589.592†	676900.1	51.01 mg/L	0.302	51.01 mg/L	0.302	0.59%
Na 330.237†	1084.6	51.43 mg/L	0.194	51.43 mg/L	0.194	0.38%
Ni 231.604†	3489.3	1.037 mg/L	0.0046	1.037 mg/L	0.0046	0.44%
Pb 220.353†	16124.3	1.966 mg/L	0.0057	1.966 mg/L	0.0057	0.29%
Sb 206.836†	6403.9	2.046 mg/L	0.0088	2.046 mg/L	0.0088	0.43%
Se 196.026†	2755.6	1.967 mg/L	0.0071	1.967 mg/L	0.0071	0.36%
Si 288.158†	3393.7	1.987 mg/L	0.0273	1.987 mg/L	0.0273	1.37%
Sn 189.927†	3316.0	0.9752 mg/L	0.00384	0.9752 mg/L	0.00384	0.39%
Sr 421.552†	830300.5	1.009 mg/L	0.0065	1.009 mg/L	0.0065	0.64%
Ti 334.903†	16134.5	0.9886 mg/L	0.00682	0.9886 mg/L	0.00682	0.69%
Tl 190.801†	4374.1	2.015 mg/L	0.0104	2.015 mg/L	0.0104	0.52%
V 292.402†	153091.3	1.014 mg/L	0.0028	1.014 mg/L	0.0028	0.28%
Zn 206.200†	3486.3	1.022 mg/L	0.0039	1.022 mg/L	0.0039	0.38%

Sequence No.: 69
 Sample ID: CB 7

Autosampler Location: 1
 Date Collected: 3/28/2014 1:29:37 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2917877.5	102.4	%	0.66				0.64%
ScR 361.383	250722.0	102.0	%	0.41				0.40%
Ag 328.068†	17.1	0.00009	mg/L	0.000169	0.00009	mg/L	0.000169	191.92%
Al 308.215†	5.4	0.00410	mg/L	0.001864	0.00410	mg/L	0.001864	45.42%
As 188.979†	2.4	0.00136	mg/L	0.000785	0.00136	mg/L	0.000785	57.51%
B 249.677†	6.5	0.00115	mg/L	0.000582	0.00115	mg/L	0.000582	50.37%
Ba 233.527†	-1.5	-0.00039	mg/L	0.000737	-0.00039	mg/L	0.000737	188.47%
Be 313.042†	28.0	0.00006	mg/L	0.000013	0.00006	mg/L	0.000013	23.44%
Ca 317.933†	7.0	0.00071	mg/L	0.000910	0.00071	mg/L	0.000910	127.60%
Cd 228.802†	-3.8	-0.00012	mg/L	0.000074	-0.00012	mg/L	0.000074	60.20%
Co 228.616†	5.6	0.00015	mg/L	0.000054	0.00015	mg/L	0.000054	37.19%
Cr 267.716†	3.0	0.00062	mg/L	0.000688	0.00062	mg/L	0.000688	111.40%
Cu 324.752†	139.4	0.00050	mg/L	0.000301	0.00050	mg/L	0.000301	60.62%
Fe 273.955†	0.8	0.00076	mg/L	0.000745	0.00076	mg/L	0.000745	97.64%
K 766.490†	19.2	0.00855	mg/L	0.014505	0.00855	mg/L	0.014505	169.69%
Mg 279.077†	-6.9	-0.00596	mg/L	0.004519	-0.00596	mg/L	0.004519	75.88%
Mn 257.610†	-0.5	-0.00002	mg/L	0.000023	-0.00002	mg/L	0.000023	130.74%
Mo 202.031†	15.5	0.00084	mg/L	0.000320	0.00084	mg/L	0.000320	38.27%
Na 589.592†	463.6	0.03493	mg/L	0.001976	0.03493	mg/L	0.001976	5.66%
Na 330.237†	6.3	0.2990	mg/L	0.13759	0.2990	mg/L	0.13759	46.02%
Ni 231.604†	2.4	0.00072	mg/L	0.000768	0.00072	mg/L	0.000768	106.92%
Pb 220.353†	-0.8	-0.00009	mg/L	0.000376	-0.00009	mg/L	0.000376	397.56%
Sb 206.836†	28.3	0.00903	mg/L	0.001940	0.00903	mg/L	0.001940	21.47%
Se 196.026†	4.3	0.00308	mg/L	0.002242	0.00308	mg/L	0.002242	72.69%
Si 288.158†	6.7	0.00392	mg/L	0.004713	0.00392	mg/L	0.004713	120.33%
Sn 189.927†	2.5	0.00073	mg/L	0.000434	0.00073	mg/L	0.000434	59.58%
Sr 421.552†	56.2	0.00007	mg/L	0.000012	0.00007	mg/L	0.000012	17.54%
Ti 334.903†	4.7	0.00028	mg/L	0.000254	0.00028	mg/L	0.000254	89.20%
Tl 190.801†	-2.0	-0.00093	mg/L	0.001961	-0.00093	mg/L	0.001961	210.07%
V 292.402†	-11.2	-0.00007	mg/L	0.000128	-0.00007	mg/L	0.000128	180.01%
Zn 206.200†	0.5	0.00015	mg/L	0.000653	0.00015	mg/L	0.000653	421.47%

Sequence No.: 70
 Sample ID: YE00 MBI TWC

Autosampler Location: 351
 Date Collected: 3/28/2014 1:33:37 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 MBI TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE00 MBI TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2914313.1	102.2	%	0.86			0.84%
ScR 361.383	254127.2	103.4	%	0.51			0.49%
Ag 328.068†	-20.0	-0.00010	mg/L	0.000264	-0.00010 mg/L	0.000264	257.39%
Al 308.215†	5.4	0.00409	mg/L	0.002298	0.00409 mg/L	0.002298	56.16%
As 188.979†	0.9	0.00053	mg/L	0.000504	0.00053 mg/L	0.000504	95.91%
B 249.677†	6.2	0.00109	mg/L	0.000332	0.00109 mg/L	0.000332	30.41%
Ba 233.527†	3.3	0.00084	mg/L	0.000957	0.00084 mg/L	0.000957	113.83%
Be 313.042†	4.9	0.00001	mg/L	0.000027	0.00001 mg/L	0.000027	275.39%
Ca 317.933†	33.1	0.00335	mg/L	0.001127	0.00335 mg/L	0.001127	33.61%
Cd 228.802†	-4.2	-0.00013	mg/L	0.000103	-0.00013 mg/L	0.000103	77.67%
Co 228.616†	4.3	0.00011	mg/L	0.000008	0.00011 mg/L	0.000008	7.58%
Cr 267.716†	4.8	0.00098	mg/L	0.000165	0.00098 mg/L	0.000165	16.83%
Cu 324.752†	52.1	0.00019	mg/L	0.000389	0.00019 mg/L	0.000389	209.67%
Fe 273.955†	-0.5	-0.00047	mg/L	0.004050	-0.00047 mg/L	0.004050	865.51%
K 766.490†	-9.7	-0.00432	mg/L	0.016465	-0.00432 mg/L	0.016465	381.17%
Mg 279.077†	-0.2	-0.00014	mg/L	0.001686	-0.00014 mg/L	0.001686	>999.9%
Mn 257.610†	-2.0	-0.00007	mg/L	0.000122	-0.00007 mg/L	0.000122	184.81%
Mo 202.031†	1.7	0.00009	mg/L	0.000067	0.00009 mg/L	0.000067	73.05%
Na 589.592†	440.1	0.03317	mg/L	0.001035	0.03317 mg/L	0.001035	3.12%
Na 330.237†	6.2	0.2921	mg/L	0.05340	0.2921 mg/L	0.05340	18.28%
Ni 231.604†	-2.4	-0.00071	mg/L	0.001084	-0.00071 mg/L	0.001084	153.18%
Pb 220.353†	7.6	0.00092	mg/L	0.001131	0.00092 mg/L	0.001131	122.51%
Sb 206.836†	1.0	0.00030	mg/L	0.001471	0.00030 mg/L	0.001471	492.06%
Se 196.026†	2.1	0.00152	mg/L	0.001598	0.00152 mg/L	0.001598	105.36%
Si 288.158†	15.5	0.00907	mg/L	0.002528	0.00907 mg/L	0.002528	27.87%
Sn 189.927†	1.4	0.00042	mg/L	0.001124	0.00042 mg/L	0.001124	264.83%
Sr 421.552†	29.2	0.00004	mg/L	0.000022	0.00004 mg/L	0.000022	62.65%
Ti 334.903†	6.8	0.00041	mg/L	0.000116	0.00041 mg/L	0.000116	28.09%
Tl 190.801†	-3.8	-0.00174	mg/L	0.001714	-0.00174 mg/L	0.001714	98.49%
V 292.402†	1.0	0.00001	mg/L	0.000204	0.00001 mg/L	0.000204	>999.9%
Zn 206.200†	4.7	0.00137	mg/L	0.000350	0.00137 mg/L	0.000350	25.45%

Sequence No.: 71

Sample ID: YE00 ADUP TWC

Autosampler Location: 352

Date Collected: 3/28/2014 1:37:38 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 ADUP TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE00 ADUP TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2926925.9	102.7	%	0.91				0.89%
ScR 361.383	249538.9	101.5	%	0.70				0.69%
Ag 328.068†	-21.2	0.00008	mg/L	0.000175	0.00008	mg/L	0.000175	208.98%
Al 308.215†	1822.4	1.394	mg/L	0.0155	1.394	mg/L	0.0155	1.11%
As 188.979†	30.8	0.01615	mg/L	0.001240	0.01615	mg/L	0.001240	7.68%
B 249.677†	819.6	0.1450	mg/L	0.00075	0.1450	mg/L	0.00075	0.52%
Ba 233.527†	61.7	0.01060	mg/L	0.000176	0.01060	mg/L	0.000176	1.66%
Be 313.042†	87.9	0.00017	mg/L	0.000019	0.00017	mg/L	0.000019	10.81%
Ca 317.933†	312251.2	31.65	mg/L	0.276	31.65	mg/L	0.276	0.87%
Cd 228.802†	-6.0	-0.00057	mg/L	0.000059	-0.00057	mg/L	0.000059	10.45%
Co 228.616†	75.3	0.00188	mg/L	0.000022	0.00188	mg/L	0.000022	1.16%
Cr 267.716†	12.8	0.00171	mg/L	0.001113	0.00171	mg/L	0.001113	65.22%
Cu 324.752†	196.0	0.00205	mg/L	0.000366	0.00205	mg/L	0.000366	17.85%
Fe 273.955†	37749.1	34.11	mg/L	0.412	34.11	mg/L	0.412	1.21%
K 766.490†	21951.4	9.755	mg/L	0.0743	9.755	mg/L	0.0743	0.76%
Mg 279.077†	22159.9	19.15	mg/L	0.170	19.15	mg/L	0.170	0.89%
Mn 257.610†	29280.6	0.9670	mg/L	0.00816	0.9670	mg/L	0.00816	0.84%
Mo 202.031†	111.8	0.00553	mg/L	0.000309	0.00553	mg/L	0.000309	5.58%
Na 589.592†	379211.3	28.58	mg/L	0.229	28.58	mg/L	0.229	0.80%
Na 330.237†	622.2	29.14	mg/L	0.236	29.14	mg/L	0.236	0.81%
Ni 231.604†	24.9	0.00739	mg/L	0.000714	0.00739	mg/L	0.000714	9.67%
Pb 220.353†	-0.8	-0.00131	mg/L	0.000704	-0.00131	mg/L	0.000704	53.67%
Sb 206.836†	8.4	0.00261	mg/L	0.000253	0.00261	mg/L	0.000253	9.71%
Se 196.026†	7.6	0.00544	mg/L	0.002908	0.00544	mg/L	0.002908	53.48%
Si 288.158†	8669.0	5.066	mg/L	0.0457	5.066	mg/L	0.0457	0.90%
Sn 189.927†	-41.9	-0.00847	mg/L	0.000773	-0.00847	mg/L	0.000773	9.13%
Sr 421.552†	107051.3	0.1301	mg/L	0.00096	0.1301	mg/L	0.00096	0.74%
Ti 334.903†	539.3	0.03085	mg/L	0.000245	0.03085	mg/L	0.000245	0.79%
Tl 190.801†	-7.0	0.00067	mg/L	0.002183	0.00067	mg/L	0.002183	326.39%
V 292.402†	757.7	0.00321	mg/L	0.000114	0.00321	mg/L	0.000114	3.56%
Zn 206.200†	2417.4	0.7094	mg/L	0.00554	0.7094	mg/L	0.00554	0.78%

Sequence No.: 72
 Sample ID: YE00 A TWC

Autosampler Location: 353
 Date Collected: 3/28/2014 1:41:53 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE00 A TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE00 A TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2895868.8	101.6	%	0.59				0.58%
ScR 361.383	249357.7	101.4	%	0.46				0.45%
Ag 328.068†	-66.9	-0.00015	mg/L	0.000165	-0.00015	mg/L	0.000165	111.21%
Al 308.215†	1782.1	1.363	mg/L	0.0061	1.363	mg/L	0.0061	0.45%
As 188.979†	33.4	0.01761	mg/L	0.000448	0.01761	mg/L	0.000448	2.54%
B 249.677†	823.9	0.1457	mg/L	0.00055	0.1457	mg/L	0.00055	0.37%
Ba 233.527†	61.5	0.01049	mg/L	0.000662	0.01049	mg/L	0.000662	6.31%
Be 313.042†	86.9	0.00017	mg/L	0.000021	0.00017	mg/L	0.000021	12.10%
Ca 317.933†	316125.1	32.04	mg/L	0.207	32.04	mg/L	0.207	0.65%
Cd 228.802†	-1.3	-0.00043	mg/L	0.000056	-0.00043	mg/L	0.000056	12.96%
Co 228.616†	80.7	0.00202	mg/L	0.000143	0.00202	mg/L	0.000143	7.09%
Cr 267.716†	9.4	0.00099	mg/L	0.000787	0.00099	mg/L	0.000787	79.24%
Cu 324.752†	188.9	0.00205	mg/L	0.000210	0.00205	mg/L	0.000210	10.25%
Fe 273.955†	38240.0	34.56	mg/L	0.440	34.56	mg/L	0.440	1.27%
K 766.490†	22259.3	9.891	mg/L	0.0449	9.891	mg/L	0.0449	0.45%
Mg 279.077†	22410.9	19.37	mg/L	0.115	19.37	mg/L	0.115	0.60%
Mn 257.610†	29632.0	0.9786	mg/L	0.01039	0.9786	mg/L	0.01039	1.06%
Mo 202.031†	114.2	0.00565	mg/L	0.000306	0.00565	mg/L	0.000306	5.41%
Na 589.592†	383394.8	28.89	mg/L	0.060	28.89	mg/L	0.060	0.21%
Na 330.237†	626.1	29.32	mg/L	0.260	29.32	mg/L	0.260	0.89%
Ni 231.604†	25.1	0.00746	mg/L	0.000289	0.00746	mg/L	0.000289	3.87%
Pb 220.353†	-8.3	-0.00225	mg/L	0.000280	-0.00225	mg/L	0.000280	12.43%
Sb 206.836†	8.7	0.00269	mg/L	0.001515	0.00269	mg/L	0.001515	56.35%
Se 196.026†	6.5	0.00465	mg/L	0.003385	0.00465	mg/L	0.003385	72.84%
Si 288.158†	8746.8	5.112	mg/L	0.0148	5.112	mg/L	0.0148	0.29%
Sn 189.927†	-43.6	-0.00893	mg/L	0.002162	-0.00893	mg/L	0.002162	24.22%
Sr 421.552†	107658.3	0.1308	mg/L	0.00036	0.1308	mg/L	0.00036	0.27%
Ti 334.903†	530.4	0.03027	mg/L	0.000322	0.03027	mg/L	0.000322	1.06%
Tl 190.801†	-11.0	-0.00114	mg/L	0.001403	-0.00114	mg/L	0.001403	122.62%
V 292.402†	761.8	0.00321	mg/L	0.000033	0.00321	mg/L	0.000033	1.01%
Zn 206.200†	2421.0	0.7105	mg/L	0.00316	0.7105	mg/L	0.00316	0.44%

YE22:00121

Sequence No.: 73
 Sample ID: YE00 ASPK TWC

Autosampler Location: 354
 Date Collected: 3/28/2014 1:46:08 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 ASPK TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE00 ASPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2886463.0	101.3	%	0.87				0.86%
ScR 361.383	251572.4	102.3	%	0.25				0.25%
Ag 328.068†	103863.3	0.5335	mg/L	0.00617	0.5335	mg/L	0.00617	1.16%
Al 308.215†	4791.7	3.658	mg/L	0.0248	3.658	mg/L	0.0248	0.68%
As 188.979†	3634.6	2.096	mg/L	0.0186	2.096	mg/L	0.0186	0.89%
B 249.677†	787.4	0.1382	mg/L	0.00171	0.1382	mg/L	0.00171	1.24%
Ba 233.527†	8050.5	2.065	mg/L	0.0195	2.065	mg/L	0.0195	0.94%
Be 313.042†	244787.1	0.4915	mg/L	0.00165	0.4915	mg/L	0.00165	0.34%
Ca 317.933†	410936.7	41.66	mg/L	0.143	41.66	mg/L	0.143	0.34%
Cd 228.802†	17068.3	0.5150	mg/L	0.00434	0.5150	mg/L	0.00434	0.84%
Co 228.616†	19300.4	0.4978	mg/L	0.00452	0.4978	mg/L	0.00452	0.91%
Cr 267.716†	2548.1	0.5141	mg/L	0.00306	0.5141	mg/L	0.00306	0.60%
Cu 324.752†	142630.5	0.5094	mg/L	0.00515	0.5094	mg/L	0.00515	1.01%
Fe 273.955†	38701.1	34.97	mg/L	0.285	34.97	mg/L	0.285	0.82%
K 766.490†	44420.8	19.74	mg/L	0.096	19.74	mg/L	0.096	0.49%
Mg 279.077†	34454.1	29.79	mg/L	0.137	29.79	mg/L	0.137	0.46%
Mn 257.610†	43156.6	1.426	mg/L	0.0085	1.426	mg/L	0.0085	0.59%
Mo 202.031†	122.2	0.00594	mg/L	0.000438	0.00594	mg/L	0.000438	7.38%
Na 589.592†	511510.2	38.54	mg/L	0.210	38.54	mg/L	0.210	0.54%
Na 330.237†	831.7	38.88	mg/L	0.110	38.88	mg/L	0.110	0.28%
Ni 231.604†	1728.0	0.5127	mg/L	0.00132	0.5127	mg/L	0.00132	0.26%
Pb 220.353†	16406.7	1.999	mg/L	0.0168	1.999	mg/L	0.0168	0.84%
Sb 206.836†	24.1	0.00276	mg/L	0.001913	0.00276	mg/L	0.001913	69.28%
Se 196.026†	2853.9	2.038	mg/L	0.0185	2.038	mg/L	0.0185	0.91%
Si 288.158†	14982.9	8.758	mg/L	0.0453	8.758	mg/L	0.0453	0.52%
Sn 189.927†	-55.1	-0.01105	mg/L	0.000850	-0.01105	mg/L	0.000850	7.69%
Sr 421.552†	522029.4	0.6343	mg/L	0.00341	0.6343	mg/L	0.00341	0.54%
Ti 334.903†	615.9	0.03474	mg/L	0.000444	0.03474	mg/L	0.000444	1.28%
Tl 190.801†	4305.4	1.990	mg/L	0.0128	1.990	mg/L	0.0128	0.64%
V 292.402†	77673.2	0.5126	mg/L	0.00553	0.5126	mg/L	0.00553	1.08%
Zn 206.200†	4032.8	1.184	mg/L	0.0025	1.184	mg/L	0.0025	0.21%

Sequence No.: 74

Autosampler Location: 355

Sample ID: ~~YE00 APOST TWC~~ ZZZZZZ

Date Collected: 3/28/2014 1:50:09 PM

Dilution: 1.000000X

BA 3/28/14

Data Type: Original

Nebulizer Parameters: YE00 APOST TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE00 APOST TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2870662.8	100.7	%	0.74				0.73%
ScR 361.383	248813.3	101.2	%	0.23				0.23%
Ag 328.068†	99249.1	0.5098	mg/L	0.00225	0.5098	mg/L	0.00225	0.44%
Al 308.215†	4342.1	3.314	mg/L	0.0071	3.314	mg/L	0.0071	0.21%
As 188.979†	3592.9	2.072	mg/L	0.0095	2.072	mg/L	0.0095	0.46%
B 249.677†	792.5	0.1391	mg/L	0.00114	0.1391	mg/L	0.00114	0.82%
Ba 233.527†	7952.0	2.039	mg/L	0.0064	2.039	mg/L	0.0064	0.31%
Be 313.042†	230939.3	0.4637	mg/L	0.00162	0.4637	mg/L	0.00162	0.35%
Ca 317.933†	412089.5	41.77	mg/L	0.124	41.77	mg/L	0.124	0.30%
Cd 228.802†	17056.9	0.5148	mg/L	0.00105	0.5148	mg/L	0.00105	0.20%
Co 228.616†	19193.8	0.4950	mg/L	0.00226	0.4950	mg/L	0.00226	0.46%
Cr 267.716†	2534.3	0.5113	mg/L	0.00246	0.5113	mg/L	0.00246	0.48%
Cu 324.752†	145536.4	0.5198	mg/L	0.00239	0.5198	mg/L	0.00239	0.46%
Fe 273.955†	38757.0	35.02	mg/L	0.335	35.02	mg/L	0.335	0.96%
K 766.490†	44566.5	19.80	mg/L	0.059	19.80	mg/L	0.059	0.30%
Mg 279.077†	34536.6	29.86	mg/L	0.112	29.86	mg/L	0.112	0.37%
Mn 257.610†	43139.7	1.425	mg/L	0.0094	1.425	mg/L	0.0094	0.66%
Mo 202.031†	122.4	0.00595	mg/L	0.000196	0.00595	mg/L	0.000196	3.30%
Na 589.592†	513573.0	38.70	mg/L	0.051	38.70	mg/L	0.051	0.13%
Na 330.237†	834.6	39.02	mg/L	0.199	39.02	mg/L	0.199	0.51%
Ni 231.604†	1710.5	0.5075	mg/L	0.00160	0.5075	mg/L	0.00160	0.31%
Pb 220.353†	16284.8	1.984	mg/L	0.0028	1.984	mg/L	0.0028	0.14%
Sb 206.836†	28.3	0.00415	mg/L	0.002271	0.00415	mg/L	0.002271	54.69%
Se 196.026†	2839.7	2.028	mg/L	0.0075	2.028	mg/L	0.0075	0.37%
Si 288.158†	8702.5	5.089	mg/L	0.0160	5.089	mg/L	0.0160	0.32%
Sn 189.927†	-55.5	-0.01116	mg/L	0.000473	-0.01116	mg/L	0.000473	4.24%
Sr 421.552†	519718.0	0.6315	mg/L	0.00098	0.6315	mg/L	0.00098	0.16%
Ti 334.903†	531.2	0.02954	mg/L	0.000108	0.02954	mg/L	0.000108	0.37%
Tl 190.801†	4272.7	1.975	mg/L	0.0078	1.975	mg/L	0.0078	0.40%
V 292.402†	78112.9	0.5155	mg/L	0.00132	0.5155	mg/L	0.00132	0.26%
Zn 206.200†	4037.1	1.184	mg/L	0.0050	1.184	mg/L	0.0050	0.42%

Sequence No.: 75
 Sample ID: YE00 BDUP WMN

Autosampler Location: 356
 Date Collected: 3/28/2014 1:54:10 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 BDUP WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE00 BDUP WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2956422.0	103.7	%	0.47				0.45%
ScR 361.383	258411.1	105.1	%	1.04				0.99%
Ag 328.068†	-48.2	-0.00006	mg/L	0.000073	-0.00006	mg/L	0.000073	126.59%
Al 308.215†	318.3	0.2433	mg/L	0.00315	0.2433	mg/L	0.00315	1.30%
As 188.979†	36.5	0.01846	mg/L	0.001308	0.01846	mg/L	0.001308	7.09%
B 249.677†	808.0	0.1429	mg/L	0.00214	0.1429	mg/L	0.00214	1.50%
Ba 233.527†	43.6	0.00605	mg/L	0.000535	0.00605	mg/L	0.000535	8.84%
Be 313.042†	76.7	0.00015	mg/L	0.000028	0.00015	mg/L	0.000028	18.25%
Ca 317.933†	308828.7	31.30	mg/L	0.195	31.30	mg/L	0.195	0.62%
Cd 228.802†	-2.1	-0.00046	mg/L	0.000117	-0.00046	mg/L	0.000117	25.65%
Co 228.616†	86.2	0.00221	mg/L	0.000113	0.00221	mg/L	0.000113	5.09%
Cr 267.716†	10.4	0.00121	mg/L	0.000919	0.00121	mg/L	0.000919	76.12%
Cu 324.752†	-213.3	0.00057	mg/L	0.000258	0.00057	mg/L	0.000258	45.58%
Fe 273.955†	36869.9	33.32	mg/L	0.246	33.32	mg/L	0.246	0.74%
K 766.490†	21457.0	9.535	mg/L	0.0862	9.535	mg/L	0.0862	0.90%
Mg 279.077†	21990.0	19.00	mg/L	0.162	19.00	mg/L	0.162	0.85%
Mn 257.610†	28890.2	0.9541	mg/L	0.00742	0.9541	mg/L	0.00742	0.78%
Mo 202.031†	99.4	0.00487	mg/L	0.000204	0.00487	mg/L	0.000204	4.20%
Na 589.592†	370093.8	27.89	mg/L	0.185	27.89	mg/L	0.185	0.66%
Na 330.237†	603.9	28.26	mg/L	0.298	28.26	mg/L	0.298	1.05%
Ni 231.604†	22.6	0.00671	mg/L	0.001132	0.00671	mg/L	0.001132	16.87%
Pb 220.353†	-2.1	-0.00171	mg/L	0.000674	-0.00171	mg/L	0.000674	39.42%
Sb 206.836†	-1.3	-0.00053	mg/L	0.001428	-0.00053	mg/L	0.001428	269.35%
Se 196.026†	14.6	0.01045	mg/L	0.003147	0.01045	mg/L	0.003147	30.10%
Si 288.158†	55941.7	32.68	mg/L	0.351	32.68	mg/L	0.351	1.08%
Sn 189.927†	-45.1	-0.00946	mg/L	0.000881	-0.00946	mg/L	0.000881	9.31%
Sr 421.552†	100562.5	0.1222	mg/L	0.00069	0.1222	mg/L	0.00069	0.56%
Ti 334.903†	86.1	0.00307	mg/L	0.000460	0.00307	mg/L	0.000460	15.01%
Tl 190.801†	2.2	0.00485	mg/L	0.001267	0.00485	mg/L	0.001267	26.15%
V 292.402†	497.6	0.00155	mg/L	0.000033	0.00155	mg/L	0.000033	2.12%
Zn 206.200†	2434.5	0.7196	mg/L	0.00674	0.7196	mg/L	0.00674	0.94%

Sequence No.: 76
 Sample ID: YE00 B WMN

Autosampler Location: 357
 Date Collected: 3/28/2014 1:58:25 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 B WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE00 B WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2992026.4	105.0	%	0.40			0.39%
ScR 361.383	258229.6	105.0	%	0.57			0.54%
Ag 328.068†	-62.1	-0.00013	mg/L	0.000098	-0.00013	mg/L	0.000098 74.61%
Al 308.215†	313.1	0.2394	mg/L	0.00172	0.2394	mg/L	0.00172 0.72%
As 188.979†	34.6	0.01747	mg/L	0.001347	0.01747	mg/L	0.001347 7.71%
B 249.677†	808.6	0.1430	mg/L	0.00101	0.1430	mg/L	0.00101 0.71%
Ba 233.527†	46.3	0.00677	mg/L	0.000470	0.00677	mg/L	0.000470 6.95%
Be 313.042†	64.8	0.00013	mg/L	0.000024	0.00013	mg/L	0.000024 18.26%
Ca 317.933†	304610.0	30.88	mg/L	0.064	30.88	mg/L	0.064 0.21%
Cd 228.802†	-7.3	-0.00061	mg/L	0.000129	-0.00061	mg/L	0.000129 21.10%
Co 228.616†	86.4	0.00222	mg/L	0.000106	0.00222	mg/L	0.000106 4.79%
Cr 267.716†	11.2	0.00138	mg/L	0.001378	0.00138	mg/L	0.001378 99.56%
Cu 324.752†	-256.6	0.00041	mg/L	0.000049	0.00041	mg/L	0.000049 11.84%
Fe 273.955†	36861.5	33.31	mg/L	0.260	33.31	mg/L	0.260 0.78%
K 766.490†	21304.9	9.467	mg/L	0.1158	9.467	mg/L	0.1158 1.22%
Mg 279.077†	21788.8	18.83	mg/L	0.170	18.83	mg/L	0.170 0.90%
Mn 257.610†	28863.4	0.9532	mg/L	0.01020	0.9532	mg/L	0.01020 1.07%
Mo 202.031†	95.9	0.00469	mg/L	0.000105	0.00469	mg/L	0.000105 2.23%
Na 589.592†	367181.8	27.67	mg/L	0.178	27.67	mg/L	0.178 0.64%
Na 330.237†	602.1	28.18	mg/L	0.162	28.18	mg/L	0.162 0.57%
Ni 231.604†	25.1	0.00745	mg/L	0.001237	0.00745	mg/L	0.001237 16.60%
Pb 220.353†	-8.9	-0.00254	mg/L	0.000407	-0.00254	mg/L	0.000407 16.01%
Sb 206.836†	-5.8	-0.00198	mg/L	0.001832	-0.00198	mg/L	0.001832 92.72%
Se 196.026†	12.7	0.00909	mg/L	0.003759	0.00909	mg/L	0.003759 41.33%
Si 288.158†	55787.2	32.59	mg/L	0.396	32.59	mg/L	0.396 1.21%
Sn 189.927†	-42.8	-0.00882	mg/L	0.000420	-0.00882	mg/L	0.000420 4.76%
Sr 421.552†	99762.0	0.1212	mg/L	0.00055	0.1212	mg/L	0.00055 0.45%
Ti 334.903†	92.7	0.00350	mg/L	0.000431	0.00350	mg/L	0.000431 12.31%
Tl 190.801†	4.9	0.00610	mg/L	0.001420	0.00610	mg/L	0.001420 23.27%
V 292.402†	479.4	0.00144	mg/L	0.000105	0.00144	mg/L	0.000105 7.30%
Zn 206.200†	2412.4	0.7131	mg/L	0.00388	0.7131	mg/L	0.00388 0.54%

Sequence No.: 77
 Sample ID: YE00 BSPK WMN

Autosampler Location: 358
 Date Collected: 3/28/2014 2:02:40 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 BSPK WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE00 BSPK WMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2969550.9	104.2 %	0.59			0.57%
ScR 361.383	255871.5	104.1 %	1.80			1.73%
Ag 328.068†	91427.8	0.4697 mg/L	0.00318	0.4697 mg/L	0.00318	0.68%
Al 308.215†	2875.5	2.193 mg/L	0.0434	2.193 mg/L	0.0434	1.98%
As 188.979†	3682.5	2.123 mg/L	0.0078	2.123 mg/L	0.0078	0.37%
B 249.677†	789.6	0.1386 mg/L	0.00276	0.1386 mg/L	0.00276	1.99%
Ba 233.527†	7853.5	2.014 mg/L	0.0277	2.014 mg/L	0.0277	1.38%
Be 313.042†	229689.2	0.4612 mg/L	0.00113	0.4612 mg/L	0.00113	0.25%
Ca 317.933†	403928.6	40.94 mg/L	0.025	40.94 mg/L	0.025	0.06%
Cd 228.802†	17333.3	0.5230 mg/L	0.00433	0.5230 mg/L	0.00433	0.83%
Co 228.616†	18833.4	0.4858 mg/L	0.00313	0.4858 mg/L	0.00313	0.65%
Cr 267.716†	2499.0	0.5042 mg/L	0.00783	0.5042 mg/L	0.00783	1.55%
Cu 324.752†	139197.9	0.4972 mg/L	0.00265	0.4972 mg/L	0.00265	0.53%
Fe 273.955†	38034.4	34.37 mg/L	0.155	34.37 mg/L	0.155	0.45%
K 766.490†	43916.0	19.51 mg/L	0.132	19.51 mg/L	0.132	0.67%
Mg 279.077†	34197.9	29.56 mg/L	0.493	29.56 mg/L	0.493	1.67%
Mn 257.610†	42697.6	1.411 mg/L	0.0039	1.411 mg/L	0.0039	0.28%
Mo 202.031†	110.0	0.00529 mg/L	0.000167	0.00529 mg/L	0.000167	3.15%
Na 589.592†	499336.0	37.63 mg/L	0.109	37.63 mg/L	0.109	0.29%
Na 330.237†	806.2	37.67 mg/L	0.655	37.67 mg/L	0.655	1.74%
Ni 231.604†	1687.5	0.5007 mg/L	0.00782	0.5007 mg/L	0.00782	1.56%
Pb 220.353†	16104.1	1.962 mg/L	0.0105	1.962 mg/L	0.0105	0.53%
Sb 206.836†	16.3	0.00034 mg/L	0.001572	0.00034 mg/L	0.001572	468.43%
Se 196.026†	3200.2	2.285 mg/L	0.0147	2.285 mg/L	0.0147	0.64%
Si 288.158†	54648.3	31.93 mg/L	0.121	31.93 mg/L	0.121	0.38%
Sn 189.927†	-52.6	-0.01041 mg/L	0.001292	-0.01041 mg/L	0.001292	12.41%
Sr 421.552†	507736.4	0.6169 mg/L	0.00198	0.6169 mg/L	0.00198	0.32%
Ti 334.903†	97.8	0.00301 mg/L	0.000105	0.00301 mg/L	0.000105	3.51%
Tl 190.801†	4273.6	1.976 mg/L	0.0142	1.976 mg/L	0.0142	0.72%
V 292.402†	75311.3	0.4970 mg/L	0.00332	0.4970 mg/L	0.00332	0.67%
Zn 206.200†	4054.4	1.194 mg/L	0.0198	1.194 mg/L	0.0198	1.66%

Sequence No.: 78
 Sample ID: YE00 MB2SPK WMN

Autosampler Location: 359
 Date Collected: 3/28/2014 2:06:41 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 MB2SPK WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE00 MB2SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2999098.1	105.2	%	1.05				1.00%
ScR 361.383	257579.9	104.8	%	1.59				1.52%
Ag 328.068†	104315.8	0.5357	mg/L	0.00625	0.5357	mg/L	0.00625	1.17%
Al 308.215†	2680.1	2.043	mg/L	0.0264	2.043	mg/L	0.0264	1.29%
As 188.979†	3740.4	2.159	mg/L	0.0277	2.159	mg/L	0.0277	1.28%
B 249.677†	2.9	-0.00056	mg/L	0.000920	-0.00056	mg/L	0.000920	164.87%
Ba 233.527†	8023.0	2.063	mg/L	0.0256	2.063	mg/L	0.0256	1.24%
Be 313.042†	235912.7	0.4737	mg/L	0.00465	0.4737	mg/L	0.00465	0.98%
Ca 317.933†	100638.2	10.20	mg/L	0.119	10.20	mg/L	0.119	1.16%
Cd 228.802†	17840.2	0.5387	mg/L	0.00468	0.5387	mg/L	0.00468	0.87%
Co 228.616†	19686.8	0.5078	mg/L	0.00386	0.5078	mg/L	0.00386	0.76%
Cr 267.716†	2614.6	0.5285	mg/L	0.00723	0.5285	mg/L	0.00723	1.37%
Cu 324.752†	140237.4	0.4996	mg/L	0.00411	0.4996	mg/L	0.00411	0.82%
Fe 273.955†	2320.4	2.093	mg/L	0.0375	2.093	mg/L	0.0375	1.79%
K 766.490†	23255.1	10.33	mg/L	0.085	10.33	mg/L	0.085	0.82%
Mg 279.077†	12136.7	10.50	mg/L	0.134	10.50	mg/L	0.134	1.27%
Mn 257.610†	14899.6	0.4925	mg/L	0.00417	0.4925	mg/L	0.00417	0.85%
Mo 202.031†	18.8	0.00085	mg/L	0.000337	0.00085	mg/L	0.000337	39.44%
Na 589.592†	139276.3	10.50	mg/L	0.063	10.50	mg/L	0.063	0.60%
Na 330.237†	234.5	10.91	mg/L	0.149	10.91	mg/L	0.149	1.36%
Ni 231.604†	1747.0	0.5183	mg/L	0.00620	0.5183	mg/L	0.00620	1.20%
Pb 220.353†	16942.6	2.065	mg/L	0.0193	2.065	mg/L	0.0193	0.94%
Sb 206.836†	3.2	-0.00402	mg/L	0.001323	-0.00402	mg/L	0.001323	32.89%
Se 196.026†	3247.0	2.319	mg/L	0.0322	2.319	mg/L	0.0322	1.39%
Si 288.158†	-21.0	-0.00859	mg/L	0.002646	-0.00859	mg/L	0.002646	30.82%
Sn 189.927†	-15.1	-0.00313	mg/L	0.000783	-0.00313	mg/L	0.000783	24.97%
Sr 421.552†	415628.0	0.5050	mg/L	0.00338	0.5050	mg/L	0.00338	0.67%
Ti 334.903†	8.2	-0.00032	mg/L	0.000314	-0.00032	mg/L	0.000314	97.50%
Tl 190.801†	4405.0	2.033	mg/L	0.0141	2.033	mg/L	0.0141	0.69%
V 292.402†	77921.3	0.5160	mg/L	0.00370	0.5160	mg/L	0.00370	0.72%
Zn 206.200†	1791.7	0.5254	mg/L	0.00620	0.5254	mg/L	0.00620	1.18%

Sequence No.: 79

Sample ID: YE00 MB1SPK TWC

Autosampler Location: 360

Date Collected: 3/28/2014 2:10:41 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE00 MB1SPK TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE00 MB1SPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2878809.4	101.0	%	0.46				0.46%
ScR 361.383	246465.8	100.2	%	0.43				0.43%
Ag 328.068†	105753.8	0.5430	mg/L	0.00278	0.5430	mg/L	0.00278	0.51%
Al 308.215†	2714.1	2.069	mg/L	0.0144	2.069	mg/L	0.0144	0.70%
As 188.979†	3597.6	2.076	mg/L	0.0073	2.076	mg/L	0.0073	0.35%
B 249.677†	8.2	0.00038	mg/L	0.000449	0.00038	mg/L	0.000449	118.41%
Ba 233.527†	8224.8	2.115	mg/L	0.0137	2.115	mg/L	0.0137	0.65%
Be 313.042†	251386.5	0.5048	mg/L	0.00106	0.5048	mg/L	0.00106	0.21%
Ca 317.933†	100900.0	10.23	mg/L	0.048	10.23	mg/L	0.048	0.46%
Cd 228.802†	17364.3	0.5245	mg/L	0.00292	0.5245	mg/L	0.00292	0.56%
Co 228.616†	19700.8	0.5082	mg/L	0.00331	0.5082	mg/L	0.00331	0.65%
Cr 267.716†	2637.4	0.5332	mg/L	0.00276	0.5332	mg/L	0.00276	0.52%
Cu 324.752†	142593.0	0.5080	mg/L	0.00338	0.5080	mg/L	0.00338	0.66%
Fe 273.955†	2342.2	2.113	mg/L	0.0123	2.113	mg/L	0.0123	0.58%
K 766.490†	23114.8	10.27	mg/L	0.038	10.27	mg/L	0.038	0.37%
Mg 279.077†	12127.1	10.49	mg/L	0.047	10.49	mg/L	0.047	0.45%
Mn 257.610†	15024.7	0.4967	mg/L	0.00224	0.4967	mg/L	0.00224	0.45%
Mo 202.031†	29.3	0.00142	mg/L	0.000177	0.00142	mg/L	0.000177	12.49%
Na 589.592†	138962.8	10.47	mg/L	0.035	10.47	mg/L	0.035	0.33%
Na 330.237†	233.6	10.88	mg/L	0.035	10.88	mg/L	0.035	0.33%
Ni 231.604†	1758.7	0.5218	mg/L	0.00199	0.5218	mg/L	0.00199	0.38%
Pb 220.353†	16826.3	2.051	mg/L	0.0118	2.051	mg/L	0.0118	0.57%
Sb 206.836†	18.7	0.00087	mg/L	0.001889	0.00087	mg/L	0.001889	217.61%
Se 196.026†	2873.8	2.052	mg/L	0.0122	2.052	mg/L	0.0122	0.59%
Si 288.158†	42.8	0.02863	mg/L	0.005188	0.02863	mg/L	0.005188	18.12%
Sn 189.927†	-18.0	-0.00397	mg/L	0.000906	-0.00397	mg/L	0.000906	22.83%
Sr 421.552†	418477.4	0.5085	mg/L	0.00091	0.5085	mg/L	0.00091	0.18%
Ti 334.903†	14.5	0.00007	mg/L	0.000366	0.00007	mg/L	0.000366	556.89%
Tl 190.801†	4384.4	2.023	mg/L	0.0072	2.023	mg/L	0.0072	0.35%
V 292.402†	78424.3	0.5193	mg/L	0.00228	0.5193	mg/L	0.00228	0.44%
Zn 206.200†	1748.8	0.5128	mg/L	0.00234	0.5128	mg/L	0.00234	0.46%

Sequence No.: 80

Sample ID: CV 8

Autosampler Location: 7

Date Collected: 3/28/2014 2:14:41 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2861381.1	100.4 %	0.63			0.63%	
ScR 361.383	242315.9	98.56 %	0.914			0.93%	
Ag 328.068†	205905.0	1.057 mg/L	0.0154	1.057 mg/L	0.0154	1.45%	
Al 308.215†	2729.5	2.056 mg/L	0.0182	2.056 mg/L	0.0182	0.89%	
As 188.979†	3469.2	2.035 mg/L	0.0207	2.035 mg/L	0.0207	1.02%	
B 249.677†	5840.3	1.032 mg/L	0.0100	1.032 mg/L	0.0100	0.97%	
Ba 233.527†	4088.9	1.051 mg/L	0.0122	1.051 mg/L	0.0122	1.16%	
Be 313.042†	505628.5	1.015 mg/L	0.0044	1.015 mg/L	0.0044	0.43%	
Ca 317.933†	20983.3	2.127 mg/L	0.0148	2.127 mg/L	0.0148	0.70%	
Cd 228.802†	33717.8	1.029 mg/L	0.0151	1.029 mg/L	0.0151	1.47%	
Co 228.616†	39041.1	1.006 mg/L	0.0152	1.006 mg/L	0.0152	1.51%	
Cr 267.716†	5285.6	1.070 mg/L	0.0076	1.070 mg/L	0.0076	0.71%	
Cu 324.752†	296276.8	1.055 mg/L	0.0166	1.055 mg/L	0.0166	1.57%	
Fe 273.955†	2351.6	2.118 mg/L	0.0188	2.118 mg/L	0.0188	0.89%	
K 766.490†	45881.4	20.39 mg/L	0.148	20.39 mg/L	0.148	0.73%	
Mg 279.077†	2333.1	2.025 mg/L	0.0195	2.025 mg/L	0.0195	0.96%	
Mn 257.610†	30064.3	0.9936 mg/L	0.00400	0.9936 mg/L	0.00400	0.40%	
Mo 202.031†	18261.7	0.9840 mg/L	0.00754	0.9840 mg/L	0.00754	0.77%	
Na 589.592†	690474.0	52.03 mg/L	0.158	52.03 mg/L	0.158	0.30%	
Na 330.237†	1100.7	52.19 mg/L	0.083	52.19 mg/L	0.083	0.16%	
Ni 231.604†	3550.4	1.055 mg/L	0.0101	1.055 mg/L	0.0101	0.96%	
Pb 220.353†	16778.8	2.046 mg/L	0.0170	2.046 mg/L	0.0170	0.83%	
Sb 206.836†	6476.6	2.069 mg/L	0.0220	2.069 mg/L	0.0220	1.06%	
Se 196.026†	2794.9	1.995 mg/L	0.0124	1.995 mg/L	0.0124	0.62%	
Si 288.158†	3496.9	2.048 mg/L	0.0320	2.048 mg/L	0.0320	1.57%	
Sn 189.927†	3362.6	0.9889 mg/L	0.00499	0.9889 mg/L	0.00499	0.50%	
Sr 421.552†	848517.7	1.031 mg/L	0.0038	1.031 mg/L	0.0038	0.37%	
Ti 334.903†	16531.7	1.013 mg/L	0.0026	1.013 mg/L	0.0026	0.26%	
Tl 190.801†	4444.3	2.047 mg/L	0.0237	2.047 mg/L	0.0237	1.16%	
V 292.402†	154517.9	1.023 mg/L	0.0168	1.023 mg/L	0.0168	1.64%	
Zn 206.200†	3562.7	1.045 mg/L	0.0087	1.045 mg/L	0.0087	0.84%	

Sequence No.: 81
 Sample ID: CB 8

Autosampler Location: 1
 Date Collected: 3/28/2014 2:18:45 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2861436.2	100.4	%	0.67			0.67%
ScR 361.383	247580.1	100.7	%	0.62			0.61%
Ag 328.068†	-5.3	-0.00003	mg/L	0.000337	-0.00003	0.000337	>999.9%
Al 308.215†	2.3	0.00175	mg/L	0.004890	0.00175	0.004890	278.86%
As 188.979†	3.5	0.00206	mg/L	0.000917	0.00206	0.000917	44.58%
B 249.677†	13.8	0.00243	mg/L	0.000851	0.00243	0.000851	34.95%
Ba 233.527†	-2.1	-0.00054	mg/L	0.000061	-0.00054	0.000061	11.24%
Be 313.042†	34.8	0.00007	mg/L	0.000033	0.00007	0.000033	47.47%
Ca 317.933†	-1.6	-0.00017	mg/L	0.000731	-0.00017	0.000731	442.05%
Cd 228.802†	-1.3	-0.00005	mg/L	0.000170	-0.00005	0.000170	323.37%
Co 228.616†	1.0	0.00003	mg/L	0.000084	0.00003	0.000084	325.16%
Cr 267.716†	0.2	0.00004	mg/L	0.000849	0.00004	0.000849	>999.9%
Cu 324.752†	190.0	0.00068	mg/L	0.000231	0.00068	0.000231	34.13%
Fe 273.955†	3.0	0.00271	mg/L	0.003897	0.00271	0.003897	143.84%
K 766.490†	22.8	0.01011	mg/L	0.025450	0.01011	0.025450	251.72%
Mg 279.077†	-2.3	-0.00195	mg/L	0.003853	-0.00195	0.003853	197.81%
Mn 257.610†	-0.5	-0.00002	mg/L	0.000209	-0.00002	0.000209	>999.9%
Mo 202.031†	17.3	0.00093	mg/L	0.000405	0.00093	0.000405	43.49%
Na 589.592†	473.5	0.03568	mg/L	0.002558	0.03568	0.002558	7.17%
Na 330.237†	4.9	0.2315	mg/L	0.22048	0.2315	0.22048	95.24%
Ni 231.604†	-3.0	-0.00090	mg/L	0.000756	-0.00090	0.000756	84.35%
Pb 220.353†	8.0	0.00097	mg/L	0.000283	0.00097	0.000283	29.17%
Sb 206.836†	26.3	0.00841	mg/L	0.000143	0.00841	0.000143	1.70%
Se 196.026†	2.6	0.00185	mg/L	0.002198	0.00185	0.002198	118.79%
Si 288.158†	9.8	0.00571	mg/L	0.006196	0.00571	0.006196	108.51%
Sn 189.927†	2.8	0.00082	mg/L	0.001327	0.00082	0.001327	162.51%
Sr 421.552†	31.8	0.00004	mg/L	0.000030	0.00004	0.000030	78.62%
Ti 334.903†	5.9	0.00036	mg/L	0.000205	0.00036	0.000205	56.79%
Tl 190.801†	-5.8	-0.00267	mg/L	0.001895	-0.00267	0.001895	71.00%
V 292.402†	15.1	0.00010	mg/L	0.000128	0.00010	0.000128	128.32%
Zn 206.200†	2.6	0.00076	mg/L	0.000560	0.00076	0.000560	73.77%

Sequence No.: 82

Sample ID: YE47 MB1 TWC

Autosampler Location: 369

Date Collected: 3/28/2014 2:22:46 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE47 MB1 TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE47 MB1 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
SCA 357.253	2857545.5	100.2	%	0.03				0.03%
ScR 361.383	247694.1	100.7	%	0.64				0.64%
Ag 328.068†	-10.3	-0.00005	mg/L	0.000049	-0.00005	mg/L	0.000049	92.07%
Al 308.215†	7.2	0.00550	mg/L	0.006593	0.00550	mg/L	0.006593	119.80%
As 188.979†	0.1	0.00006	mg/L	0.003069	0.00006	mg/L	0.003069	>999.9%
B 249.677†	1.1	0.00019	mg/L	0.000919	0.00019	mg/L	0.000919	476.88%
Ba 233.527†	-2.1	-0.00053	mg/L	0.000386	-0.00053	mg/L	0.000386	73.07%
Be 313.042†	25.8	0.00005	mg/L	0.000023	0.00005	mg/L	0.000023	43.98%
Ca 317.933†	74.4	0.00754	mg/L	0.000184	0.00754	mg/L	0.000184	2.43%
Cd 228.802†	-8.0	-0.00024	mg/L	0.000104	-0.00024	mg/L	0.000104	42.58%
Co 228.616†	2.4	0.00006	mg/L	0.000141	0.00006	mg/L	0.000141	224.50%
Cr 267.716†	4.8	0.00097	mg/L	0.000547	0.00097	mg/L	0.000547	56.22%
Cu 324.752†	186.8	0.00067	mg/L	0.000177	0.00067	mg/L	0.000177	26.55%
Fe 273.955†	1.6	0.00145	mg/L	0.000853	0.00145	mg/L	0.000853	58.90%
K 766.490†	40.4	0.01794	mg/L	0.007236	0.01794	mg/L	0.007236	40.33%
Mg 279.077†	-4.0	-0.00350	mg/L	0.009443	-0.00350	mg/L	0.009443	270.05%
Mn 257.610†	3.4	0.00011	mg/L	0.000028	0.00011	mg/L	0.000028	25.61%
Mo 202.031†	4.7	0.00025	mg/L	0.000292	0.00025	mg/L	0.000292	116.17%
Na 589.592†	524.2	0.03950	mg/L	0.001940	0.03950	mg/L	0.001940	4.91%
Na 330.237†	4.8	0.2293	mg/L	0.14275	0.2293	mg/L	0.14275	62.26%
Ni 231.604†	1.8	0.00054	mg/L	0.000769	0.00054	mg/L	0.000769	143.37%
Pb 220.353†	5.0	0.00061	mg/L	0.000531	0.00061	mg/L	0.000531	86.87%
Sb 206.836†	10.0	0.00319	mg/L	0.000234	0.00319	mg/L	0.000234	7.31%
Se 196.026†	0.8	0.00056	mg/L	0.000939	0.00056	mg/L	0.000939	168.77%
Si 288.158†	25.2	0.01474	mg/L	0.004479	0.01474	mg/L	0.004479	30.39%
Sn 189.927†	0.5	0.00016	mg/L	0.000790	0.00016	mg/L	0.000790	489.86%
Sr 421.552†	17.5	0.00002	mg/L	0.000006	0.00002	mg/L	0.000006	26.65%
Ti 334.903†	-2.9	-0.00018	mg/L	0.000144	-0.00018	mg/L	0.000144	81.67%
Tl 190.801†	-5.1	-0.00236	mg/L	0.000183	-0.00236	mg/L	0.000183	7.75%
V 292.402†	-20.2	-0.00013	mg/L	0.000083	-0.00013	mg/L	0.000083	64.46%
Zn 206.200†	6.4	0.00188	mg/L	0.000758	0.00188	mg/L	0.000758	40.30%

Sequence No.: 83
 Sample ID: YE47 A TWC

Autosampler Location: 370
 Date Collected: 3/28/2014 2:26:47 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE47 A TWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE47 A TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2884096.4	101.2	%	1.00			0.99%
ScR 361.383	248057.4	100.9	%	0.34			0.34%
Ag 328.068†	-19.3	-0.00002	mg/L	0.000041	-0.00002 mg/L	0.000041	274.05%
Al 308.215†	1681.2	1.286	mg/L	0.0014	1.286 mg/L	0.0014	0.11%
As 188.979†	14.3	0.00913	mg/L	0.000793	0.00913 mg/L	0.000793	8.69%
B 249.677†	256.1	0.04528	mg/L	0.000974	0.04528 mg/L	0.000974	2.15%
Ba 233.527†	48.1	0.01179	mg/L	0.001200	0.01179 mg/L	0.001200	10.18%
Be 313.042†	47.2	0.00009	mg/L	0.000013	0.00009 mg/L	0.000013	13.78%
Ca 317.933†	133174.5	13.50	mg/L	0.043	13.50 mg/L	0.043	0.32%
Cd 228.802†	14.7	0.00038	mg/L	0.000196	0.00038 mg/L	0.000196	51.84%
Co 228.616†	304.7	0.00776	mg/L	0.000131	0.00776 mg/L	0.000131	1.69%
Cr 267.716†	259.9	0.05239	mg/L	0.000915	0.05239 mg/L	0.000915	1.75%
Cu 324.752†	3315.7	0.01191	mg/L	0.000233	0.01191 mg/L	0.000233	1.96%
Fe 273.955†	4117.0	3.720	mg/L	0.0058	3.720 mg/L	0.0058	0.16%
K 766.490†	1271.7	0.5651	mg/L	0.01929	0.5651 mg/L	0.01929	3.41%
Mg 279.077†	3405.3	2.942	mg/L	0.0040	2.942 mg/L	0.0040	0.13%
Mn 257.610†	6332.7	0.2091	mg/L	0.00036	0.2091 mg/L	0.00036	0.17%
Mo 202.031†	51.6	0.00257	mg/L	0.000070	0.00257 mg/L	0.000070	2.72%
Na 589.592†	81420.6	6.135	mg/L	0.0099	6.135 mg/L	0.0099	0.16%
Na 330.237†	136.2	6.398	mg/L	0.0831	6.398 mg/L	0.0831	1.30%
Ni 231.604†	4.8	0.00142	mg/L	0.000834	0.00142 mg/L	0.000834	58.66%
Pb 220.353†	4.2	0.00074	mg/L	0.001031	0.00074 mg/L	0.001031	139.28%
Sb 206.836†	4.8	0.00087	mg/L	0.001463	0.00087 mg/L	0.001463	167.76%
Se 196.026†	4.5	0.00318	mg/L	0.002261	0.00318 mg/L	0.002261	71.17%
Si 288.158†	15075.9	8.807	mg/L	0.0125	8.807 mg/L	0.0125	0.14%
Sn 189.927†	-20.9	-0.00448	mg/L	0.000519	-0.00448 mg/L	0.000519	11.58%
Sr 421.552†	41366.3	0.05026	mg/L	0.000048	0.05026 mg/L	0.000048	0.10%
Ti 334.903†	983.6	0.05938	mg/L	0.000832	0.05938 mg/L	0.000832	1.40%
Tl 190.801†	-1.3	-0.00027	mg/L	0.002639	-0.00027 mg/L	0.002639	991.00%
V 292.402†	1506.0	0.00994	mg/L	0.000119	0.00994 mg/L	0.000119	1.20%
Zn 206.200†	9.2	0.00434	mg/L	0.001009	0.00434 mg/L	0.001009	23.25%

Sequence No.: 84
 Sample ID: YE47 B TWC

Autosampler Location: 371
 Date Collected: 3/28/2014 2:30:47 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE47 B TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE47 B TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2853581.5	100.1	%	0.16			0.16%
ScR 361.383	247292.5	100.6	%	0.88			0.87%
Ag 328.068†	-14.5	0.00013	mg/L	0.000168	0.00013 mg/L	0.000168	130.93%
Al 308.215†	1182.6	0.9044	mg/L	0.01114	0.9044 mg/L	0.01114	1.23%
As 188.979†	28.2	0.01604	mg/L	0.001987	0.01604 mg/L	0.001987	12.39%
B 249.677†	172.2	0.03046	mg/L	0.001102	0.03046 mg/L	0.001102	3.62%
Ba 233.527†	61.2	0.01475	mg/L	0.000986	0.01475 mg/L	0.000986	6.68%
Be 313.042†	59.8	0.00012	mg/L	0.000009	0.00012 mg/L	0.000009	7.51%
Ca 317.933†	327664.8	33.21	mg/L	0.059	33.21 mg/L	0.059	0.18%
Cd 228.802†	-6.1	-0.00032	mg/L	0.000128	-0.00032 mg/L	0.000128	39.90%
Co 228.616†	76.5	0.00184	mg/L	0.000080	0.00184 mg/L	0.000080	4.34%
Cr 267.716†	21.7	0.00342	mg/L	0.000057	0.00342 mg/L	0.000057	1.65%
Cu 324.752†	3404.0	0.01225	mg/L	0.000089	0.01225 mg/L	0.000089	0.72%
Fe 273.955†	7042.2	6.364	mg/L	0.0922	6.364 mg/L	0.0922	1.45%
K 766.490†	1644.7	0.7309	mg/L	0.00970	0.7309 mg/L	0.00970	1.33%
Mg 279.077†	11343.3	9.807	mg/L	0.1139	9.807 mg/L	0.1139	1.16%
Mn 257.610†	31022.7	1.025	mg/L	0.0126	1.025 mg/L	0.0126	1.23%
Mo 202.031†	86.2	0.00413	mg/L	0.000100	0.00413 mg/L	0.000100	2.42%
Na 589.592†	120836.1	9.106	mg/L	0.0228	9.106 mg/L	0.0228	0.25%
Na 330.237†	204.3	9.512	mg/L	0.2840	9.512 mg/L	0.2840	2.99%
Ni 231.604†	17.0	0.00507	mg/L	0.000349	0.00507 mg/L	0.000349	6.89%
Pb 220.353†	-7.4	-0.00098	mg/L	0.000479	-0.00098 mg/L	0.000479	49.05%
Sb 206.836†	5.1	0.00158	mg/L	0.001264	0.00158 mg/L	0.001264	80.14%
Se 196.026†	5.3	0.00377	mg/L	0.004442	0.00377 mg/L	0.004442	117.69%
Si 288.158†	23820.3	13.92	mg/L	0.164	13.92 mg/L	0.164	1.18%
Sn 189.927†	-43.6	-0.00877	mg/L	0.000635	-0.00877 mg/L	0.000635	7.24%
Sr 421.552†	109324.3	0.1328	mg/L	0.00031	0.1328 mg/L	0.00031	0.24%
Ti 334.903†	1217.3	0.07233	mg/L	0.000820	0.07233 mg/L	0.000820	1.13%
Tl 190.801†	3.1	0.00214	mg/L	0.001989	0.00214 mg/L	0.001989	93.04%
V 292.402†	1463.2	0.00942	mg/L	0.000142	0.00942 mg/L	0.000142	1.51%
Zn 206.200†	4.6	0.00395	mg/L	0.000418	0.00395 mg/L	0.000418	10.57%

Sequence No.: 85
 Sample ID: YE47 C TWC

Autosampler Location: 372
 Date Collected: 3/28/2014 2:35:02 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE47 C TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YE47 C TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2894238.5	101.5	%	0.45			0.44%
ScR 361.383	250946.7	102.1	%	0.80			0.78%
Ag 328.068†	-35.7	-0.00004	mg/L	0.000212	-0.00004 mg/L	0.000212	493.49%
Al 308.215†	13163.5	10.07	mg/L	0.016	10.07 mg/L	0.016	0.16%
As 188.979†	1.2	0.01696	mg/L	0.000281	0.01696 mg/L	0.000281	1.66%
B 249.677†	101.2	0.01789	mg/L	0.000421	0.01789 mg/L	0.000421	2.35%
Ba 233.527†	262.6	0.06480	mg/L	0.001526	0.06480 mg/L	0.001526	2.36%
Be 313.042†	91.5	0.00017	mg/L	0.000023	0.00017 mg/L	0.000023	13.89%
Ca 317.933†	212919.5	21.58	mg/L	0.085	21.58 mg/L	0.085	0.39%
Cd 228.802†	-6.6	-0.00035	mg/L	0.000114	-0.00035 mg/L	0.000114	32.78%
Co 228.616†	379.1	0.00887	mg/L	0.000175	0.00887 mg/L	0.000175	1.98%
Cr 267.716†	84.9	0.01671	mg/L	0.000339	0.01671 mg/L	0.000339	2.03%
Cu 324.752†	4825.5	0.01778	mg/L	0.000194	0.01778 mg/L	0.000194	1.09%
Fe 273.955†	19618.3	17.73	mg/L	0.086	17.73 mg/L	0.086	0.49%
K 766.490†	2397.4	1.065	mg/L	0.0095	1.065 mg/L	0.0095	0.90%
Mg 279.077†	10977.5	9.484	mg/L	0.0108	9.484 mg/L	0.0108	0.11%
Mn 257.610†	34692.0	1.146	mg/L	0.0043	1.146 mg/L	0.0043	0.38%
Mo 202.031†	59.5	0.00287	mg/L	0.000485	0.00287 mg/L	0.000485	16.87%
Na 589.592†	141836.5	10.69	mg/L	0.023	10.69 mg/L	0.023	0.22%
Na 330.237†	243.3	11.55	mg/L	0.349	11.55 mg/L	0.349	3.02%
Ni 231.604†	58.4	0.01735	mg/L	0.000779	0.01735 mg/L	0.000779	4.49%
Pb 220.353†	-16.8	-0.00034	mg/L	0.001161	-0.00034 mg/L	0.001161	339.76%
Sb 206.836†	3.9	0.00147	mg/L	0.003140	0.00147 mg/L	0.003140	213.81%
Se 196.026†	6.2	0.00440	mg/L	0.002142	0.00440 mg/L	0.002142	48.70%
Si 288.158†	42491.7	24.82	mg/L	0.011	24.82 mg/L	0.011	0.04%
Sn 189.927†	-38.5	-0.00859	mg/L	0.001632	-0.00859 mg/L	0.001632	19.00%
Sr 421.552†	95690.2	0.1163	mg/L	0.00031	0.1163 mg/L	0.00031	0.27%
Ti 334.903†	8296.6	0.5075	mg/L	0.00865	0.5075 mg/L	0.00865	1.70%
Tl 190.801†	0.5	0.00207	mg/L	0.001213	0.00207 mg/L	0.001213	58.71%
V 292.402†	5858.2	0.03758	mg/L	0.000195	0.03758 mg/L	0.000195	0.52%
Zn 206.200†	70.3	0.02524	mg/L	0.000610	0.02524 mg/L	0.000610	2.42%

Sequence No.: 86
 Sample ID: YE47 D TWC

Autosampler Location: 373
 Date Collected: 3/28/2014 2:39:02 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE47 D TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE47 D TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2881589.1	101.1	%	1.20				1.19%
ScR 361.383	247380.5	100.6	%	0.50				0.50%
Ag 328.068†	-81.7	-0.00030	mg/L	0.000184	-0.00030	mg/L	0.000184	61.28%
Al 308.215†	16154.7	12.36	mg/L	0.055	12.36	mg/L	0.055	0.45%
As 188.979†	4.1	0.01878	mg/L	0.000522	0.01878	mg/L	0.000522	2.78%
B 249.677†	192.8	0.03409	mg/L	0.000549	0.03409	mg/L	0.000549	1.61%
Ba 233.527†	515.7	0.1294	mg/L	0.00173	0.1294	mg/L	0.00173	1.34%
Be 313.042†	268.1	0.00052	mg/L	0.000038	0.00052	mg/L	0.000038	7.26%
Ca 317.933†	172462.6	17.48	mg/L	0.014	17.48	mg/L	0.014	0.08%
Cd 228.802†	7.8	0.00006	mg/L	0.000193	0.00006	mg/L	0.000193	321.89%
Co 228.616†	423.8	0.01002	mg/L	0.000072	0.01002	mg/L	0.000072	0.72%
Cr 267.716†	149.2	0.03016	mg/L	0.000688	0.03016	mg/L	0.000688	2.28%
Cu 324.752†	10049.8	0.03658	mg/L	0.000606	0.03658	mg/L	0.000606	1.66%
Fe 273.955†	23303.1	21.06	mg/L	0.125	21.06	mg/L	0.125	0.59%
K 766.490†	3386.3	1.505	mg/L	0.0191	1.505	mg/L	0.0191	1.27%
Mg 279.077†	7285.5	6.288	mg/L	0.0089	6.288	mg/L	0.0089	0.14%
Mn 257.610†	14196.5	0.4688	mg/L	0.00255	0.4688	mg/L	0.00255	0.54%
Mo 202.031†	110.9	0.00571	mg/L	0.000057	0.00571	mg/L	0.000057	1.00%
Na 589.592†	184872.0	13.93	mg/L	0.039	13.93	mg/L	0.039	0.28%
Na 330.237†	301.4	14.32	mg/L	0.115	14.32	mg/L	0.115	0.80%
Ni 231.604†	65.2	0.01939	mg/L	0.000756	0.01939	mg/L	0.000756	3.90%
Pb 220.353†	-11.0	0.00077	mg/L	0.000418	0.00077	mg/L	0.000418	53.91%
Sb 206.836†	6.7	0.00226	mg/L	0.000396	0.00226	mg/L	0.000396	17.54%
Se 196.026†	7.5	0.00531	mg/L	0.000955	0.00531	mg/L	0.000955	17.99%
Si 288.158†	44762.9	26.15	mg/L	0.111	26.15	mg/L	0.111	0.43%
Sn 189.927†	-33.1	-0.00751	mg/L	0.000926	-0.00751	mg/L	0.000926	12.34%
Sr 421.552†	86584.9	0.1052	mg/L	0.00036	0.1052	mg/L	0.00036	0.34%
Ti 334.903†	8219.8	0.5030	mg/L	0.00592	0.5030	mg/L	0.00592	1.18%
Tl 190.801†	-4.8	-0.00004	mg/L	0.002585	-0.00004	mg/L	0.002585	>999.9%
V 292.402†	8083.2	0.05202	mg/L	0.000699	0.05202	mg/L	0.000699	1.34%
Zn 206.200†	97.0	0.03330	mg/L	0.000611	0.03330	mg/L	0.000611	1.84%

Sequence No.: 87

Sample ID: YE47 MB13PK TWC

Autosampler Location: 374

Date Collected: 3/28/2014 2:43:17 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE47 MB13PK TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE47 MB13PK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2876161.3	100.9	%	0.67				0.66%
ScR 361.383	247852.5	100.8	%	0.69				0.69%
Ag 328.068†	104162.7	0.5349	mg/L	0.00504	0.5349	mg/L	0.00504	0.94%
Al 308.215†	2693.2	2.053	mg/L	0.0079	2.053	mg/L	0.0079	0.38%
As 188.979†	3547.9	2.048	mg/L	0.0095	2.048	mg/L	0.0095	0.46%
B 249.677†	7.8	0.00031	mg/L	0.000858	0.00031	mg/L	0.000858	278.96%
Ba 233.527†	8173.9	2.102	mg/L	0.0049	2.102	mg/L	0.0049	0.23%
Be 313.042†	251369.0	0.5047	mg/L	0.00025	0.5047	mg/L	0.00025	0.05%
Ca 317.933†	100834.6	10.22	mg/L	0.024	10.22	mg/L	0.024	0.23%
Cd 228.802†	17101.6	0.5166	mg/L	0.00548	0.5166	mg/L	0.00548	1.06%
Co 228.616†	19516.6	0.5034	mg/L	0.00622	0.5034	mg/L	0.00622	1.24%
Cr 267.716†	2616.5	0.5289	mg/L	0.00141	0.5289	mg/L	0.00141	0.27%
Cu 324.752†	141822.4	0.5052	mg/L	0.00523	0.5052	mg/L	0.00523	1.04%
Fe 273.955†	2325.7	2.098	mg/L	0.0161	2.098	mg/L	0.0161	0.77%
K 766.490†	23093.7	10.26	mg/L	0.029	10.26	mg/L	0.029	0.29%
Mg 279.077†	12028.2	10.41	mg/L	0.029	10.41	mg/L	0.029	0.28%
Mn 257.610†	14988.9	0.4955	mg/L	0.00217	0.4955	mg/L	0.00217	0.44%
Mo 202.031†	26.9	0.00129	mg/L	0.000219	0.00129	mg/L	0.000219	17.01%
Na 589.592†	138464.7	10.43	mg/L	0.013	10.43	mg/L	0.013	0.13%
Na 330.237†	233.5	10.87	mg/L	0.163	10.87	mg/L	0.163	1.50%
Ni 231.604†	1740.8	0.5165	mg/L	0.00099	0.5165	mg/L	0.00099	0.19%
Pb 220.353†	16636.0	2.028	mg/L	0.0287	2.028	mg/L	0.0287	1.42%
Sb 206.836†	15.8	-0.00002	mg/L	0.001522	-0.00002	mg/L	0.001522	>999.9%
Se 196.026†	2807.1	2.005	mg/L	0.0061	2.005	mg/L	0.0061	0.30%
Si 288.158†	161.5	0.09792	mg/L	0.030780	0.09792	mg/L	0.030780	31.43%
Sn 189.927†	-16.8	-0.00362	mg/L	0.000634	-0.00362	mg/L	0.000634	17.52%
Sr 421.552†	419270.9	0.5094	mg/L	0.00047	0.5094	mg/L	0.00047	0.09%
Ti 334.903†	22.0	0.00053	mg/L	0.000496	0.00053	mg/L	0.000496	93.95%
Tl 190.801†	4339.0	2.002	mg/L	0.0082	2.002	mg/L	0.0082	0.41%
V 292.402†	77453.5	0.5129	mg/L	0.00518	0.5129	mg/L	0.00518	1.01%
Zn 206.200†	1730.1	0.5074	mg/L	0.00267	0.5074	mg/L	0.00267	0.53%

YE22:00136

Sequence No.: 88

Sample ID: CV 9

Autosampler Location: 7

Date Collected: 3/28/2014 2:47:17 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2887630.9	101.3	%	0.62			0.61%
ScR 361.383	242678.7	98.71	%	0.621			0.63%
Ag 328.068†	204318.0	1.049	mg/L	0.0098	1.049 mg/L	0.0098	0.94%
Al 308.215†	2710.7	2.042	mg/L	0.0142	2.042 mg/L	0.0142	0.69%
As 188.979†	3444.9	2.021	mg/L	0.0112	2.021 mg/L	0.0112	0.55%
B 249.677†	5792.5	1.024	mg/L	0.0021	1.024 mg/L	0.0021	0.21%
Ba 233.527†	4006.3	1.030	mg/L	0.0020	1.030 mg/L	0.0020	0.19%
Be 313.042†	501544.7	1.007	mg/L	0.0027	1.007 mg/L	0.0027	0.27%
Ca 317.933†	20731.9	2.102	mg/L	0.0082	2.102 mg/L	0.0082	0.39%
Cd 228.802†	33391.5	1.019	mg/L	0.0083	1.019 mg/L	0.0083	0.82%
Co 228.616†	38526.9	0.9925	mg/L	0.00975	0.9925 mg/L	0.00975	0.98%
Cr 267.716†	5221.0	1.057	mg/L	0.0038	1.057 mg/L	0.0038	0.36%
Cu 324.752†	293202.5	1.044	mg/L	0.0107	1.044 mg/L	0.0107	1.02%
Fe 273.955†	2328.8	2.098	mg/L	0.0166	2.098 mg/L	0.0166	0.79%
K 766.490†	45813.1	20.36	mg/L	0.119	20.36 mg/L	0.119	0.59%
Mg 279.077†	2299.0	1.995	mg/L	0.0063	1.995 mg/L	0.0063	0.32%
Mn 257.610†	29728.5	0.9825	mg/L	0.00171	0.9825 mg/L	0.00171	0.17%
Mo 202.031†	18153.0	0.9781	mg/L	0.00523	0.9781 mg/L	0.00523	0.54%
Na 589.592†	690241.5	52.01	mg/L	0.168	52.01 mg/L	0.168	0.32%
Na 330.237†	1093.7	51.86	mg/L	0.231	51.86 mg/L	0.231	0.44%
Ni 231.604†	3501.4	1.041	mg/L	0.0039	1.041 mg/L	0.0039	0.38%
Pb 220.353†	16644.9	2.029	mg/L	0.0117	2.029 mg/L	0.0117	0.58%
Sb 206.836†	6427.5	2.053	mg/L	0.0137	2.053 mg/L	0.0137	0.67%
Se 196.026†	2772.1	1.979	mg/L	0.0084	1.979 mg/L	0.0084	0.42%
Si 288.158†	3479.9	2.038	mg/L	0.0246	2.038 mg/L	0.0246	1.21%
Sn 189.927†	3326.1	0.9782	mg/L	0.00922	0.9782 mg/L	0.00922	0.94%
Sr 421.552†	845649.6	1.027	mg/L	0.0025	1.027 mg/L	0.0025	0.24%
Ti 334.903†	16416.5	1.006	mg/L	0.0017	1.006 mg/L	0.0017	0.16%
Tl 190.801†	4412.8	2.033	mg/L	0.0098	2.033 mg/L	0.0098	0.48%
V 292.402†	153078.3	1.014	mg/L	0.0104	1.014 mg/L	0.0104	1.02%
Zn 206.200†	3496.1	1.025	mg/L	0.0037	1.025 mg/L	0.0037	0.37%

Sequence No.: 89

Sample ID: CB 9

Autosampler Location: 1

Date Collected: 3/28/2014 2:51:21 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904595.0	101.9	%	0.57			0.56%
ScR 361.383	248656.6	101.1	%	0.41			0.40%
Ag 328.068†	-1.1	-0.00001	mg/L	0.000221	-0.00001 mg/L	0.000221	>999.9%
Al 308.215†	10.4	0.00794	mg/L	0.003262	0.00794 mg/L	0.003262	41.07%
As 188.979†	1.2	0.00069	mg/L	0.001030	0.00069 mg/L	0.001030	148.93%
B 249.677†	12.3	0.00218	mg/L	0.001617	0.00218 mg/L	0.001617	74.28%
Ba 233.527†	1.9	0.00049	mg/L	0.000397	0.00049 mg/L	0.000397	80.37%
Be 313.042†	71.4	0.00014	mg/L	0.000029	0.00014 mg/L	0.000029	20.25%
Ca 317.933†	8.1	0.00083	mg/L	0.001137	0.00083 mg/L	0.001137	137.58%
Cd 228.802†	-4.5	-0.00014	mg/L	0.000074	-0.00014 mg/L	0.000074	51.38%
Co 228.616†	5.9	0.00015	mg/L	0.000046	0.00015 mg/L	0.000046	30.33%
Cr 267.716†	4.9	0.00099	mg/L	0.001898	0.00099 mg/L	0.001898	191.27%
Cu 324.752†	215.7	0.00077	mg/L	0.000264	0.00077 mg/L	0.000264	34.38%
Fe 273.955†	0.1	0.00013	mg/L	0.004287	0.00013 mg/L	0.004287	>999.9%
K 766.490†	55.3	0.02456	mg/L	0.006931	0.02456 mg/L	0.006931	28.23%
Mg 279.077†	-3.9	-0.00337	mg/L	0.000447	-0.00337 mg/L	0.000447	13.24%
Mn 257.610†	4.4	0.00015	mg/L	0.000080	0.00015 mg/L	0.000080	54.98%
Mo 202.031†	17.8	0.00096	mg/L	0.000271	0.00096 mg/L	0.000271	28.22%
Na 589.592†	536.1	0.04040	mg/L	0.004466	0.04040 mg/L	0.004466	11.05%
Na 330.237†	4.8	0.2292	mg/L	0.22059	0.2292 mg/L	0.22059	96.24%
Ni 231.604†	-1.5	-0.00044	mg/L	0.000044	-0.00044 mg/L	0.000044	10.12%
Pb 220.353†	5.4	0.00066	mg/L	0.000260	0.00066 mg/L	0.000260	39.35%
Sb 206.836†	27.4	0.00876	mg/L	0.001666	0.00876 mg/L	0.001666	19.02%
Se 196.026†	-0.9	-0.00065	mg/L	0.001786	-0.00065 mg/L	0.001786	276.30%
Si 288.158†	26.4	0.01544	mg/L	0.005575	0.01544 mg/L	0.005575	36.12%
Sn 189.927†	0.7	0.00021	mg/L	0.001114	0.00021 mg/L	0.001114	519.59%
Sr 421.552†	136.0	0.00017	mg/L	0.000036	0.00017 mg/L	0.000036	21.70%
Ti 334.903†	7.3	0.00045	mg/L	0.000665	0.00045 mg/L	0.000665	148.98%
Tl 190.801†	-2.9	-0.00135	mg/L	0.000572	-0.00135 mg/L	0.000572	42.50%
V 292.402†	9.0	0.00006	mg/L	0.000120	0.00006 mg/L	0.000120	188.47%
Zn 206.200†	2.7	0.00079	mg/L	0.000241	0.00079 mg/L	0.000241	30.68%

Sequence No.: 90
 Sample ID: YE47 MB2 WMN

Autosampler Location: 375
 Date Collected: 3/28/2014 2:55:21 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE47 MB2 WMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE47 MB2 WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2952081.5	103.6	%	0.37				0.36%
ScR 361.383	254628.1	103.6	%	0.44				0.42%
Ag 328.068†	0.2	0.00000	mg/L	0.000326	0.00000	mg/L	0.000326	>999.9%
Al 308.215†	-1.0	-0.00074	mg/L	0.001417	-0.00074	mg/L	0.001417	191.42%
As 188.979†	3.0	0.00173	mg/L	0.001717	0.00173	mg/L	0.001717	99.42%
B 249.677†	-2.3	-0.00041	mg/L	0.000862	-0.00041	mg/L	0.000862	211.21%
Ba 233.527†	0.9	0.00023	mg/L	0.000383	0.00023	mg/L	0.000383	166.43%
Be 313.042†	30.9	0.00006	mg/L	0.000010	0.00006	mg/L	0.000010	16.82%
Ca 317.933†	8.5	0.00086	mg/L	0.001757	0.00086	mg/L	0.001757	203.36%
Cd 228.802†	-3.0	-0.00010	mg/L	0.000093	-0.00010	mg/L	0.000093	92.23%
Co 228.616†	15.4	0.00040	mg/L	0.000154	0.00040	mg/L	0.000154	38.78%
Cr 267.716†	2.9	0.00059	mg/L	0.000860	0.00059	mg/L	0.000860	144.73%
Cu 324.752†	227.7	0.00081	mg/L	0.000054	0.00081	mg/L	0.000054	6.68%
Fe 273.955†	0.4	0.00040	mg/L	0.002682	0.00040	mg/L	0.002682	666.24%
K 766.490†	53.8	0.02391	mg/L	0.015830	0.02391	mg/L	0.015830	66.21%
Mg 279.077†	-3.1	-0.00268	mg/L	0.003244	-0.00268	mg/L	0.003244	121.12%
Mn 257.610†	-5.4	-0.00018	mg/L	0.000082	-0.00018	mg/L	0.000082	46.42%
Mo 202.031†	-4.9	-0.00026	mg/L	0.000320	-0.00026	mg/L	0.000320	121.59%
Na 589.592†	688.9	0.05191	mg/L	0.000577	0.05191	mg/L	0.000577	1.11%
Na 330.237†	2.7	0.1282	mg/L	0.11442	0.1282	mg/L	0.11442	89.27%
Ni 231.604†	-1.0	-0.00030	mg/L	0.001578	-0.00030	mg/L	0.001578	528.27%
Pb 220.353†	3.5	0.00043	mg/L	0.000603	0.00043	mg/L	0.000603	141.30%
Sb 206.836†	-9.0	-0.00289	mg/L	0.002211	-0.00289	mg/L	0.002211	76.63%
Se 196.026†	7.0	0.00501	mg/L	0.004698	0.00501	mg/L	0.004698	93.73%
Si 288.158†	-14.8	-0.00867	mg/L	0.001029	-0.00867	mg/L	0.001029	11.88%
Sn 189.927†	-0.2	-0.00006	mg/L	0.000410	-0.00006	mg/L	0.000410	644.36%
Sr 421.552†	27.0	0.00003	mg/L	0.000012	0.00003	mg/L	0.000012	36.37%
Ti 334.903†	-7.2	-0.00044	mg/L	0.000334	-0.00044	mg/L	0.000334	75.59%
Tl 190.801†	0.9	0.00043	mg/L	0.001533	0.00043	mg/L	0.001533	360.54%
V 292.402†	8.8	0.00006	mg/L	0.000082	0.00006	mg/L	0.000082	134.92%
Zn 206.200†	5.3	0.00155	mg/L	0.000862	0.00155	mg/L	0.000862	55.55%

Sequence No.: 91
Sample ID: YE47 E WMN

Autosampler Location: 376
Date Collected: 3/28/2014 2:59:22 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE47 E WMN

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE47 E WMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2974441.9	104.3 %	0.47			0.45%
ScR 361.383	255866.0	104.1 %	1.55			1.48%
Ag 328.068†	-42.8	-0.00014 mg/L	0.000176	-0.00014 mg/L	0.000176	124.19%
Al 308.215†	45.2	0.03456 mg/L	0.004102	0.03456 mg/L	0.004102	11.87%
As 188.979†	17.3	0.00895 mg/L	0.001170	0.00895 mg/L	0.001170	13.07%
B 249.677†	211.7	0.03745 mg/L	0.000679	0.03745 mg/L	0.000679	1.81%
Ba 233.527†	8.1	0.00198 mg/L	0.000288	0.00198 mg/L	0.000288	14.51%
Be 313.042†	26.4	0.00005 mg/L	0.000022	0.00005 mg/L	0.000022	42.35%
Ca 317.933†	126797.7	12.85 mg/L	0.083	12.85 mg/L	0.083	0.64%
Cd 228.802†	-0.1	-0.00006 mg/L	0.000077	-0.00006 mg/L	0.000077	129.65%
Co 228.616†	98.7	0.00254 mg/L	0.000187	0.00254 mg/L	0.000187	7.35%
Cr 267.716†	25.8	0.00488 mg/L	0.000908	0.00488 mg/L	0.000908	18.60%
Cu 324.752†	320.1	0.00111 mg/L	0.000042	0.00111 mg/L	0.000042	3.75%
Fe 273.955†	656.7	0.5934 mg/L	0.00579	0.5934 mg/L	0.00579	0.98%
K 766.490†	1057.1	0.4698 mg/L	0.01588	0.4698 mg/L	0.01588	3.38%
Mg 279.077†	3195.1	2.763 mg/L	0.0104	2.763 mg/L	0.0104	0.38%
Mn 257.610†	5627.2	0.1858 mg/L	0.00123	0.1858 mg/L	0.00123	0.66%
Mo 202.031†	46.5	0.00231 mg/L	0.000138	0.00231 mg/L	0.000138	5.98%
Na 589.592†	80415.9	6.060 mg/L	0.0227	6.060 mg/L	0.0227	0.37%
Na 330.237†	136.7	6.410 mg/L	0.1186	6.410 mg/L	0.1186	1.85%
Ni 231.604†	5.4	0.00159 mg/L	0.001231	0.00159 mg/L	0.001231	77.26%
Pb 220.353†	0.1	-0.00000 mg/L	0.000901	-0.00000 mg/L	0.000901	>999.9%
Sb 206.836†	-8.8	-0.00290 mg/L	0.002133	-0.00290 mg/L	0.002133	73.52%
Se 196.026†	10.0	0.00717 mg/L	0.004553	0.00717 mg/L	0.004553	63.49%
Si 288.158†	11778.0	6.880 mg/L	0.0371	6.880 mg/L	0.0371	0.54%
Sn 189.927†	-17.0	-0.00344 mg/L	0.000239	-0.00344 mg/L	0.000239	6.95%
Sr 421.552†	36435.2	0.04427 mg/L	0.000156	0.04427 mg/L	0.000156	0.35%
Ti 334.903†	53.5	0.00237 mg/L	0.000346	0.00237 mg/L	0.000346	14.61%
Tl 190.801†	7.8	0.00365 mg/L	0.002120	0.00365 mg/L	0.002120	58.06%
V 292.402†	87.6	0.00059 mg/L	0.000125	0.00059 mg/L	0.000125	21.02%
Zn 206.200†	-1.9	0.00072 mg/L	0.000413	0.00072 mg/L	0.000413	57.47%

Sequence No.: 92
 Sample ID: YE47 F WMN

Autosampler Location: 377
 Date Collected: 3/28/2014 3:03:38 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE47 F WMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: YE47 F WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2950499.9	103.5	%	0.53			0.51%
ScR 361.383	257008.9	104.5	%	1.50			1.44%
Ag 328.068†	-49.2	-0.00005	mg/L	0.000197	-0.00005 mg/L	0.000197	384.91%
Al 308.215†	24.0	0.01823	mg/L	0.002780	0.01823 mg/L	0.002780	15.25%
As 188.979†	30.1	0.01463	mg/L	0.001597	0.01463 mg/L	0.001597	10.91%
B 249.677†	165.3	0.02924	mg/L	0.000650	0.02924 mg/L	0.000650	2.22%
Ba 233.527†	27.0	0.00669	mg/L	0.000667	0.00669 mg/L	0.000667	9.97%
Be 313.042†	24.3	0.00005	mg/L	0.000042	0.00005 mg/L	0.000042	86.85%
Ca 317.933†	328666.3	33.32	mg/L	0.128	33.32 mg/L	0.128	0.38%
Cd 228.802†	-15.9	-0.00059	mg/L	0.000057	-0.00059 mg/L	0.000057	9.65%
Co 228.616†	71.7	0.00184	mg/L	0.000095	0.00184 mg/L	0.000095	5.16%
Cr 267.716†	14.6	0.00185	mg/L	0.000953	0.00185 mg/L	0.000953	51.50%
Cu 324.752†	1524.3	0.00535	mg/L	0.000275	0.00535 mg/L	0.000275	5.15%
Fe 273.955†	1883.4	1.702	mg/L	0.0261	1.702 mg/L	0.0261	1.53%
K 766.490†	1540.6	0.6846	mg/L	0.01842	0.6846 mg/L	0.01842	2.69%
Mg 279.077†	11336.5	9.804	mg/L	0.1092	9.804 mg/L	0.1092	1.11%
Mn 257.610†	30574.7	1.010	mg/L	0.0135	1.010 mg/L	0.0135	1.33%
Mo 202.031†	91.0	0.00439	mg/L	0.000015	0.00439 mg/L	0.000015	0.35%
Na 589.592†	120270.0	9.063	mg/L	0.0158	9.063 mg/L	0.0158	0.17%
Na 330.237†	200.2	9.299	mg/L	0.1492	9.299 mg/L	0.1492	1.60%
Ni 231.604†	12.1	0.00359	mg/L	0.000573	0.00359 mg/L	0.000573	15.97%
Pb 220.353†	-4.7	-0.00065	mg/L	0.000484	-0.00065 mg/L	0.000484	74.71%
Sb 206.836†	-7.3	-0.00246	mg/L	0.001955	-0.00246 mg/L	0.001955	79.39%
Se 196.026†	15.2	0.01083	mg/L	0.003425	0.01083 mg/L	0.003425	31.62%
Si 288.158†	21612.4	12.63	mg/L	0.096	12.63 mg/L	0.096	0.76%
Sn 189.927†	-39.3	-0.00750	mg/L	0.001203	-0.00750 mg/L	0.001203	16.03%
Sr 421.552†	106412.2	0.1293	mg/L	0.00031	0.1293 mg/L	0.00031	0.24%
Ti 334.903†	94.1	0.00342	mg/L	0.000292	0.00342 mg/L	0.000292	8.53%
Tl 190.801†	9.1	0.00441	mg/L	0.000766	0.00441 mg/L	0.000766	17.37%
V 292.402†	201.8	0.00140	mg/L	0.000107	0.00140 mg/L	0.000107	7.67%
Zn 206.200†	-3.8	0.00123	mg/L	0.000546	0.00123 mg/L	0.000546	44.28%

Sequence No.: 93
Sample ID: YE47 G WMN
Dilution: 1.000000X

Autosampler Location: 378
Date Collected: 3/28/2014 3:07:53 PM
Data Type: Original

Nebulizer Parameters: YE47 G WMN
Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE47 G WMN

Table with 9 columns: Analyte, Mean Corrected Intensity, Conc. Units, Calib. Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 94
 Sample ID: YE47 H WMN

Autosampler Location: 379
 Date Collected: 3/28/2014 3:11:53 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE47 H WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE47 H WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2927158.6	102.7	%	0.25			0.24%
ScR 361.383	255588.4	104.0	%	1.45			1.40%
Ag 328.068†	-29.7	-0.00009	mg/L	0.000136	-0.00009 mg/L	0.000136	145.69%
Al 308.215†	74.7	0.05701	mg/L	0.003369	0.05701 mg/L	0.003369	5.91%
As 188.979†	23.0	0.01259	mg/L	0.001607	0.01259 mg/L	0.001607	12.76%
B 249.677†	180.1	0.03187	mg/L	0.000949	0.03187 mg/L	0.000949	2.98%
Ba 233.527†	20.7	0.00475	mg/L	0.000350	0.00475 mg/L	0.000350	7.38%
Be 313.042†	21.1	0.00004	mg/L	0.000019	0.00004 mg/L	0.000019	46.46%
Ca 317.933†	95628.3	9.693	mg/L	0.0577	9.693 mg/L	0.0577	0.59%
Cd 228.802†	-4.9	-0.00025	mg/L	0.000087	-0.00025 mg/L	0.000087	34.59%
Co 228.616†	34.4	0.00088	mg/L	0.000229	0.00088 mg/L	0.000229	25.98%
Cr 267.716†	4.6	0.00073	mg/L	0.001292	0.00073 mg/L	0.001292	176.01%
Cu 324.752†	190.4	0.00080	mg/L	0.000113	0.00080 mg/L	0.000113	14.12%
Fe 273.955†	4116.1	3.720	mg/L	0.0234	3.720 mg/L	0.0234	0.63%
K 766.490†	1444.8	0.6420	mg/L	0.01119	0.6420 mg/L	0.01119	1.74%
Mg 279.077†	3072.9	2.655	mg/L	0.0206	2.655 mg/L	0.0206	0.78%
Mn 257.610†	6061.0	0.2002	mg/L	0.00107	0.2002 mg/L	0.00107	0.53%
Mo 202.031†	112.5	0.00591	mg/L	0.000184	0.00591 mg/L	0.000184	3.12%
Na 589.592†	175289.7	13.21	mg/L	0.004	13.21 mg/L	0.004	0.03%
Na 330.237†	288.8	13.65	mg/L	0.085	13.65 mg/L	0.085	0.62%
Ni 231.604†	5.2	0.00154	mg/L	0.000687	0.00154 mg/L	0.000687	44.63%
Pb 220.353†	-1.6	-0.00035	mg/L	0.000764	-0.00035 mg/L	0.000764	216.99%
Sb 206.836†	-9.2	-0.00299	mg/L	0.000732	-0.00299 mg/L	0.000732	24.50%
Se 196.026†	13.9	0.00994	mg/L	0.000977	0.00994 mg/L	0.000977	9.83%
Si 288.158†	17920.1	10.47	mg/L	0.064	10.47 mg/L	0.064	0.61%
Sn 189.927†	-17.2	-0.00389	mg/L	0.001021	-0.00389 mg/L	0.001021	26.26%
Sr 421.552†	37152.2	0.04514	mg/L	0.000101	0.04514 mg/L	0.000101	0.22%
Ti 334.903†	75.1	0.00392	mg/L	0.000464	0.00392 mg/L	0.000464	11.83%
Tl 190.801†	5.0	0.00272	mg/L	0.001397	0.00272 mg/L	0.001397	51.45%
V 292.402†	277.4	0.00165	mg/L	0.000047	0.00165 mg/L	0.000047	2.85%
Zn 206.200†	-3.1	0.00103	mg/L	0.000153	0.00103 mg/L	0.000153	14.83%

Sequence No.: 95

Sample ID: YE47 MB2SPK WMN

Autosampler Location: 380

Date Collected: 3/28/2014 3:16:08 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE47 MB2SPK WMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE47 MB2SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2942732.6	103.2	%	0.24				0.23%
ScR 361.383	254203.9	103.4	%	0.84				0.81%
Ag 328.068†	101736.7	0.5224	mg/L	0.00291	0.5224	mg/L	0.00291	0.56%
Al 308.215†	2681.6	2.044	mg/L	0.0069	2.044	mg/L	0.0069	0.34%
As 188.979†	3777.9	2.180	mg/L	0.0022	2.180	mg/L	0.0022	0.10%
B 249.677†	1.9	-0.00075	mg/L	0.000257	-0.00075	mg/L	0.000257	34.43%
Ba 233.527†	8080.2	2.078	mg/L	0.0086	2.078	mg/L	0.0086	0.41%
Be 313.042†	238735.5	0.4794	mg/L	0.00223	0.4794	mg/L	0.00223	0.47%
Ca 317.933†	101378.5	10.28	mg/L	0.007	10.28	mg/L	0.007	0.07%
Cd 228.802†	18028.0	0.5444	mg/L	0.00238	0.5444	mg/L	0.00238	0.44%
Co 228.616†	19804.0	0.5109	mg/L	0.00241	0.5109	mg/L	0.00241	0.47%
Cr 267.716†	2600.6	0.5257	mg/L	0.00343	0.5257	mg/L	0.00343	0.65%
Cu 324.752†	141456.1	0.5039	mg/L	0.00147	0.5039	mg/L	0.00147	0.29%
Fe 273.955†	2299.7	2.075	mg/L	0.0229	2.075	mg/L	0.0229	1.10%
K 766.490†	23335.5	10.37	mg/L	0.032	10.37	mg/L	0.032	0.31%
Mg 279.077†	12118.0	10.48	mg/L	0.057	10.48	mg/L	0.057	0.55%
Mn 257.610†	14902.2	0.4926	mg/L	0.00489	0.4926	mg/L	0.00489	0.99%
Mo 202.031†	17.7	0.00079	mg/L	0.000065	0.00079	mg/L	0.000065	8.14%
Na 589.592†	139437.1	10.51	mg/L	0.036	10.51	mg/L	0.036	0.34%
Na 330.237†	230.7	10.74	mg/L	0.302	10.74	mg/L	0.302	2.82%
Ni 231.604†	1751.3	0.5196	mg/L	0.00141	0.5196	mg/L	0.00141	0.27%
Pb 220.353†	17102.3	2.085	mg/L	0.0078	2.085	mg/L	0.0078	0.37%
Sb 206.836†	5.5	-0.00327	mg/L	0.000616	-0.00327	mg/L	0.000616	18.82%
Se 196.026†	3295.3	2.353	mg/L	0.0067	2.353	mg/L	0.0067	0.29%
Si 288.158†	-29.1	-0.01332	mg/L	0.001319	-0.01332	mg/L	0.001319	9.91%
Sn 189.927†	-19.3	-0.00435	mg/L	0.000988	-0.00435	mg/L	0.000988	22.70%
Sr 421.552†	417171.9	0.5069	mg/L	0.00092	0.5069	mg/L	0.00092	0.18%
Ti 334.903†	16.4	0.00018	mg/L	0.000253	0.00018	mg/L	0.000253	143.74%
Tl 190.801†	4441.1	2.049	mg/L	0.0106	2.049	mg/L	0.0106	0.52%
V 292.402†	78263.3	0.5182	mg/L	0.00224	0.5182	mg/L	0.00224	0.43%
Zn 206.200†	1794.7	0.5263	mg/L	0.00312	0.5263	mg/L	0.00312	0.59%

YE22:00144

Sequence No.: 96
 Sample ID: CV \ O

Autosampler Location: 7
 Date Collected: 3/28/2014 3:20:08 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2847869.9	99.91 %	0.541			0.54%
ScR 361.383	241810.7	98.35 %	0.937			0.95%
Ag 328.068†	205657.3	1.056 mg/L	0.0059	1.056 mg/L	0.0059	0.56%
Al 308.215†	2719.7	2.048 mg/L	0.0275	2.048 mg/L	0.0275	1.34%
As 188.979†	3435.6	2.016 mg/L	0.0133	2.016 mg/L	0.0133	0.66%
B 249.677†	5823.9	1.029 mg/L	0.0082	1.029 mg/L	0.0082	0.80%
Ba 233.527†	4054.6	1.042 mg/L	0.0114	1.042 mg/L	0.0114	1.09%
Be 313.042†	502254.7	1.009 mg/L	0.0072	1.009 mg/L	0.0072	0.71%
Ca 317.933†	20944.0	2.123 mg/L	0.0247	2.123 mg/L	0.0247	1.17%
Cd 228.802†	33500.6	1.022 mg/L	0.0092	1.022 mg/L	0.0092	0.90%
Co 228.616†	38717.3	0.9974 mg/L	0.00729	0.9974 mg/L	0.00729	0.73%
Cr 267.716†	5255.5	1.064 mg/L	0.0104	1.064 mg/L	0.0104	0.98%
Cu 324.752†	294019.7	1.047 mg/L	0.0076	1.047 mg/L	0.0076	0.73%
Fe 273.955†	2345.8	2.113 mg/L	0.0196	2.113 mg/L	0.0196	0.93%
K 766.490†	45801.1	20.35 mg/L	0.121	20.35 mg/L	0.121	0.59%
Mg 279.077†	2322.1	2.015 mg/L	0.0175	2.015 mg/L	0.0175	0.87%
Mn 257.610†	29825.4	0.9857 mg/L	0.00841	0.9857 mg/L	0.00841	0.85%
Mo 202.031†	18197.9	0.9806 mg/L	0.00711	0.9806 mg/L	0.00711	0.72%
Na 589.592†	686188.9	51.71 mg/L	0.183	51.71 mg/L	0.183	0.35%
Na 330.237†	1094.3	51.89 mg/L	0.634	51.89 mg/L	0.634	1.22%
Ni 231.604†	3528.1	1.049 mg/L	0.0065	1.049 mg/L	0.0065	0.62%
Pb 220.353†	16690.4	2.035 mg/L	0.0148	2.035 mg/L	0.0148	0.73%
Sb 206.836†	6426.7	2.053 mg/L	0.0153	2.053 mg/L	0.0153	0.75%
Se 196.026†	2765.0	1.974 mg/L	0.0116	1.974 mg/L	0.0116	0.59%
Si 288.158†	3439.1	2.014 mg/L	0.0348	2.014 mg/L	0.0348	1.73%
Sn 189.927†	3339.5	0.9821 mg/L	0.00799	0.9821 mg/L	0.00799	0.81%
Sr 421.552†	843521.3	1.025 mg/L	0.0050	1.025 mg/L	0.0050	0.49%
Ti 334.903†	16442.9	1.007 mg/L	0.0038	1.007 mg/L	0.0038	0.38%
Tl 190.801†	4424.6	2.038 mg/L	0.0176	2.038 mg/L	0.0176	0.86%
V 292.402†	153976.6	1.020 mg/L	0.0071	1.020 mg/L	0.0071	0.70%
Zn 206.200†	3543.4	1.039 mg/L	0.0093	1.039 mg/L	0.0093	0.89%

Sequence No.: 97
Sample ID: CB 10

Autosampler Location: 1
Date Collected: 3/28/2014 3:24:12 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2881763.2	101.1	%	0.04			0.04%
ScR 361.383	249466.2	101.5	%	0.79			0.78%
Ag 328.068†	-14.0	-0.00007	mg/L	0.000051	-0.00007	0.000051	71.30%
Al 308.215†	10.0	0.00764	mg/L	0.003306	0.00764	0.003306	43.27%
As 188.979†	-0.1	-0.00005	mg/L	0.001910	-0.00005	0.001910	>999.9%
B 249.677†	11.4	0.00202	mg/L	0.000115	0.00202	0.000115	5.68%
Ba 233.527†	-0.1	-0.00003	mg/L	0.000996	-0.00003	0.000996	>999.9%
Be 313.042†	52.7	0.00011	mg/L	0.000006	0.00011	0.000006	5.50%
Ca 317.933†	23.2	0.00235	mg/L	0.000213	0.00235	0.000213	9.08%
Cd 228.802†	-1.3	-0.00004	mg/L	0.000216	-0.00004	0.000216	557.84%
Co 228.616†	9.8	0.00025	mg/L	0.000061	0.00025	0.000061	24.13%
Cr 267.716†	3.4	0.00069	mg/L	0.000559	0.00069	0.000559	80.85%
Cu 324.752†	198.3	0.00071	mg/L	0.000310	0.00071	0.000310	43.91%
Fe 273.955†	3.0	0.00268	mg/L	0.002227	0.00268	0.002227	82.94%
K 766.490†	26.2	0.01166	mg/L	0.010480	0.01166	0.010480	89.92%
Mg 279.077†	-2.3	-0.00198	mg/L	0.003955	-0.00198	0.003955	200.17%
Mn 257.610†	2.3	0.00008	mg/L	0.000203	0.00008	0.000203	269.08%
Mo 202.031†	17.5	0.00094	mg/L	0.000157	0.00094	0.000157	16.61%
Na 589.592†	459.1	0.03459	mg/L	0.003308	0.03459	0.003308	9.56%
Na 330.237†	4.1	0.1935	mg/L	0.15719	0.1935	0.15719	81.23%
Ni 231.604†	-0.9	-0.00025	mg/L	0.001020	-0.00025	0.001020	406.69%
Pb 220.353†	2.5	0.00030	mg/L	0.000493	0.00030	0.000493	162.84%
Sb 206.836†	22.2	0.00710	mg/L	0.001931	0.00710	0.001931	27.19%
Se 196.026†	3.3	0.00238	mg/L	0.004694	0.00238	0.004694	197.44%
Si 288.158†	-6.6	-0.00387	mg/L	0.002460	-0.00387	0.002460	63.48%
Sn 189.927†	2.3	0.00069	mg/L	0.000405	0.00069	0.000405	58.64%
Sr 421.552†	74.0	0.00009	mg/L	0.000045	0.00009	0.000045	50.20%
Ti 334.903†	-6.6	-0.00041	mg/L	0.000548	-0.00041	0.000548	134.94%
Tl 190.801†	-3.4	-0.00156	mg/L	0.000994	-0.00156	0.000994	63.82%
V 292.402†	22.7	0.00015	mg/L	0.000139	0.00015	0.000139	91.16%
Zn 206.200†	1.3	0.00038	mg/L	0.000936	0.00038	0.000936	249.46%

Sequence No.: 98
 Sample ID: YE22 ADUP TWC

Autosampler Location: 361
 Date Collected: 3/28/2014 3:28:13 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE22 ADUP TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YE22 ADUP TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2855706.8	100.2	%	0.59				0.59%
ScR 361.383	247442.1	100.6	%	1.57				1.56%
Ag 328.068†	-21.8	0.00001	mg/L	0.000313	0.00001	mg/L	0.000313	>999.9%
Al 308.215†	13.4	0.01019	mg/L	0.003998	0.01019	mg/L	0.003998	39.25%
As 188.979†	22.1	0.01103	mg/L	0.003529	0.01103	mg/L	0.003529	31.99%
B 249.677†	301.2	0.05328	mg/L	0.000892	0.05328	mg/L	0.000892	1.67%
Ba 233.527†	34.0	0.00874	mg/L	0.000441	0.00874	mg/L	0.000441	5.05%
Be 313.042†	27.5	0.00005	mg/L	0.000033	0.00005	mg/L	0.000033	60.17%
Ca 317.933†	199288.9	20.20	mg/L	0.222	20.20	mg/L	0.222	1.10%
Cd 228.802†	-8.1	-0.00032	mg/L	0.000055	-0.00032	mg/L	0.000055	17.45%
Co 228.616†	3.5	0.00009	mg/L	0.000063	0.00009	mg/L	0.000063	72.91%
Cr 267.716†	11.6	0.00149	mg/L	0.000418	0.00149	mg/L	0.000418	28.00%
Cu 324.752†	266.5	0.00084	mg/L	0.000078	0.00084	mg/L	0.000078	9.21%
Fe 273.955†	7.3	0.00658	mg/L	0.001197	0.00658	mg/L	0.001197	18.18%
K 766.490†	3807.4	1.692	mg/L	0.0656	1.692	mg/L	0.0656	3.87%
Mg 279.077†	8722.5	7.545	mg/L	0.1872	7.545	mg/L	0.1872	2.48%
Mn 257.610†	66.5	0.00206	mg/L	0.000184	0.00206	mg/L	0.000184	8.93%
Mo 202.031†	46.1	0.00217	mg/L	0.000458	0.00217	mg/L	0.000458	21.09%
Na 589.592†	209942.9	15.82	mg/L	0.146	15.82	mg/L	0.146	0.92%
Na 330.237†	346.8	16.34	mg/L	0.211	16.34	mg/L	0.211	1.29%
Ni 231.604†	4.0	0.00120	mg/L	0.001321	0.00120	mg/L	0.001321	109.94%
Pb 220.353†	-13.5	-0.00164	mg/L	0.000610	-0.00164	mg/L	0.000610	37.14%
Sb 206.836†	6.2	0.00188	mg/L	0.000656	0.00188	mg/L	0.000656	34.84%
Se 196.026†	2.7	0.00190	mg/L	0.005653	0.00190	mg/L	0.005653	297.55%
Si 288.158†	14920.7	8.717	mg/L	0.6221	8.717	mg/L	0.6221	7.14%
Sn 189.927†	-33.1	-0.00727	mg/L	0.000373	-0.00727	mg/L	0.000373	5.13%
Sr 421.552†	161904.1	0.1967	mg/L	0.00185	0.1967	mg/L	0.00185	0.94%
Ti 334.903†	31.7	0.00052	mg/L	0.000339	0.00052	mg/L	0.000339	65.57%
Tl 190.801†	-0.2	-0.00009	mg/L	0.000866	-0.00009	mg/L	0.000866	937.39%
V 292.402†	161.2	0.00107	mg/L	0.000164	0.00107	mg/L	0.000164	15.31%
Zn 206.200†	4.9	0.00307	mg/L	0.000759	0.00307	mg/L	0.000759	24.69%

Sequence No.: 99
Sample ID: YE22 A TWC
Dilution: 1.000000X

Autosampler Location: 362
Date Collected: 3/28/2014 3:32:29 PM
Data Type: Original

Nebulizer Parameters: YE22 A TWC
Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE22 A TWC

Table with 9 columns: Analyte, Mean Corrected Intensity, Conc. Units, Calib. Units, Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 100
 Sample ID: YE22 ASPK TWC

Autosampler Location: 363
 Date Collected: 3/28/2014 3:36:44 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE22 ASPK TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE22 ASPK TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	2857902.9	100.3 %		0.37				0.37%
ScR 361.383	244751.1	99.55 %		0.479				0.48%
Ag 328.068†	106324.8	0.5461 mg/L		0.00422	0.5461 mg/L	0.00422		0.77%
Al 308.215†	2694.0	2.053 mg/L		0.0162	2.053 mg/L	0.0162		0.79%
As 188.979†	3657.2	2.109 mg/L		0.0121	2.109 mg/L	0.0121		0.57%
B 249.677†	291.7	0.05053 mg/L		0.000738	0.05053 mg/L	0.000738		1.46%
Ba 233.527†	8289.2	2.131 mg/L		0.0143	2.131 mg/L	0.0143		0.67%
Be 313.042†	250859.5	0.5037 mg/L		0.00155	0.5037 mg/L	0.00155		0.31%
Ca 317.933†	300935.1	30.50 mg/L		0.184	30.50 mg/L	0.184		0.60%
Cd 228.802†	17386.9	0.5250 mg/L		0.00456	0.5250 mg/L	0.00456		0.87%
Co 228.616†	19631.5	0.5064 mg/L		0.00465	0.5064 mg/L	0.00465		0.92%
Cr 267.716†	2615.0	0.5278 mg/L		0.00096	0.5278 mg/L	0.00096		0.18%
Cu 324.752†	144596.5	0.5150 mg/L		0.00480	0.5150 mg/L	0.00480		0.93%
Fe 273.955†	2319.1	2.092 mg/L		0.0125	2.092 mg/L	0.0125		0.60%
K 766.490†	27431.5	12.19 mg/L		0.036	12.19 mg/L	0.036		0.30%
Mg 279.077†	21007.0	18.17 mg/L		0.093	18.17 mg/L	0.093		0.51%
Mn 257.610†	15661.0	0.5175 mg/L		0.00307	0.5175 mg/L	0.00307		0.59%
Mo 202.031†	61.4	0.00283 mg/L		0.000196	0.00283 mg/L	0.000196		6.91%
Na 589.592†	351483.2	26.49 mg/L		0.089	26.49 mg/L	0.089		0.34%
Na 330.237†	570.6	26.75 mg/L		0.192	26.75 mg/L	0.192		0.72%
Ni 231.604†	1736.9	0.5153 mg/L		0.00401	0.5153 mg/L	0.00401		0.78%
Pb 220.353†	16733.9	2.040 mg/L		0.0173	2.040 mg/L	0.0173		0.85%
Sb 206.836†	18.2	0.00072 mg/L		0.001501	0.00072 mg/L	0.001501		207.37%
Se 196.026†	2871.1	2.050 mg/L		0.0111	2.050 mg/L	0.0111		0.54%
Si 288.158†	16584.0	9.692 mg/L		0.1119	9.692 mg/L	0.1119		1.15%
Sn 189.927†	-43.4	-0.00898 mg/L		0.001315	-0.00898 mg/L	0.001315		14.65%
Sr 421.552†	588929.3	0.7156 mg/L		0.00259	0.7156 mg/L	0.00259		0.36%
Ti 334.903†	51.8	0.00092 mg/L		0.000177	0.00092 mg/L	0.000177		19.15%
Tl 190.801†	4435.8	2.047 mg/L		0.0153	2.047 mg/L	0.0153		0.75%
V 292.402†	78792.5	0.5217 mg/L		0.00445	0.5217 mg/L	0.00445		0.85%
Zn 206.200†	1737.0	0.5112 mg/L		0.00358	0.5112 mg/L	0.00358		0.70%

Sequence No.: 101

Sample ID: ~~YE22 APOST TWC~~ 222222

Autosampler Location: 364

Date Collected: 3/28/2014 3:40:44 PM

Data Type: Original

Dilution: 1.000000X

BA 3/28/14

Nebulizer Parameters: YE22 APOST TWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE22 APOST TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2823560.8	99.05	%	0.297				0.30%
ScR 361.383	245969.8	100.0	%	1.26				1.26%
Ag 328.068†	101393.4	0.5208	mg/L	0.00169	0.5208	mg/L	0.00169	0.33%
Al 308.215†	2657.7	2.026	mg/L	0.0257	2.026	mg/L	0.0257	1.27%
As 188.979†	3603.2	2.078	mg/L	0.0046	2.078	mg/L	0.0046	0.22%
B 249.677†	285.4	0.04942	mg/L	0.001088	0.04942	mg/L	0.001088	2.20%
Ba 233.527†	8114.4	2.086	mg/L	0.0202	2.086	mg/L	0.0202	0.97%
Be 313.042†	236498.5	0.4749	mg/L	0.00566	0.4749	mg/L	0.00566	1.19%
Ca 317.933†	296216.2	30.03	mg/L	0.307	30.03	mg/L	0.307	1.02%
Cd 228.802†	17321.4	0.5232	mg/L	0.00342	0.5232	mg/L	0.00342	0.65%
Co 228.616†	19576.2	0.5050	mg/L	0.00235	0.5050	mg/L	0.00235	0.47%
Cr 267.716†	2611.3	0.5270	mg/L	0.00577	0.5270	mg/L	0.00577	1.10%
Cu 324.752†	147620.8	0.5258	mg/L	0.00242	0.5258	mg/L	0.00242	0.46%
Fe 273.955†	2293.9	2.069	mg/L	0.0235	2.069	mg/L	0.0235	1.13%
K 766.490†	27085.1	12.04	mg/L	0.135	12.04	mg/L	0.135	1.12%
Mg 279.077†	20821.6	18.01	mg/L	0.186	18.01	mg/L	0.186	1.03%
Mn 257.610†	15484.3	0.5117	mg/L	0.00552	0.5117	mg/L	0.00552	1.08%
Mo 202.031†	60.0	0.00277	mg/L	0.000063	0.00277	mg/L	0.000063	2.28%
Na 589.592†	345133.5	26.01	mg/L	0.267	26.01	mg/L	0.267	1.03%
Na 330.237†	563.3	26.40	mg/L	0.058	26.40	mg/L	0.058	0.22%
Ni 231.604†	1731.1	0.5136	mg/L	0.00556	0.5136	mg/L	0.00556	1.08%
Pb 220.353†	16691.9	2.035	mg/L	0.0058	2.035	mg/L	0.0058	0.29%
Sb 206.836†	17.7	0.00056	mg/L	0.002037	0.00056	mg/L	0.002037	363.74%
Se 196.026†	2814.3	2.010	mg/L	0.0110	2.010	mg/L	0.0110	0.55%
Si 288.158†	16685.4	9.751	mg/L	0.1462	9.751	mg/L	0.1462	1.50%
Sn 189.927†	-49.7	-0.01088	mg/L	0.000551	-0.01088	mg/L	0.000551	5.07%
Sr 421.552†	581579.1	0.7066	mg/L	0.00710	0.7066	mg/L	0.00710	1.01%
Ti 334.903†	48.7	0.00076	mg/L	0.000225	0.00076	mg/L	0.000225	29.50%
Tl 190.801†	4368.3	2.016	mg/L	0.0056	2.016	mg/L	0.0056	0.28%
V 292.402†	79149.9	0.5241	mg/L	0.00187	0.5241	mg/L	0.00187	0.36%
Zn 206.200†	1734.2	0.5104	mg/L	0.00633	0.5104	mg/L	0.00633	1.24%

Sequence No.: 102
 Sample ID: YE22 C TWC
 Dilution: 1.000000X

Autosampler Location: 365
 Date Collected: 3/28/2014 3:44:44 PM
 Data Type: Original

Nebulizer Parameters: YE22 C TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE22 C TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2877195.6	100.9 %	0.58			0.58%
ScR 361.383	247551.4	100.7 %	0.17			0.17%
Ag 328.068†	-30.0	-0.00004 mg/L	0.000148	-0.00004 mg/L	0.000148	375.73%
Al 308.215†	23.3	0.01773 mg/L	0.006769	0.01773 mg/L	0.006769	38.17%
As 188.979†	15.9	0.00754 mg/L	0.001581	0.00754 mg/L	0.001581	20.98%
B 249.677†	488.5	0.08642 mg/L	0.001362	0.08642 mg/L	0.001362	1.58%
Ba 233.527†	38.2	0.00979 mg/L	0.000903	0.00979 mg/L	0.000903	9.22%
Be 313.042†	61.1	0.00012 mg/L	0.000015	0.00012 mg/L	0.000015	12.57%
Ca 317.933†	186065.5	18.86 mg/L	0.098	18.86 mg/L	0.098	0.52%
Cd 228.802†	-14.4	-0.00022 mg/L	0.000167	-0.00022 mg/L	0.000167	74.44%
Co 228.616†	29.3	0.00071 mg/L	0.000117	0.00071 mg/L	0.000117	16.51%
Cr 267.716†	24.2	0.00393 mg/L	0.000576	0.00393 mg/L	0.000576	14.64%
Cu 324.752†	1302.2	0.00453 mg/L	0.000066	0.00453 mg/L	0.000066	1.45%
Fe 273.955†	8.7	0.00787 mg/L	0.001101	0.00787 mg/L	0.001101	13.99%
K 766.490†	3436.3	1.527 mg/L	0.0060	1.527 mg/L	0.0060	0.39%
Mg 279.077†	10440.3	9.031 mg/L	0.0270	9.031 mg/L	0.0270	0.30%
Mn 257.610†	229.7	0.00745 mg/L	0.000109	0.00745 mg/L	0.000109	1.47%
Mo 202.031†	43.1	0.00203 mg/L	0.000280	0.00203 mg/L	0.000280	13.78%
Na 589.592†	157267.7	11.85 mg/L	0.017	11.85 mg/L	0.017	0.14%
Na 330.237†	268.1	12.60 mg/L	0.134	12.60 mg/L	0.134	1.06%
Ni 231.604†	903.5	0.2685 mg/L	0.00146	0.2685 mg/L	0.00146	0.54%
Pb 220.353†	-4.8	-0.00054 mg/L	0.000522	-0.00054 mg/L	0.000522	96.61%
Sb 206.836†	2.5	0.00067 mg/L	0.000174	0.00067 mg/L	0.000174	26.08%
Se 196.026†	12.1	0.00861 mg/L	0.003847	0.00861 mg/L	0.003847	44.66%
Si 288.158†	18665.5	10.90 mg/L	0.029	10.90 mg/L	0.029	0.26%
Sn 189.927†	-33.8	-0.00764 mg/L	0.000232	-0.00764 mg/L	0.000232	3.04%
Sr 421.552†	126409.0	0.1536 mg/L	0.00013	0.1536 mg/L	0.00013	0.08%
Ti 334.903†	18.1	-0.00023 mg/L	0.000296	-0.00023 mg/L	0.000296	130.69%
Tl 190.801†	3.8	0.00175 mg/L	0.001268	0.00175 mg/L	0.001268	72.49%
V 292.402†	293.2	0.00195 mg/L	0.000128	0.00195 mg/L	0.000128	6.53%
Zn 206.200†	20.2	0.00794 mg/L	0.000224	0.00794 mg/L	0.000224	2.82%

Sequence No.: 103
 Sample ID: YE22 D TWC

Autosampler Location: 366
 Date Collected: 3/28/2014 3:48:59 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE22 D TWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE22 D TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2869172.4	100.7	%	0.32			0.31%
ScR 361.383	248855.1	101.2	%	0.66			0.65%
Ag 328.068†	-15.3	-0.00006	mg/L	0.000096	-0.00006 mg/L	0.000096	160.13%
Al 308.215†	10.4	0.00794	mg/L	0.003445	0.00794 mg/L	0.003445	43.41%
As 188.979†	2.8	0.00122	mg/L	0.000955	0.00122 mg/L	0.000955	78.38%
B 249.677†	5172.4	0.9149	mg/L	0.00435	0.9149 mg/L	0.00435	0.48%
Ba 233.527†	23.7	0.00511	mg/L	0.000520	0.00511 mg/L	0.000520	10.16%
Be 313.042†	28.8	0.00006	mg/L	0.000010	0.00006 mg/L	0.000010	17.03%
Ca 317.933†	29715.0	3.012	mg/L	0.0017	3.012 mg/L	0.0017	0.06%
Cd 228.802†	-236.6	0.00042	mg/L	0.000077	0.00042 mg/L	0.000077	18.30%
Co 228.616†	68.7	0.00053	mg/L	0.000093	0.00053 mg/L	0.000093	17.77%
Cr 267.716†	484.1	0.09800	mg/L	0.001015	0.09800 mg/L	0.001015	1.04%
Cu 324.752†	169.3	0.00059	mg/L	0.000085	0.00059 mg/L	0.000085	14.40%
Fe 273.955†	5.1	0.00478	mg/L	0.002614	0.00478 mg/L	0.002614	54.72%
K 766.490†	2875.3	1.278	mg/L	0.0082	1.278 mg/L	0.0082	0.64%
Mg 279.077†	564.5	0.4882	mg/L	0.00465	0.4882 mg/L	0.00465	0.95%
Mn 257.610†	888.9	0.02935	mg/L	0.000387	0.02935 mg/L	0.000387	1.32%
Mo 202.031†	10.6	0.00052	mg/L	0.000275	0.00052 mg/L	0.000275	52.43%
Na 589.592†	166486.6	12.55	mg/L	0.050	12.55 mg/L	0.050	0.40%
Na 330.237†	273.0	12.94	mg/L	0.124	12.94 mg/L	0.124	0.96%
Ni 231.604†	26151.9	7.772	mg/L	0.0327	7.772 mg/L	0.0327	0.42%
Pb 220.353†	-10.2	-0.00013	mg/L	0.000451	-0.00013 mg/L	0.000451	343.27%
Sb 206.836†	-1.1	-0.00166	mg/L	0.000867	-0.00166 mg/L	0.000867	52.30%
Se 196.026†	3.6	0.00255	mg/L	0.002028	0.00255 mg/L	0.002028	79.46%
Si 288.158†	14271.1	8.336	mg/L	0.0434	8.336 mg/L	0.0434	0.52%
Sn 189.927†	-11.0	-0.00286	mg/L	0.000269	-0.00286 mg/L	0.000269	9.38%
Sr 421.552†	54561.4	0.06629	mg/L	0.000268	0.06629 mg/L	0.000268	0.40%
Ti 334.903†	3.1	-0.00004	mg/L	0.000316	-0.00004 mg/L	0.000316	779.32%
Tl 190.801†	-4.8	-0.00229	mg/L	0.001049	-0.00229 mg/L	0.001049	45.73%
V 292.402†	86.9	0.00098	mg/L	0.000132	0.00098 mg/L	0.000132	13.40%
Zn 206.200†	6.7	0.00355	mg/L	0.000800	0.00355 mg/L	0.000800	22.56%

Sequence No.: 104
 Sample ID: YE22 E TWC

Autosampler Location: 367
 Date Collected: 3/28/2014 3:52:59 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE22 E TWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE22 E TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2908482.4	102.0	%	0.34			0.33%
ScR 361.383	254139.2	103.4	%	0.57			0.55%
Ag 328.068†	-19.9	0.00004	mg/L	0.000062	0.00004 mg/L	0.000062	168.85%
Al 308.215†	15.2	0.01154	mg/L	0.004053	0.01154 mg/L	0.004053	35.13%
As 188.979†	22.4	0.01102	mg/L	0.000715	0.01102 mg/L	0.000715	6.49%
B 249.677†	105.5	0.01866	mg/L	0.001193	0.01866 mg/L	0.001193	6.40%
Ba 233.527†	16.7	0.00429	mg/L	0.000224	0.00429 mg/L	0.000224	5.21%
Be 313.042†	20.3	0.00004	mg/L	0.000015	0.00004 mg/L	0.000015	36.40%
Ca 317.933†	225641.8	22.87	mg/L	0.090	22.87 mg/L	0.090	0.39%
Cd 228.802†	-8.7	-0.00032	mg/L	0.000248	-0.00032 mg/L	0.000248	76.73%
Co 228.616†	4.9	0.00012	mg/L	0.000085	0.00012 mg/L	0.000085	71.78%
Cr 267.716†	15.5	0.00114	mg/L	0.000976	0.00114 mg/L	0.000976	85.55%
Cu 324.752†	322.3	0.00095	mg/L	0.000028	0.00095 mg/L	0.000028	2.95%
Fe 273.955†	29.3	0.02648	mg/L	0.001413	0.02648 mg/L	0.001413	5.34%
K 766.490†	6325.3	2.811	mg/L	0.0227	2.811 mg/L	0.0227	0.81%
Mg 279.077†	23376.3	20.22	mg/L	0.070	20.22 mg/L	0.070	0.35%
Mn 257.610†	273.2	0.00879	mg/L	0.000081	0.00879 mg/L	0.000081	0.92%
Mo 202.031†	50.6	0.00237	mg/L	0.000179	0.00237 mg/L	0.000179	7.54%
Na 589.592†	122128.2	9.203	mg/L	0.0146	9.203 mg/L	0.0146	0.16%
Na 330.237†	213.0	9.967	mg/L	0.0492	9.967 mg/L	0.0492	0.49%
Ni 231.604†	43.3	0.01288	mg/L	0.001357	0.01288 mg/L	0.001357	10.54%
Pb 220.353†	-11.3	-0.00137	mg/L	0.000781	-0.00137 mg/L	0.000781	56.97%
Sb 206.836†	-0.2	-0.00019	mg/L	0.001358	-0.00019 mg/L	0.001358	714.54%
Se 196.026†	4.5	0.00321	mg/L	0.001357	0.00321 mg/L	0.001357	42.31%
Si 288.158†	24084.2	14.07	mg/L	0.012	14.07 mg/L	0.012	0.08%
Sn 189.927†	-37.1	-0.00812	mg/L	0.000306	-0.00812 mg/L	0.000306	3.77%
Sr 421.552†	70195.0	0.08529	mg/L	0.000144	0.08529 mg/L	0.000144	0.17%
Ti 334.903†	46.4	0.00123	mg/L	0.000423	0.00123 mg/L	0.000423	34.37%
Tl 190.801†	-0.3	-0.00013	mg/L	0.001609	-0.00013 mg/L	0.001609	>999.9%
V 292.402†	271.2	0.00180	mg/L	0.000015	0.00180 mg/L	0.000015	0.81%
Zn 206.200†	39.2	0.01412	mg/L	0.000405	0.01412 mg/L	0.000405	2.87%

Sequence No.: 105
Sample ID: YE22 F TWC

Autosampler Location: 368
Date Collected: 3/28/2014 3:56:58 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE22 F TWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE22 F TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2895300.9	101.6	%	0.33			0.33%
SCR 361.383	249826.7	101.6	%	0.49			0.48%
Ag 328.068†	-2.0	0.00013	mg/L	0.000151	0.00013 mg/L	0.000151	112.83%
Al 308.215†	1599.6	1.223	mg/L	0.0015	1.223 mg/L	0.0015	0.12%
As 188.979†	23.5	0.01371	mg/L	0.000746	0.01371 mg/L	0.000746	5.44%
B 249.677†	184.3	0.03260	mg/L	0.000259	0.03260 mg/L	0.000259	0.80%
Ba 233.527†	56.8	0.01425	mg/L	0.000515	0.01425 mg/L	0.000515	3.62%
Be 313.042†	26.4	0.00005	mg/L	0.000009	0.00005 mg/L	0.000009	17.91%
Ca 317.933†	231907.4	23.51	mg/L	0.094	23.51 mg/L	0.094	0.40%
Cd 228.802†	-10.0	-0.00039	mg/L	0.000165	-0.00039 mg/L	0.000165	42.76%
Co 228.616†	57.6	0.00137	mg/L	0.000126	0.00137 mg/L	0.000126	9.20%
Cr 267.716†	56.9	0.00985	mg/L	0.000789	0.00985 mg/L	0.000789	8.02%
Cu 324.752†	1316.9	0.00460	mg/L	0.000148	0.00460 mg/L	0.000148	3.22%
Fe 273.955†	2483.9	2.245	mg/L	0.0127	2.245 mg/L	0.0127	0.57%
K 766.490†	5491.4	2.440	mg/L	0.0149	2.440 mg/L	0.0149	0.61%
Mg 279.077†	20102.1	17.39	mg/L	0.066	17.39 mg/L	0.066	0.38%
Mn 257.610†	855.5	0.02804	mg/L	0.000036	0.02804 mg/L	0.000036	0.13%
Mo 202.031†	67.5	0.00327	mg/L	0.000134	0.00327 mg/L	0.000134	4.11%
Na 589.592†	134658.3	10.15	mg/L	0.012	10.15 mg/L	0.012	0.11%
Na 330.237†	228.2	10.70	mg/L	0.087	10.70 mg/L	0.087	0.81%
Ni 231.604†	36.9	0.01096	mg/L	0.001095	0.01096 mg/L	0.001095	9.99%
Pb 220.353†	-2.4	-0.00007	mg/L	0.000599	-0.00007 mg/L	0.000599	861.12%
Sb 206.836†	5.6	0.00163	mg/L	0.000877	0.00163 mg/L	0.000877	53.73%
Se 196.026†	7.2	0.00515	mg/L	0.003227	0.00515 mg/L	0.003227	62.66%
Si 288.158†	29615.9	17.30	mg/L	0.007	17.30 mg/L	0.007	0.04%
Sn 189.927†	-34.9	-0.00740	mg/L	0.000752	-0.00740 mg/L	0.000752	10.16%
Sr 421.552†	83012.8	0.1009	mg/L	0.00015	0.1009 mg/L	0.00015	0.15%
Ti 334.903†	1013.5	0.06051	mg/L	0.000393	0.06051 mg/L	0.000393	0.65%
Tl 190.801†	4.3	0.00221	mg/L	0.002441	0.00221 mg/L	0.002441	110.32%
V 292.402†	1252.8	0.00815	mg/L	0.000041	0.00815 mg/L	0.000041	0.50%
Zn 206.200†	61.0	0.02109	mg/L	0.000787	0.02109 mg/L	0.000787	3.73%

Sequence No.: 106
Sample ID: CV))

Autosampler Location: 7
Date Collected: 3/28/2014 4:00:58 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2889497.5	101.4	%	0.16			0.15%
ScR 361.383	245283.5	99.77	%	0.411			0.41%
Ag 328.068†	202154.9	1.038	mg/L	0.0028	1.038	mg/L	0.27%
Al 308.215†	2685.0	2.022	mg/L	0.0058	2.022	mg/L	0.29%
As 188.979†	3388.3	1.988	mg/L	0.0098	1.988	mg/L	0.49%
B 249.677†	5751.0	1.016	mg/L	0.0049	1.016	mg/L	0.48%
Ba 233.527†	4010.7	1.031	mg/L	0.0027	1.031	mg/L	0.26%
Be 313.042†	496276.1	0.9965	mg/L	0.00438	0.9965	mg/L	0.44%
Ca 317.933†	20641.6	2.092	mg/L	0.0045	2.092	mg/L	0.21%
Cd 228.802†	33023.2	1.008	mg/L	0.0021	1.008	mg/L	0.21%
Co 228.616†	38218.0	0.9845	mg/L	0.00200	0.9845	mg/L	0.20%
Cr 267.716†	5189.1	1.051	mg/L	0.0047	1.051	mg/L	0.44%
Cu 324.752†	289570.1	1.031	mg/L	0.0016	1.031	mg/L	0.16%
Fe 273.955†	2309.2	2.080	mg/L	0.0089	2.080	mg/L	0.43%
K 766.490†	45360.6	20.16	mg/L	0.102	20.16	mg/L	0.50%
Mg 279.077†	2285.4	1.984	mg/L	0.0111	1.984	mg/L	0.56%
Mn 257.610†	29496.7	0.9748	mg/L	0.00698	0.9748	mg/L	0.72%
Mo 202.031†	17881.1	0.9635	mg/L	0.00484	0.9635	mg/L	0.50%
Na 589.592†	678670.8	51.14	mg/L	0.186	51.14	mg/L	0.36%
Na 330.237†	1086.3	51.51	mg/L	0.254	51.51	mg/L	0.49%
Ni 231.604†	3487.8	1.037	mg/L	0.0052	1.037	mg/L	0.51%
Pb 220.353†	16438.3	2.004	mg/L	0.0070	2.004	mg/L	0.35%
Sb 206.836†	6317.8	2.018	mg/L	0.0092	2.018	mg/L	0.46%
Se 196.026†	2718.5	1.941	mg/L	0.0049	1.941	mg/L	0.25%
Si 288.158†	3536.5	2.071	mg/L	0.0596	2.071	mg/L	2.88%
Sn 189.927†	3282.5	0.9654	mg/L	0.00581	0.9654	mg/L	0.60%
Sr 421.552†	835131.1	1.015	mg/L	0.0044	1.015	mg/L	0.43%
Ti 334.903†	16250.2	0.9957	mg/L	0.00373	0.9957	mg/L	0.37%
Tl 190.801†	4341.1	2.000	mg/L	0.0086	2.000	mg/L	0.43%
V 292.402†	151570.3	1.004	mg/L	0.0028	1.004	mg/L	0.28%
Zn 206.200†	3489.3	1.023	mg/L	0.0051	1.023	mg/L	0.50%

Sequence No.: 107
 Sample ID: CB 11

Autosampler Location: 1
 Date Collected: 3/28/2014 4:05:01 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2912991.0	102.2	%	0.24				0.23%
ScR 361.383	250474.0	101.9	%	0.75				0.74%
Ag 328.068†	-36.2	-0.00019	mg/L	0.000125	-0.00019	mg/L	0.000125	67.31%
Al 308.215†	0.3	0.00025	mg/L	0.002184	0.00025	mg/L	0.002184	872.86%
As 188.979†	0.9	0.00051	mg/L	0.001307	0.00051	mg/L	0.001307	256.77%
B 249.677†	11.9	0.00211	mg/L	0.000751	0.00211	mg/L	0.000751	35.59%
Ba 233.527†	0.6	0.00015	mg/L	0.000593	0.00015	mg/L	0.000593	407.21%
Be 313.042†	43.1	0.00009	mg/L	0.000034	0.00009	mg/L	0.000034	39.25%
Ca 317.933†	8.4	0.00085	mg/L	0.000923	0.00085	mg/L	0.000923	108.38%
Cd 228.802†	-3.1	-0.00010	mg/L	0.000127	-0.00010	mg/L	0.000127	128.58%
Co 228.616†	5.8	0.00015	mg/L	0.000123	0.00015	mg/L	0.000123	83.24%
Cr 267.716†	3.8	0.00077	mg/L	0.000374	0.00077	mg/L	0.000374	48.85%
Cu 324.752†	100.3	0.00036	mg/L	0.000078	0.00036	mg/L	0.000078	21.94%
Fe 273.955†	0.0	0.00003	mg/L	0.001080	0.00003	mg/L	0.001080	>999.9%
K 766.490†	-18.8	-0.00834	mg/L	0.004675	-0.00834	mg/L	0.004675	56.07%
Mg 279.077†	-3.5	-0.00303	mg/L	0.001396	-0.00303	mg/L	0.001396	46.12%
Mn 257.610†	-0.1	-0.00000	mg/L	0.000050	-0.00000	mg/L	0.000050	>999.9%
Mo 202.031†	16.1	0.00087	mg/L	0.000069	0.00087	mg/L	0.000069	7.90%
Na 589.592†	429.8	0.03239	mg/L	0.001240	0.03239	mg/L	0.001240	3.83%
Na 330.237†	7.0	0.3323	mg/L	0.10538	0.3323	mg/L	0.10538	31.71%
Ni 231.604†	0.5	0.00015	mg/L	0.000341	0.00015	mg/L	0.000341	224.87%
Pb 220.353†	6.0	0.00074	mg/L	0.000541	0.00074	mg/L	0.000541	73.52%
Sb 206.836†	33.5	0.01071	mg/L	0.001425	0.01071	mg/L	0.001425	13.30%
Se 196.026†	1.6	0.00116	mg/L	0.001090	0.00116	mg/L	0.001090	94.32%
Si 288.158†	59.4	0.03467	mg/L	0.015195	0.03467	mg/L	0.015195	43.83%
Sn 189.927†	4.2	0.00125	mg/L	0.001088	0.00125	mg/L	0.001088	87.06%
Sr 421.552†	78.6	0.00010	mg/L	0.000060	0.00010	mg/L	0.000060	62.96%
Ti 334.903†	9.4	0.00057	mg/L	0.000150	0.00057	mg/L	0.000150	26.09%
Tl 190.801†	-2.7	-0.00126	mg/L	0.000610	-0.00126	mg/L	0.000610	48.40%
V 292.402†	-16.5	-0.00011	mg/L	0.000160	-0.00011	mg/L	0.000160	152.50%
Zn 206.200†	1.8	0.00052	mg/L	0.000645	0.00052	mg/L	0.000645	123.11%

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Run Logs, Calibrations, and Raw Data	<u>87</u>	<u>166</u>
General Chemistry Raw Data		
Analyst Notes and Raw Data	<u>167</u>	<u>180</u>

 BCE
Signature

April-03-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 11, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YE32

Dear Ian:


Please find enclosed the Chain-of-Custody records (COCs), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Cherenne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YE32

Enclosures

Chain of Custody Documentation

ARI Job ID: YE32

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: Y532
 Turn-around Requested: _____
 Date: 3/24/14
 ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 No. of Coolers: 2
 Cooler Temps: -0.5/5.8

Sample ID	Samplers:			Analysis Requested					Notes/Comments
	Date	Time	Matrix	No Containers	Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold	
GET-SB1-05.1	3/24	824	S	1	X		X		
GET-SB1-3.3.5	}	825	}	}	X		X		
GET-SB1-5.5.5		827			X		X		
GET-SB1-7-7.5	}	828	}	}	X		X		
GET-SB1-9-9.5		829							
GET-SB1-11-11.5	}	840	}	}				X	
GET-SB1-13-13.5		841							
GET-SB1-14.5-15	}	842	}	}				X	
Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered									
Relinquished by: (Signature) <u>Paul Robinette</u>				Relinquished by: (Signature) _____				Received by: (Signature) _____	
Printed Name: <u>Paul Robinette</u>				Printed Name: <u>Rich Wilson</u>				Printed Name: _____	
Company: <u>GET</u>				Company: <u>ARI</u>				Company: _____	
Date & Time: <u>3/25/14 12:15</u>				Date & Time: <u>3/25/14 13:15</u>				Date & Time: _____	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDAVSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 1632
 Turn-around Requested:
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Date: 3/24
 Page: 2 of 14
 No. of Coolers: 2
 Cooler Temps: -0.5, 5.8

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200.6/010C	Field ¹	
BEI-SB2-0.5-1	3/24	903	S	1	X		X		
BEI-SB2-3-3.5	}	904	}	}	X		X		
BEI-SB2-5-5.5		906			X		X		
BEI-SB2-7-7.5	}	907	}	}	X		X		
BEI-SB2-9-9.5		908							
BEI-SB2-11-11.5	}	914	}	}			X		
BEI-SB2-13-13.5		915							
BEI-SB2-14.5-15	}	916	}	}			X		
Comments/Special Instructions					Relinquished by (Signature)		Relinquished by (Signature)		
1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered					Paul Robinette		Rich Halber		
					Printed Name: Paul Robinette		Printed Name: Rich Halber		
					Company: BEI		Company: ARI		
					Date & Time: 3/25/14 13:15		Date & Time: 3/25/14 13:15		

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 4632 Turn-around Requested: _____
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Date: 3/24/14
 Page: 3 of 14
 No. of Coolers: 2 Cooler Temps: 0.5 / 5.8

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Field	
GEI-SB3-0.5-1	3/24	937	S	1	X		X		
GEI-SB3-3-3.5	}	938	}	}	X		X		
GEI-SB3-5-5.5		942			X		X		
GEI-SB3-7-7.5	}	943	}	}	X		X		
GEI-SB3-9-9.5		944			X		X		
GEI-SB3-11-11.5	}	948	}	}			X		
GEI-SB3-13-13.5		949					X		
GEI-SB3-14.5-15		950					X		

Comments/Special Instructions:
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by: Paul Robinette (Signature) Received by: _____ (Signature)
 Printed Name: Paul Robinette Printed Name: _____
 Company: GEI Company: _____
 Date & Time: 3/25/14 13:15 Date & Time: _____

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Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 1637
 Turn-around Requested:
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Date: 3/24/14
 Page: 4 of 14
 No. of Coolers: 2
 Cooler Temps: 0.5, 5.8

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	1+2+3	
GEI-SB4-0.5-1	3/24	1005	S	1	X		X		
GEI-SB4-3-3.5		1000			X		X		
GEI-SB4-5-5.5		1011			X		X		
GEI-SB4-7-7.5		1012			X		X		
GEI-SB4-9-9.5		1013						X	
GEI-SB4-11-11.5		1019						X	
GEI-SB4-13-13.5		1020						X	
GEI-SB4-14.5-15		1021						X	
Comments/Special Instructions					Relinquished by: (Signature) <i>Paul Robinette</i>	Received by: (Signature) <i>Rick Hilde</i>			
1 Metals include: chromium, nickel, lead					Printed Name: <i>Paul Robinette</i>	Printed Name: <i>Rick Hilde</i>			
2 Dissolved Nickel not field filtered					Company: <i>GEI</i>	Company: <i>ARI</i>			
	Date & Time: <i>3/25/14 13:15</i>			Date & Time: <i>3/25/14 17:15</i>					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **YE31**
 Turn-around Requested:
 Date: **3/25** of **14**
 Page: **5** of **14**
 No. of Coolers: **2**
 Cooler Temps: **-05.58**

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200.6/010C	Hold	
6E1-SBS-0.5-1	3/24	1039	S	1	X				
6E1-SBS-3-3.5	}	1040	}	}	X				
6E1-SBS-5-5.5		1043			X				
6E1-SBS-7-7.5	}	1044	}	}	X				
6E1-SBS-9-9.5		1045			X				
6E1-SBS-11-11.5	}	1052	}	}			X		
6E1-SBS-13-13.5		1053					X		
6E1-SBS-14.5-15	}	1054	}	}			X		

Comments/Special Instructions:
 1 Metals include: chromium, nickel, lead filtered
 2 Dissolved Nickel not field filtered

Received by: *Paul Robinette* (Signature)
 Printed Name: **Paul Robinette**
 Company: **ARI**
 Date & Time: **3/25/14 13:15**

Relinquished by: *Paul Robinette* (Signature)
 Printed Name: **Paul Robinette**
 Company: **ARI**
 Date & Time: **3/25/14 13:15**

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: Geotechnical
COC No(s) _____ (NA)
Assigned ARI Job No: YE32

Project Name Aladden Plating
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Tracking No. _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) _____
 Time: 1400 _____ -5 5.8
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 122412224
 Cooler Accepted by: _____ Date: 3/25/14 Time: 1315

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: NA
 Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____
 Samples Logged by: JVN Date: 3/26/14 Time: 1010

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YE32



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YE32

Sample Receipt

Forty soil samples were received on March 25, 2014 under ARI job YE32. The cooler temperatures measured by IR thermometer following ARI SOP were -0.5 and 5.8°C. Select samples were archived upon receipt. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries were within control limits.

The duplicate RPDs of lead and nickel were outside the control limit for sample **GEI-SB1-0.5-1**. All relevant data have been flagged with a "*" qualifier on the Form VI. No further corrective action was taken.

General Chemistry Parameters (Hexavalent Chromium)

The sample and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The SRM percent recoveries were within control limits.

The matrix spike percent recovery of soluble hexavalent chromium fell outside the control limits low for sample **GEI-SB1-0.5-1**. All other quality control parameters were met for this analysis. No corrective action was taken.

The replicate RPDs were within the control limit.

Sample ID Cross Reference Report



ARI Job No: YE32
 Client: GeoEngineers
 Project Event: 0504-095-00
 Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. GEI-SB1-0.5-1	YE32A	14-5411	Soil	03/24/14 08:24	03/25/14 13:15
2. GEI-SB1-3-3.5	YE32B	14-5412	Soil	03/24/14 08:25	03/25/14 13:15
3. GEI-SB1-5-5.5	YE32C	14-5413	Soil	03/24/14 08:27	03/25/14 13:15
4. GEI-SB1-7-7.5	YE32D	14-5414	Soil	03/24/14 08:28	03/25/14 13:15
5. GEI-SB2-0.5-1	YE32E	14-5415	Soil	03/24/14 09:03	03/25/14 13:15
6. GEI-SB2-3-3.5	YE32F	14-5416	Soil	03/24/14 09:04	03/25/14 13:15
7. GEI-SB2-5-5.5	YE32G	14-5417	Soil	03/24/14 09:06	03/25/14 13:15
8. GEI-SB2-7-7.5	YE32H	14-5418	Soil	03/24/14 09:07	03/25/14 13:15
9. GEI-SB3-0.5-1	YE32I	14-5419	Soil	03/24/14 09:37	03/25/14 13:15
10. GEI-SB3-3-3.5	YE32J	14-5420	Soil	03/24/14 09:38	03/25/14 13:15
11. GEI-SB3-5-5.5	YE32K	14-5421	Soil	03/24/14 09:42	03/25/14 13:15
12. GEI-SB3-7-7.5	YE32L	14-5422	Soil	03/24/14 09:43	03/25/14 13:15
13. GEI-SB4-0.5-1	YE32M	14-5423	Soil	03/24/14 10:05	03/25/14 13:15
14. GEI-SB4-3-3.5	YE32N	14-5424	Soil	03/24/14 10:06	03/25/14 13:15
15. GEI-SB4-5-5.5	YE32O	14-5425	Soil	03/24/14 10:11	03/25/14 13:15
16. GEI-SB4-7-7.5	YE32P	14-5426	Soil	03/24/14 10:12	03/25/14 13:15
17. GEI-SB5-0.5-1	YE32Q	14-5427	Soil	03/24/14 10:39	03/25/14 13:15
18. GEI-SB5-3-3.5	YE32R	14-5428	Soil	03/24/14 10:40	03/25/14 13:15
19. GEI-SB5-5-5.5	YE32S	14-5429	Soil	03/24/14 10:43	03/25/14 13:15
20. GEI-SB5-7-7.5	YE32T	14-5430	Soil	03/24/14 10:44	03/25/14 13:15
21. GEI-SB1-9-9.5	YE32U	14-5431	Soil	03/24/14 08:29	03/25/14 13:15
22. GEI-SB1-11-11.5	YE32V	14-5432	Soil	03/24/14 08:40	03/25/14 13:15
23. GEI-SB1-13-13.5	YE32W	14-5433	Soil	03/24/14 08:41	03/25/14 13:15
24. GEI-SB1-14.5-15	YE32X	14-5434	Soil	03/24/14 08:42	03/25/14 13:15
25. GEI-SB2-9-9.5	YE32Y	14-5435	Soil	03/24/14 09:08	03/25/14 13:15
26. GEI-SB2-11-11.5	YE32Z	14-5436	Soil	03/24/14 09:14	03/25/14 13:15
27. GEI-SB2-13-13.5	YE32AA	14-5437	Soil	03/24/14 09:15	03/25/14 13:15
28. GEI-SB2-14.5-15	YE32AB	14-5438	Soil	03/24/14 09:16	03/25/14 13:15
29. GEI-SB3-9-9.5	YE32AC	14-5439	Soil	03/24/14 09:44	03/25/14 13:15
30. GEI-SB3-11-11.5	YE32AD	14-5440	Soil	03/24/14 09:48	03/25/14 13:15
31. GEI-SB3-13-13.5	YE32AE	14-5441	Soil	03/24/14 09:49	03/25/14 13:15
32. GEI-SB3-14.5-15	YE32AF	14-5442	Soil	03/24/14 09:50	03/25/14 13:15
33. GEI-SB4-9-9.5	YE32AG	14-5443	Soil	03/24/14 10:13	03/25/14 13:15
34. GEI-SB4-11-11.5	YE32AH	14-5444	Soil	03/24/14 10:19	03/25/14 13:15
35. GEI-SB4-13-13.5	YE32AI	14-5445	Soil	03/24/14 10:20	03/25/14 13:15
36. GEI-SB4-14.5-15	YE32AJ	14-5446	Soil	03/24/14 10:21	03/25/14 13:15
37. GEI-SB5-9-9.5	YE32AK	14-5447	Soil	03/24/14 10:45	03/25/14 13:15
38. GEI-SB5-11-11.5	YE32AL	14-5448	Soil	03/24/14 10:52	03/25/14 13:15
39. GEI-SB5-13-13.5	YE32AM	14-5449	Soil	03/24/14 10:53	03/25/14 13:15
40. GEI-SB5-14.5-15	YE32AN	14-5450	Soil	03/24/14 10:54	03/25/14 13:15



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	RPD
Met 6010C (EPA 6010C) in Solid							
Preservation: Cool <6°C							
Container: Glass WM, Clear, 4 oz		Minimum Sample Weight: 100 g			Hold Time: 180 days		
Aluminum	0.757	5.00 mg/kg		20	75 - 125	20	80 - 120
Antimony	0.628	5.00 mg/kg		20	75 - 125	20	80 - 120
Arsenic	0.333	5.00 mg/kg		20	75 - 125	20	80 - 120
Barium	0.133	0.300 mg/kg		20	75 - 125	20	80 - 120
Beryllium	0.0160	0.100 mg/kg		20	75 - 125	20	80 - 120
Boron	0.739	2.00 mg/kg		20	75 - 125	20	80 - 120
Cadmium	0.0180	0.200 mg/kg		20	75 - 125	20	80 - 120
Calcium	1.13	5.00 mg/kg		20	75 - 125	20	80 - 120
Chromium	0.124	0.500 mg/kg		20	75 - 125	20	80 - 120
Cobalt	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120
Copper	0.0920	0.200 mg/kg		20	75 - 125	20	80 - 120
Iron	0.750	5.00 mg/kg		20	75 - 125	20	80 - 120
Lead	0.155	2.00 mg/kg		20	75 - 125	20	80 - 120
Magnesium	0.961	5.00 mg/kg		20	75 - 125	20	80 - 120
Manganese	0.0280	0.100 mg/kg		20	75 - 125	20	80 - 120
Molybdenum	0.0790	0.500 mg/kg		20	75 - 125	20	80 - 120
Nickel	0.386	1.00 mg/kg		20	75 - 125	20	80 - 120
Potassium	6.57	50.0 mg/kg		20	75 - 125	20	80 - 120
Selenium	0.499	5.00 mg/kg		20	75 - 125	20	80 - 120
Silver	0.0430	0.300 mg/kg		20	75 - 125	20	80 - 120
Sodium	1.14	50.0 mg/kg		20	75 - 125	20	80 - 120
Sodium-I	114	5000 mg/kg		20	75 - 125	20	80 - 120
Strontium	0.00900	0.100 mg/kg		20	75 - 125	20	80 - 120
Thallium	0.310	5.00 mg/kg		20	75 - 125	20	80 - 120
Tin	0.141	1.00 mg/kg		20	75 - 125	20	80 - 120
Titanium	0.211	0.500 mg/kg		20	75 - 125	20	80 - 120
Vanadium	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120
Zinc	0.145	1.00 mg/kg		20	75 - 125	20	80 - 120



Spike Recovery Control Limits for Conventional Wet Chemistry		
Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
<i>Matrix Spike Recoveries</i>	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
<i>Duplicate RPDs</i>		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YE32

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB1-0.5-1	YE32A	14-5411	
GEI-SB1-0.5-1D	YE32ADUP	14-5411	
GEI-SB1-0.5-1S	YE32ASPK	14-5411	
GEI-SB1-3-3.5	YE32B	14-5412	
PBS	YE32MB1	14-5412	
LCSS	YE32MB1SPK	14-5412	
GEI-SB1-5-5.5	YE32C	14-5413	
GEI-SB1-7-7.5	YE32D	14-5414	
GEI-SB2-0.5-1	YE32E	14-5415	
GEI-SB2-3-3.5	YE32F	14-5416	
GEI-SB2-5-5.5	YE32G	14-5417	
GEI-SB2-7-7.5	YE32H	14-5418	
GEI-SB3-0.5-1	YE32I	14-5419	
GEI-SB3-3-3.5	YE32J	14-5420	
GEI-SB3-5-5.5	YE32K	14-5421	
GEI-SB3-7-7.5	YE32L	14-5422	
GEI-SB4-0.5-1	YE32M	14-5423	
GEI-SB4-3-3.5	YE32N	14-5424	
GEI-SB4-5-5.5	YE32O	14-5425	
GEI-SB4-7-7.5	YE32P	14-5426	
GEI-SB5-0.5-1	YE32Q	14-5427	

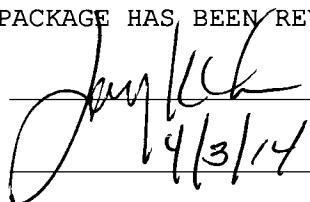
Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn

Date: 4/3/14 Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

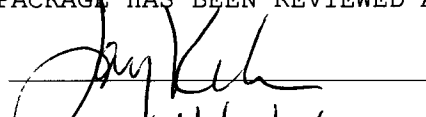
SDG: YE32

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB5-3-3.5	YE32R	14-5428	
GEI-SB5-5-5.5	YE32S	14-5429	
GEI-SB5-7-7.5	YE32T	14-5430	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn
Date: 4/3/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

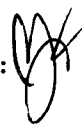
Page 1 of 1

Sample ID: **GEI-SB1-0.5-1**
SAMPLE

Lab Sample ID: YE32A

LIMS ID: 14-5411

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	58.7	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	33	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	223	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB1-3-3.5**
SAMPLE

Lab Sample ID: YE32B

LIMS ID: 14-5412

Matrix: Soil

Data Release Authorized 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 93.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	22.4	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	31	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB1-5-5.5
SAMPLE**

Lab Sample ID: YE32C

LIMS ID: 14-5413

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 93.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	27.7	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	34	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB1-7-7.5
SAMPLE**

Lab Sample ID: YE32D

LIMS ID: 14-5414

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 85.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.30	0.6	23.2	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.33	1	34	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB2-0.5-1**
SAMPLE

Lab Sample ID: YE32E

LIMS ID: 14-5415

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 93.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	123	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	61	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	1,050	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB2-3-3.5**
SAMPLE

Lab Sample ID: YE32F

LIMS ID: 14-5416

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	39.7	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	10	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	109	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB2-5-5.5
SAMPLE**

Lab Sample ID: YE32G

LIMS ID: 14-5417

Matrix: Soil

Data Release Authorized 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 93.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	32.5	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	51	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

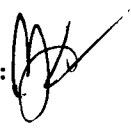
Page 1 of 1

**Sample ID: GEI-SB2-7-7.5
SAMPLE**

Lab Sample ID: YE32H

LIMS ID: 14-5418

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 87.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	35.9	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	64	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

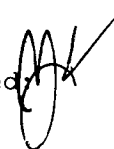
Page 1 of 1

Sample ID: GEI-SB3-0.5-1
SAMPLE

Lab Sample ID: YE32I

LIMS ID: 14-5419

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 93.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	460	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	734	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	1,480	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

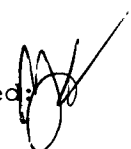
Page 1 of 1

Sample ID: **GEI-SB3-3-3.5**
SAMPLE

Lab Sample ID: YE32J

LIMS ID: 14-5420

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	43.0	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.12	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	115	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB3-5-5.5
SAMPLE**

Lab Sample ID: YE32K

LIMS ID: 14-5421

Matrix: Soil

Data Release Authorized 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	221	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	119	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB3-7-7.5
SAMPLE**

Lab Sample ID: YE32L

LIMS ID: 14-5422

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 85.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.29	0.5	38.9	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.33	1	277	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB4-0.5-1
SAMPLE**

Lab Sample ID: YE32M

LIMS ID: 14-5423

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	487	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	532	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	4,250	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB4-3-3.5**
SAMPLE

Lab Sample ID: YE32N

LIMS ID: 14-5424

Matrix: Soil

Data Release Authorized 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	34.7	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	248	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB4-5-5.5**
SAMPLE

Lab Sample ID: YE320

LIMS ID: 14-5425

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	40.0	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	255	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB4-7-7.5
SAMPLE**

Lab Sample ID: YE32P

LIMS ID: 14-5426

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 85.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.31	0.6	41.0	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.15	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.34	1	377	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB5-0.5-1
SAMPLE**

Lab Sample ID: YE32Q

LIMS ID: 14-5427

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	51.3	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	6	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	626	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB5-3-3.5
SAMPLE

Lab Sample ID: YE32R

LIMS ID: 14-5428

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	26.7	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	208	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB5-5-5.5
SAMPLE**

Lab Sample ID: YE32S
LIMS ID: 14-5429
Matrix: Soil
Data Release Authorized
Reported: 04/03/14

QC Report No: YE32-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14



Percent Total Solids: 93.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	28.4	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	279	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB5-7-7.5
SAMPLE**

Lab Sample ID: YE32T

LIMS ID: 14-5430

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 84.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.30	0.6	140	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.15	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.34	1	326	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB1-0.5-1
MATRIX SPIKE**

Lab Sample ID: YE32A

LIMS ID: 14-5411

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	58.7	118	48.4	123%	
Lead	6010C	33	242	194	108%	
Nickel	6010C	223	397	48.4	360%	H

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB1-0.5-1
DUPLICATE

Lab Sample ID: YE32A

LIMS ID: 14-5411

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	58.7	64.9	10.0%	+/- 20%	
Lead	6010C	33	41	21.6%	+/- 20%	*
Nickel	6010C	223	281	23.0%	+/- 20%	*

Reported in mg/kg-dry

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE32LCS

LIMS ID: 14-5412

Matrix: Soil

Data Release Authorized: 

Reported: 04/03/14

QC Report No: YE32-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	54.8	50.0	110%	
Lead	6010C	212	200	106%	
Nickel	6010C	54	50	108%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE32MB


QC Report No: YE32-GeoEngineers

LIMS ID: 14-5412

Project: Aladden Plating

Matrix: Soil

0504-095-00

Data Release Authorized 

Date Sampled: NA

Reported: 04/03/14

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	1	U

Reported in mg/kg (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation



Calibration Verification

CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE32

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040171	1000.0	1055.36	105.5	1000.0	1041.67	104.2	1060.96	106.1	1041.89	104.2	1049.81	105.0	1064.49	106.4
Lead	PB	ICP	IP040171	2000.0	1989.07	99.5	2000.0	1987.64	99.4	2025.28	101.3	1987.92	99.4	1996.90	99.8	1985.53	99.3
Nickel	NI	ICP	IP040171	1000.0	1039.89	104.0	1000.0	1026.30	102.6	1049.94	105.0	1029.73	103.0	1037.39	103.7	1057.29	105.7

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification

CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE32

UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP040171	1000.0	1069.76	107.0	1049.41	104.9								
Lead	PB	ICP	IP040171	2000.0	2082.73	104.1	2050.34	102.5								
Nickel	NI	ICP	IP040171	1000.0	1067.23	106.7	1048.50	104.9								

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32



ANALYTICAL
RESOURCES
INCORPORATED

UNITS: ug/L

ANALYTE **EL** **M** **RUN** **CRA/I** **TV** **CR-1** **%R** **CR-2** **%R** **CR-3** **%R** **CR-4** **%R** **CR-5** **%R** **CR-6** **%R**

Chromium	CR	ICP	IP040171	5.0		5.60	112.0	4.89	97.8								
Lead	PB	ICP	IP040171	20.0		20.16	100.8	20.53	102.7								
Nickel	NI	ICP	IP040171	10.0		10.53	105.3	9.41	94.1								

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32



UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	ICB C	CCB1	CCB1 C	CCB2	CCB2 C	CCB3	CCB3 C	CCB4	CCB4 C	CCB5	CCB5 C
Chromium	CR ICP	IP040171	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Lead	PB ICP	IP040171	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Nickel	NI ICP	IP040171	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

YE32 : 00044

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32



ANALYTICAL
RESOURCES
INCORPORATED

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP040171	10.0	5.0	5.0	5.0					
Lead	PB	ICP	IP040171	3.0	20.0	20.0	20.0					
Nickel	NI	ICP	IP040171	40.0	10.0	10.0	10.0					

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040171

SDG: YE32

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	200350.9	199935.3	100.0	198445.9	199238.7	99.6			
Antimony	1000	1000	21.7	1007.1	100.7	19.9	1014.9	101.5			
Arsenic	1000	1000	23.4	1021.5	102.2	20.4	1031.8	103.2			
Barium	1000	1000	-1.9	997.5	99.8	-2.0	1010.9	101.1			
Beryllium	1000	1000	0.1	984.2	98.4	0.1	991.3	99.1			
Boron			-7.4	-5.6		-6.6	-6.5				
Cadmium	1000	1000	-0.2	1008.2	100.8	-0.2	1012.1	101.2			
Calcium	100000	100000	101106.5	100907.9	100.9	101959.2	102708.8	102.7			
Chromium	1000	1000	-0.5	999.7	100.0	-1.4	1015.6	101.6			
Cobalt	1000	1000	2.1	935.1	93.5	2.2	946.7	94.7			
Copper	1000	1000	0.3	1035.5	103.6	0.8	1040.3	104.0			
Iron	200000	200000	199871.8	200486.4	100.2	199811.4	202065.4	101.0			
Lead	1000	1000	-1.3	970.5	97.1	-3.5	975.8	97.6			
Magnesium	100000	100000	102554.1	98843.6	98.8	102303.4	100006.5	100.0			
Manganese	1000	1000	-1.3	973.0	97.3	-1.4	938.0	93.8			
Molybdenum			2.4	2.4		2.3	2.0				
Nickel	1000	1000	1.7	954.8	95.5	0.7	979.7	98.0			
Potassium			39.5	45.7		53.5	40.1				
Selenium	1000	1000	34.0	1027.0	102.7	37.1	1034.6	103.5			
Silicon			-3.7	-10.6		13.6	1.4				
Silver	1000	1000	-0.7	1052.2	105.2	-0.6	1063.2	106.3			
Sodium			10.2	6.2		12.8	12.1				
Strontium			5.5	5.4		5.5	5.4				
Thallium	1000	1000	5.8	936.8	93.7	2.8	944.5	94.5			
Tin			-13.5	-16.6		-16.0	-15.6				
Titanium			2.3	2.1		1.7	1.8				
Vanadium	1000	1000	-1.3	971.8	97.2	-1.6	983.0	98.3			
Zinc	1000	1000	2.8	950.2	95.0	3.6	968.4	96.8			

YE32 : 00046

**IDLs and ICP
Linear Ranges**



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1504760	0.000000	-1.1418810	1.4701580	0.000000	-0.0444180
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1015620
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0105370	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.0031370	0.000000	-0.1731660	0.000000	0.000000	-0.0479580
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572290	0.000000	0.000000
Lead	220.35	-0.3197610	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	0.0487330
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.6154620	-1.2018020	0.000000	0.7453470
Manganese	257.61	0.0085510	0.000000	0.000000	0.000000	0.0051490	0.000000	0.000000	0.000000	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0154460	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.8483140	0.000000	-0.6009380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0065610	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.0801700	0.000000	5.8939530	0.4135750	0.000000	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1855780	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.1006900	0.000000	0.000000	0.1910190	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0251090
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.0126620	0.000000	0.000000	-0.2680380	0.000000	0.000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.0000000	0.0000000	0.0000000	2.0154950	0.0000000	14.6504130	0.0000000
Antimony	206.84	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7865220	0.0000000	-3.6308690	0.0000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.0000000	0.0000000	0.0000000	-35.7069030	0.0000000	0.0000000	0.0000000
Barium	233.53	0.000000	0.000000	0.0000000	0.1263190	0.0000000	0.0000000	0.0000000	0.0000000	0.2049710	0.0000000
Beryllium	313.04	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0109650	0.0000000	0.2471980	0.0000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.000000	0.000000	0.0000000	-0.9924980	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0519140	0.0000000
Chromium	267.72	0.0714330	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3711990	0.0000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.0000000	0.0000000	1.7865010	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.0000000	0.0000000	0.0000000	0.1968290	0.0000000	0.0000000	0.0000000
Iron	273.96	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.000000	0.000000	0.0000000	0.1183620	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0068080	0.000000	0.0000000	0.0000000	-0.2132560	0.0000000	0.0000000	0.0000000	-0.0238460	0.0000000
Molybdenum	202.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.000000	0.000000	0.0000000	0.0000000	0.0000000	-0.5233870	0.0000000	0.4243640	0.0000000	0.0000000
Potassium	766.49	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6221340	0.0000000
Silicon	288.16	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2593400	0.0000000
Sodium	589.59	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.650683530	0.0000000	0.0000000	0.88015530
Thallium	190.80	0.000000	0.000000	-1.6229180	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.6063050	0.0000000
Tin	189.93	0.000000	0.000000	0.0000000	0.0000000	-0.0356520	-0.5555490	-0.1890930	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.0000000	0.0000000	0.0000000	0.5783020	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.0000000	-0.0717780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: SWC

SDG: YE32

PREPDATE: 3/28/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB1-0.5-1	YE32A	1.089	0.0	50.0
GEI-SB1-0.5-1D	YE32ADUP	1.093	0.0	50.0
GEI-SB1-0.5-1S	YE32ASPK	1.087	0.0	50.0
GEI-SB1-3-3.5	YE32B	1.024	0.0	50.0
GEI-SB1-5-5.5	YE32C	1.077	0.0	50.0
GEI-SB1-7-7.5	YE32D	1.060	0.0	50.0
GEI-SB2-0.5-1	YE32E	1.033	0.0	50.0
GEI-SB2-3-3.5	YE32F	1.060	0.0	50.0
GEI-SB2-5-5.5	YE32G	1.032	0.0	50.0
GEI-SB2-7-7.5	YE32H	1.089	0.0	50.0
GEI-SB3-0.5-1	YE32I	1.050	0.0	50.0
GEI-SB3-3-3.5	YE32J	1.089	0.0	50.0
GEI-SB3-5-5.5	YE32K	1.050	0.0	50.0
GEI-SB3-7-7.5	YE32L	1.073	0.0	50.0
GEI-SB4-0.5-1	YE32M	1.030	0.0	50.0
PBS	YE32MB1	1.000	0.0	50.0
LCSS	YE32MB1SPK	1.000	0.0	50.0
GEI-SB4-3-3.5	YE32N	1.046	0.0	50.0
GEI-SB4-5-5.5	YE32O	1.072	0.0	50.0
GEI-SB4-7-7.5	YE32P	1.030	0.0	50.0
GEI-SB5-0.5-1	YE32Q	1.084	0.0	50.0
GEI-SB5-3-3.5	YE32R	1.080	0.0	50.0
GEI-SB5-5-5.5	YE32S	1.066	0.0	50.0
GEI-SB5-7-7.5	YE32T	1.060	0.0	50.0

Analysis Run Log



CLIENT: GeoEngineers

PROJECT: Aladden Plating

INSTRUMENT ID: OPTIMA ICP 2

START DATE: 4/1/2014

SDG: YE32

RUNID: IP040171

METHOD: ICP

END DATE: 4/1/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
S0		1.00	0825																														X			
S2		1.00	0829																															X		
S3		1.00	0830																															X		
S4		1.00	0833																																	
S5		1.00	0835																																	
ICV		1.00	0842																																X	
ICB		1.00	0846																																X	
ZZZZZZ		1.00	0850																																	
ICSA		1.00	0854																																X	
ICSAB		1.00	0858																																X	
CCV		1.00	0903																																X	
CCB		1.00	0907																																X	
CRI		1.00	0912																																X	
ZZZZZZ		2.00	0917																																X	
ZZZZZZ		2.00	0921																																X	
ZZZZZZ		2.00	0925																																X	
ZZZZZZ		5.00	0929																																X	
ZZZZZZ		1.00	0933																																X	
ZZZZZZ		1.00	0937																																X	
ZZZZZZ		1.00	0941																																X	
ZZZZZZ		1.00	0945																																X	
CCV		1.00	0949																																X	
CCB		1.00	0953																																X	
ZZZZZZ		1.00	0957																																X	
ZZZZZZ		1.00	1001																																X	
ZZZZZZ		5.00	1005																																X	
ZZZZZZ		1.00	1009																																X	
ZZZZZZ		1.00	1014																																X	
ZZZZZZ		1.00	1018																																X	
ZZZZZZ		1.00	1022																																X	
ZZZZZZ		1.00	1026																																X	
CCV		1.00	1030																																X	
CCB		1.00	1034																																X	
CRI		1.00	1038																																X	
ICSA		1.00	1042																																X	

YE32 : 00051



Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE32

INSTRUMENT ID: OPTIMA ICP 2

START DATE: 4/1/2014

RUNID: IP040171 METHOD: ICP

END DATE: 4/1/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN	
ICSAB	ICSABF	1.00	1046																															X
CCV	CCV4	1.00	1051																															X
CCB	CCB4	1.00	1055																															X
PBS	YE32MB1	2.00	1059																															X
GEI-SB1-3-3.5	YE32B	2.00	1104																															X
GEI-SB1-5-5.5	YE32C	2.00	1108																															X
GEI-SB1-7-7.5	YE32D	2.00	1112																															X
GEI-SB2-0.5-1	YE32E	2.00	1116																															X
GEI-SB1-0.5-1D	YE32ADUP	2.00	1121																															X
GEI-SB1-0.5-1	YE32A	2.00	1125																															X
GEI-SB1-0.5-1S	YE32ASPK	2.00	1129																															X
ZZZZZ	ZZZZZ	2.00	1133																															X
LCSS	YE32MB1SPK	2.00	1137																															X
CCV	CCV5	1.00	1141																															X
CCB	CCB5	1.00	1145																															X
GEI-SB2-3-3.5	YE32F	2.00	1149																															X
GEI-SB2-5-5.5	YE32G	2.00	1153																															X
GEI-SB2-7-7.5	YE32H	2.00	1157																															X
GEI-SB3-0.5-1	YE32I	2.00	1201																															X
GEI-SB3-3-3.5	YE32J	2.00	1204																															X
GEI-SB3-5-5.5	YE32K	2.00	1208																															X
GEI-SB3-7-7.5	YE32L	2.00	1211																															X
GEI-SB4-0.5-1	YE32M	2.00	1215																															X
GEI-SB4-3-3.5	YE32N	2.00	1219																															X
GEI-SB4-5-5.5	YE32O	2.00	1223																															X
CCV	CCV6	1.00	1227																															X
CCB	CCB6	1.00	1231																															X
GEI-SB2-0.5-1	YE32E	2.00	1235																															X
GEI-SB4-7-7.5	YE32P	2.00	1239																															X
GEI-SB5-0.5-1	YE32Q	2.00	1243																															X
GEI-SB5-3-3.5	YE32R	2.00	1247																															X
GEI-SB5-5-5.5	YE32S	2.00	1251																															X
GEI-SB5-7-7.5	YE32T	2.00	1255																															X
ZZZZZ	YE34B	2.00	1259																															X
ZZZZZ	YE34C	2.00	1303																															X

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE32
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040171
 METHOD: ICP
 START DATE: 4/1/2014
 END DATE: 4/1/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
ZZZZZZ	YE34D	2.00	1307																																
ZZZZZZ	YE34MB1SPK	2.00	1311																																
CCV	CCV7	1.00	1315												X																				
CCB	CCB7	1.00	1319												X																				

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YE32

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M' or 'W', located to the right of the matrix information.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB1-0.5-1
ARI ID: 14-5411 YE32A


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.404	< 0.404 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	96.38

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/02/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB1-3-3.5
ARI ID: 14-5412 YE32B

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.424	< 0.424 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	91.36

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'JH', is written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB1-5-5.5
ARI ID: 14-5413 YE32C

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.409	< 0.409 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.09

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB1-7-7.5
ARI ID: 14-5414 YE32D

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.466	< 0.466 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	85.83

RL Analytical reporting limit
U Undetected at reported detection limit
Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'J. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB2-0.5-1
ARI ID: 14-5415 YE32E

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.408	1.92
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.63

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'WJ', is written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB2-3-3.5
ARI ID: 14-5416 YE32F

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.423	< 0.423 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.13

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB2-5-5.5
ARI ID: 14-5417 YE32G

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.418	< 0.418 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.55

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'J. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB2-7-7.5
ARI ID: 14-5418 YE32H

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.450	< 0.450 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	87.51

RL Analytical reporting limit
U Undetected at reported detection limit
Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'A. J. ...', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-0.5-1
ARI ID: 14-5419 YE32I

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.420	22.1
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.57

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-3-3.5
ARI ID: 14-5420 YE32J

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.404	1.58
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.90

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-5-5.5
ARI ID: 14-5421 YE32K

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.419	13.6
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	92.89

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-7-7.5
ARI ID: 14-5422 YE32L


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.467	0.934
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	84.98

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/02/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-0.5-1
ARI ID: 14-5423 YE32M

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.836	96.2
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.40

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be a stylized name, located to the right of the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-3-3.5
ARI ID: 14-5424 YE32N


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.405	0.769
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.72

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/02/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-5-5.5
ARI ID: 14-5425 YE320


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.406	0.772
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	96.11

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/02/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-7-7.5
ARI ID: 14-5426 YE32P

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.461	2.44
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	85.76

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized: [Signature]
Reported: 04/02/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB5-0.5-1
ARI ID: 14-5427 YE32Q

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.406	< 0.406 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.52

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB5-3-3.5
ARI ID: 14-5428 YE32R

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.414	< 0.414 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.76

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS--CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB5-5-5.5
ARI ID: 14-5429 YE32S

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.417	< 0.417 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.14

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'JW' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB5-7-7.5
ARI ID: 14-5430 YE32T

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	03/28/14 032814#1	SW7196A	mg/kg	0.463	7.31
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	85.41

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

MS/MSD RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'WZ', is written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YE32A Client ID: GEI-SB1-0.5-1						
Hexavalent Chromium	03/28/14	mg/kg	< 0.404	0.441	20.0	2.2%
Hexavalent Chromium	03/28/14	mg/kg	< 0.404	743	824	90.1%

REPLICATE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/02/14

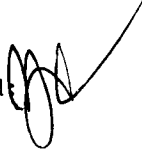
A handwritten signature in black ink, consisting of several loops and a long tail, positioned over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: YE32A Client ID: GEI-SB1-0.5-1					
Hexavalent Chromium	03/28/14	mg/kg	< 0.404	< 0.408	NA
Total Solids	03/27/14	Percent	96.38	96.46	0.1%

METHOD BLANK RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/02/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank	QC ID
Hexavalent Chromium	03/28/14	mg/kg	< 0.400 U	PREP
Total Solids	03/27/14	Percent	< 0.01 U	ICB

STANDARD REFERENCE RESULTS-CONVENTIONALS
YE32-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/02/14

A handwritten signature in black ink, appearing to be 'JL', is written over the 'Data Release Authorized:' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Soluble Hexavalent Chromium	03/28/14	mg/kg	19.0	20.0	95.0%
Insoluble Hexavalent Chromiu	03/28/14	mg/kg	798	850	93.9%
Soil Hexavalent Chrome					

Total Solids

ARI Job ID: YE32

Solids Data Entry Report
Date: 04/01/14

Checked by: CS Date: 4/01/14
Data Analyst: DM

Solids Determination performed on 03/31/14 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
YE32	A	GEI-SB1-0.5-1	1.027	10.748	10.262	95.00
YE32	B	GEI-SB1-3-3.5	0.992	10.391	9.818	93.90
YE32	C	GEI-SB1-5-5.5	0.998	10.784	10.131	93.33
YE32	D	GEI-SB1-7-7.5	1.006	10.520	9.134	85.43
YE32	E	GEI-SB2-0.5-1	1.035	10.368	9.800	93.91
YE32	F	GEI-SB2-3-3.5	1.015	10.421	9.702	92.36
YE32	G	GEI-SB2-5-5.5	0.947	10.956	10.330	93.75
YE32	H	GEI-SB2-7-7.5	0.948	10.806	9.593	87.70
YE32	I	GEI-SB3-0.5-1	1.013	10.578	9.976	93.71
YE32	J	GEI-SB3-3-3.5	1.021	10.294	9.902	95.77
YE32	K	GEI-SB3-5-5.5	1.007	10.898	10.032	91.24
YE32	L	GEI-SB3-7-7.5	1.018	10.656	9.293	85.86
YE32	M	GEI-SB4-0.5-1	1.018	10.616	9.923	92.78
YE32	N	GEI-SB4-3-3.5	0.971	10.461	9.997	95.11
YE32	O	GEI-SB4-5-5.5	0.971	10.938	10.445	95.05
YE32	P	GEI-SB4-7-7.5	0.965	10.841	9.390	85.31
YE32	Q	GEI-SB5-0.5-1	0.929	10.651	10.167	95.02
YE32	R	GEI-SB5-3-3.5	0.978	10.366	9.929	95.35
YE32	S	GEI-SB5-5-5.5	1.013	10.152	9.590	93.85
YE32	T	GEI-SB5-7-7.5	0.976	10.297	8.850	84.48

YE32 : 00080



Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 57 Balance ID: 068755

Samples in Oven: Date: 3-31-14 Time: 1020 Temp: 104°C Analyst: DM

Removed from Oven: Date: 4-01-14 Time: 0635 Temp: 108°C Analyst: DM

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs ¹
YE32 A	1.027	10.748	10.262	-	✓
" B	0.992	10.391	9.818	-	✓
" C	0.998	10.784	10.131	-	✓
" D	1.006	10.520	9.134	-	✓
" E	1.035	10.368	9.800	-	✓
" F	1.015	10.421	9.702	-	✓
" G	0.947	10.956	10.330	-	✓
" H	0.948	10.806	9.593	-	✓
" I	1.013	10.578	9.976	-	✓
" J	1.021	10.294	9.902	-	✓
" K	1.007	10.898	10.032	-	✓
" L	1.018	10.656	9.293	-	✓
" M	1.018	10.616	9.923	-	✓
" N	0.971	10.461	9.997	-	✓
" O	0.971	10.938	10.445	-	✓
" P	0.965	10.841	9.390	-	✓
" Q	0.929	10.251	10.167	-	✓
" R	0.978	10.366	9.929	-	✓
" S	1.013	10.152	9.590	-	✓
" T	0.976	10.297	8.850	-	✓
<u>3-31-14 DM</u>					

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YE32



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: DM
Date: 3-26-14

Final Volume 50
Final Volume (Hg): _____

Sample ID YES4 ASPK, MBSPK
YES2 ASPK, MBSPK

Prepcode	ICP Routine	ICP No	GFA
Spike Solution:	ICP Routine	No GFA	GFA
Standard No.:	<u>0045</u>		
Vol Added (mL):	<u>1.0</u>		
Ag	50		2.0
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50	50	
Pb	200		10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca	25		500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc	Stock Added	Std. No.

YES2: 00083



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: DM Date: 3-28-14 Time: 1126
Matrix: Soil Block ID: 45 Block Temp: 94°C Thermometer: MP46

ARI Sample ID	Btl #	pH<2	Prep Code: <u>SWC</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YE32 A	1	—	1.089	50.0			
" ADUP	1	—	1.093				
" ABPK	1	—	1.087				
" B	1	—	1.024				
" C	1	—	1.077				
" D	1	—	1.060				
" E	1	—	1.033				
" F	1	—	1.060				
" G	1	—	1.032				
" H	1	—	1.089				
" I	1	—	1.050				
" J	1	—	1.089				
" K	1	—	1.050				
" L	1	—	1.073				
" M	1	—	1.030				
" N	1	—	1.046				
" O	1	—	1.072				
" P	1	—	1.030				
" Q	1	—	1.084				
" R	1	—	1.080				
" S	1	—	1.066				
" T	1	—	1.060				
" MBI	—	—	—	↓			
" MBPK	—	—	—	50.0			

3-28-14 DM

Chemical/Reagent ID: HNO₃ : C1312
5061F C0082

H2O2 : B2259
Page 26047

HCl : C0083

Tube Lot #
1300271
Version 005
1/10/12

YE32 : 00084



Corrective Actions Inorganic Analyses

Criteria Flagged:		ARI Job No.:	YE 32
Unacceptable Blank:	<input type="checkbox"/>	Date of Event:	4-1-14
Unacceptable Duplicate:	<input checked="" type="checkbox"/>	Client ID:	GeoEngineers
Unacceptable Spike:	<input type="checkbox"/>	Method/Element:	ICP
Unacceptable Reference:	<input type="checkbox"/>	Prep Code:	SWC

Details of Problem/Recommended Corrective Action:
 A/ADUP = Ni, Pb ↑ RPD (Numbers attached)

Samples Affected:

Corrective Action Taken:

Analyst Initials: BA

Supervisor: 

Date: 4-2-14

Date: 4-2-14

YE 32

MATRIX DUPLICATE AND MATRIX SPIKE WORKSHEET (FOR SAMPLES >5 IDL)									
DUPLICATION:		SPIKE RECOVERY:		SPIKE RECOVERY:		SPIKE RECOVERY:		SPIKE RECOVERY:	
DUP	BKGD	VOLUME	SPIKE	BKGD					
VOLUME	100	100	100	100					
SAMP WT	1.093	1.089	1.087	1.089					
ELEMENT	DUP	BKGD	% RPD	ELEMENT	SPIKE	BKGD	SPK'D CONC	% RECOV	
	mg/L				mg/L	mg/L	mg/L		
Ag			#DIV/0!	Ag			0.5	0.0	
Al			#DIV/0!	Al			2	0.0	
As			#DIV/0!	As			2	0.0	
B			#DIV/0!	B			0.5	0.0	
Ba			#DIV/0!	Ba			2	0.0	
Be			#DIV/0!	Be			0.5	0.0	
Ca			#DIV/0!	Ca			10	0.0	
Cd			#DIV/0!	Cd			0.5	0.0	
Co			#DIV/0!	Co			0.5	0.0	
Cr	0.6741	0.6074	10.04	Cr	1.22	0.6074	0.5	122.7	
Cu			#DIV/0!	Cu			0.5	0.0	
Fe			#DIV/0!	Fe			2	0.0	
K			#DIV/0!	K			10	0.0	
Mg			#DIV/0!	Mg			10	0.0	
Mn			#DIV/0!	Mn			0.5	0.0	
Mo			#DIV/0!	Mo			0.5	0.0	
Na			#DIV/0!	Na			10	0.0	
Ni	2.916	2.306	23.00	Ni	4.095	2.306	0.5	358.6	
Pb	0.4256	0.3405	21.85	Pb	2.504	0.3405	2	108.2	
Sb			#DIV/0!	Sb			2	0.0	
Se			#DIV/0!	Se			2	0.0	
Si			#DIV/0!	Si			10	0.0	
Sn			#DIV/0!	Sn			0.5	0.0	
Sr			#DIV/0!	Sr			0.5	0.0	
Ti			#DIV/0!	Ti			2	0.0	
Tl			#DIV/0!	Tl			2	0.0	
V			#DIV/0!	V			0.5	0.0	
Zn			#DIV/0!	Zn			0.5	0.0	

STL

TABLE 6

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YE32

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 4-1-14

I2	Analyst SA ^{CA-AA} 4/2/14	Peer 4314	Comment
Logbook:			
Analyst, Date, Method info	✓	/	
Sample ID's	✓	/	
Standard/QC solution ID's recorded	✓	/	
Prep codes	✓	/	
Dilution factors	✓	/	
Crossouts/Corrections/Deletions	✓	/	
Calibration:			
Blank & Standard intensities	✓	/	
Standard deviations	✓	/	
Curve fit	✓	/	
Calibration Verification:			
ICV/CCV	✓	/	See log
ICB/CCB	✓	/	↓
Samples:			
RSD's & SD's	✓	/	See log
Internal Standards	✓	/	↓
Carry-over	✓	/	↓
Method QC:			
CRI/CRA	✓	/	
ICSA/ICSAB	✓	/	
Post Spikes/Serial Dilutions	✓	/	YE34
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	/	
Matrix Spikes	✓	/	YE34
Matrix Duplicates	✓	/	YE32, YE33
Method Blanks	✓	/	
Data Distribution:			
Requested elements/isotope identified	✓	/	
Correct samples identified for distribution	✓	/	
Raw data match distributed data	✓	/	
Data filename correct	✓	/	
Necessary Analysts Notes and CAF's	✓	/	CAF - YE32, YE33, YE34



IEC Date: 3-26-14

Analysis Date: 4-1-14

Analyst: xt

LR Date: 1-3-14

Page: 1 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SITD0			C1334
		2			C1331
		3			C1332
		4			C1333
		→ 5			C1334
		ICV			B2567
		ICB			
		ZZZZZZ			Ca ↑ repow + Rerun
		ICSA			C532
		ICSA3			C533
		CCVI			
		CCBI			
		CR1			C1357
		YE91 I	WMN	2	
		J			
		→ K	→	→	
		YE46 EL	DMN	5	✓
		E			
		EDup			✓
		ESOL			✓ B1645
		→ MBZ30L	→		0.08mL ICP 3.0L
					B1645
					0.08mL ICP 3.0L
		CCV2			
		CCB2			
		YE46 MBZ	DMN		



IEC Date:
LR Date:

Analysis Date: 4-1-14

Analyst: AA
Page: 2 of 7

All corrections made by analyst unless otherwise noted. BA 4-1-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE46 MBI	TWL		
		D-L		5	✓
		D			
		DDip			✓
		Dspl			✓ ca 512
222		22222			
		MBISPL			✓
		CCV3			
		CCP3			
		CR1			Ca 4
		IC3A			
		ICSAM			
		CCM4			
		CCM4			
					End YE46
		YE32 MBI	SWC	2	
		B			
		C			
		D			
	✓	E			missed tube
		ADup			✓ Ni, Pb ↑ RPD (CAF)
		A			
		Aspl			✓ Ni: STL
222		22222			
		ATOST			
"SWC"		MBISPL			✓



IEC Date: -

Analysis Date: 4-1-14

Analyst: AA

LR Date: -

Page: 3 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV5			
		CCB5			
		YE32 F	SWC	2	
		G			
		H			
		I			
		J			
		K			
		L			
		M			
		N			
		O			
		CCV4			
		CCB6			
		YE32 E	SWC	2	
		P			
		Q			
		R			
		S			
		T			
		YE34 B			
		C			
		D			
		MBSPK	9		✓



IEC Date:

Analysis Date: 4-1-14

Analyst: AA

LR Date:

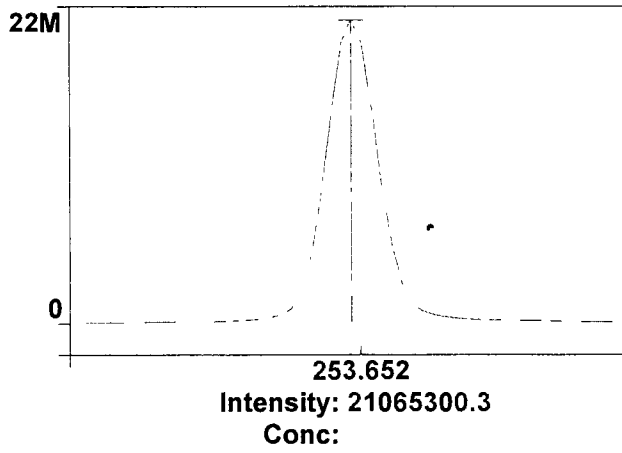
Page: 4 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV7			
		CCV7			Cu A (NR) ^{Ed} YE32
		YE31 MS	Sec	Z	
		E			
		F			
Label		H			
		I			
		ADup			C, Ni, Pb ↑ RPD
		A			(CAF)
		Aspk			Clog?
		APost	PBA		0.05 mL ICP S/k B1845 C OK
		CCV8			
		CCB8			Cu A
		YE34 K	Sec	Z	
		L			Al, Fe > LR
		M			
		N			
		O			
		P			
		YE33 D			
YE33 C		YE34 A			
		YE34 Aspk			C ↓ (CAF) Ni: STL
		YE33 MS			

Hg 253.652

Rep: 1



1

Nebulizer Parameters: Hg ReAlign

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min
=====

4/1/2014 7:59:15 AM Hg ReAlign... Actual peak offset (nm): 0.004
Drift (nm): -0.000 Slit adjustment: -2
=====

Analysis Begun

Start Time: 4/1/2014 8:03:00 AM Plasma On Time: 4/1/2014 7:16:53 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 4/1/2014 8:03:06 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/1/2014 8:25:04 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 4/1/2014 8:25:05 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2961232.7	95154.34	3.21%	100.0 %
ScR 361.383	245743.8	1360.11	0.55%	100.0 %
Ag 328.068†	74.2	57.36	77.35%	[0.00] mg/L
Al 308.215†	111.4	3.47	3.11%	[0.00] mg/L
As 188.979†	-6.3	2.41	38.16%	[0.00] mg/L
B 249.677†	26.9	2.44	9.10%	[0.00] mg/L
Ba 233.527†	16.3	1.51	9.26%	[0.00] mg/L
Be 313.042†	675.9	8.89	1.32%	[0.00] mg/L
Ca 317.933†	-125.9	7.96	6.33%	[0.00] mg/L
Cd 228.802†	298.9	10.07	3.37%	[0.00] mg/L
Co 228.616†	-79.2	2.68	3.38%	[0.00] mg/L
Cr 267.716†	-79.3	1.74	2.20%	[0.00] mg/L
Cu 324.752†	3814.3	135.27	3.55%	[0.00] mg/L
Fe 273.955†	46.2	1.08	2.33%	[0.00] mg/L
K 766.490†	487.0	18.54	3.81%	[0.00] mg/L
Mg 279.077†	55.5	3.30	5.93%	[0.00] mg/L
Mn 257.610†	134.4	5.04	3.75%	[0.00] mg/L
Mo 202.031†	50.8	3.66	7.20%	[0.00] mg/L
Na 589.592†	-378.1	24.50	6.48%	[0.00] mg/L
Na 330.237†	-146.6	3.99	2.72%	[0.00] mg/L
Ni 231.604†	-15.3	3.31	21.59%	[0.00] mg/L
Pb 220.353†	48.2	4.56	9.47%	[0.00] mg/L
Sb 206.836†	70.7	1.51	2.14%	[0.00] mg/L
Se 196.026†	-34.1	3.61	10.59%	[0.00] mg/L
Si 288.158†	66.0	11.43	17.33%	[0.00] mg/L
Sn 189.927†	-0.8	0.06	7.22%	[0.00] mg/L
Sr 421.552†	204.2	25.16	12.32%	[0.00] mg/L
Ti 334.903†	-37.2	2.28	6.13%	[0.00] mg/L
Tl 190.801†	-35.5	5.21	14.66%	[0.00] mg/L
V 292.402†	92.8	18.38	19.80%	[0.00] mg/L
Zn 206.200†	10.3	0.68	6.58%	[0.00] mg/L

=====
Sequence No.: 2
Sample ID: STD2
Autosampler Location: 2
Date Collected: 4/1/2014 8:29:05 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: STD2

Mean Corrected Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2816402.9	14196.03	0.50%	95.11	%
ScR 361.383	236748.9	386.11	0.16%	96.34	%
Ba 233.527†	38192.8	299.44	0.78%	[10]	mg/L
Cd 228.802†	334851.2	746.21	0.22%	[10]	mg/L
Co 228.616†	404165.6	1342.79	0.33%	[10]	mg/L
Cr 267.716†	49980.3	100.41	0.20%	[10]	mg/L
Cu 324.752†	2955840.9	4041.09	0.14%	[10]	mg/L
Mn 257.610†	317933.4	530.28	0.17%	[10]	mg/L
V 292.402†	1548507.0	5605.63	0.36%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/1/2014 8:30:52 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units	Calib
ScA 357.253	2790973.5	13666.71	0.49%	94.25	%	
ScR 361.383	238488.0	840.89	0.35%	97.05	%	
Ag 328.068†	203813.0	275.63	0.14%	[1.0]	mg/L	
As 188.979†	17248.2	86.57	0.50%	[10]	mg/L	
B 249.677†	57224.9	41.46	0.07%	[10]	mg/L	
Be 313.042†	2529861.2	23064.01	0.91%	[5.0]	mg/L	
Na 589.592†	666644.0	5776.05	0.87%	[50]	mg/L	
Ni 231.604†	33784.6	65.59	0.19%	[10]	mg/L	
Pb 220.353†	85709.0	104.09	0.12%	[10]	mg/L	
Se 196.026†	13923.8	57.50	0.41%	[10]	mg/L	
Sr 421.552†	4152305.0	35509.98	0.86%	[5]	mg/L	
Tl 190.801†	21922.6	173.95	0.79%	[10]	mg/L	
Zn 206.200†	34136.7	107.01	0.31%	[10]	mg/L	

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/1/2014 8:33:09 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units	Calib
ScA 357.253	2794291.9	11723.89	0.42%	94.36	%	
ScR 361.383	234014.1	1421.45	0.61%	95.23	%	
Mo 202.031†	194153.4	1657.03	0.85%	[10]	mg/L	
Sb 206.836†	32088.0	257.94	0.80%	[10]	mg/L	
Si 288.158†	17471.7	265.24	1.52%	[10]	mg/L	
Sn 189.927†	35731.5	451.70	1.26%	[10]	mg/L	
Ti 334.903†	168898.1	361.77	0.21%	[10]	mg/L	

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/1/2014 8:35:23 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2644142.9	17455.70	0.66%	89.29	%
ScR 361.383	233665.1	1029.16	0.44%	95.08	%
Al 308.215†	39147.2	70.46	0.18%	[30]	mg/L
Ca 317.933†	293972.0	921.79	0.31%	[30]	mg/L
Fe 273.955†	114998.5	651.17	0.57%	[100]	mg/L
K 766.490†	227689.1	864.04	0.38%	[100]	mg/L
Mg 279.077†	33711.2	48.42	0.14%	[30]	mg/L
Na 330.237†	2146.6	11.84	0.55%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	203800	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1305	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1725	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5722	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3819	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	506000	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9799	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	33490	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40420	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4998	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	295600	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1150	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2277	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1124	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	31790	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	19420	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13330	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	21.47	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3378	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8571	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3209	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1392	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1747	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3573	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	830500	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16890	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2192	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	154900	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3414	0.00000	1.000000	

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Analysis Begun

Start Time: 4/1/2014 8:42:13 AM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: CV

Date Collected: 4/1/2014 8:42:14 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2820976.2	95.26	%	0.058			0.06%
ScR 361.383	230055.8	93.62	%	0.190			0.20%
Ag 328.068†	216288.7	1.061	mg/L	0.0073	1.061	mg/L	0.69%
Al 308.215†	2753.0	2.078	mg/L	0.0131	2.078	mg/L	0.63%
As 188.979†	3480.3	2.050	mg/L	0.0076	2.050	mg/L	0.37%
B 249.677†	5948.5	1.038	mg/L	0.0028	1.038	mg/L	0.27%
Ba 233.527†	3970.0	1.039	mg/L	0.0003	1.039	mg/L	0.03%
Be 313.042†	513290.1	1.014	mg/L	0.0057	1.014	mg/L	0.56%
Ca 317.933†	20834.3	2.126	mg/L	0.0043	2.126	mg/L	0.20%
Cd 228.802†	34924.2	1.033	mg/L	0.0039	1.033	mg/L	0.38%
Co 228.616†	40549.8	1.001	mg/L	0.0035	1.001	mg/L	0.35%
Cr 267.716†	5277.3	1.055	mg/L	0.0042	1.055	mg/L	0.39%
Cu 324.752†	299956.1	1.015	mg/L	0.0022	1.015	mg/L	0.22%
Fe 273.955†	2464.3	2.136	mg/L	0.0131	2.136	mg/L	0.61%
K 766.490†	46506.3	20.43	mg/L	0.033	20.43	mg/L	0.16%
Mg 279.077†	2292.1	2.046	mg/L	0.0048	2.046	mg/L	0.23%
Mn 257.610†	31335.5	0.9860	mg/L	0.00150	0.9860	mg/L	0.15%
Mo 202.031†	18684.8	0.9623	mg/L	0.00274	0.9623	mg/L	0.29%
Na 589.592†	691734.6	51.88	mg/L	0.117	51.88	mg/L	0.22%
Na 330.237†	1128.6	52.53	mg/L	0.182	52.53	mg/L	0.35%
Ni 231.604†	3512.5	1.040	mg/L	0.0026	1.040	mg/L	0.25%
Pb 220.353†	17038.1	1.989	mg/L	0.0051	1.989	mg/L	0.26%
Sb 206.836†	6703.8	2.087	mg/L	0.0031	2.087	mg/L	0.15%
Se 196.026†	2813.6	2.020	mg/L	0.0076	2.020	mg/L	0.38%
Si 288.158†	3526.8	2.023	mg/L	0.0360	2.023	mg/L	1.78%
Sn 189.927†	3516.8	0.9859	mg/L	0.00626	0.9859	mg/L	0.63%
Sr 421.552†	856480.6	1.031	mg/L	0.0016	1.031	mg/L	0.15%
Ti 334.903†	16849.7	0.9964	mg/L	0.00252	0.9964	mg/L	0.25%
Tl 190.801†	4554.1	2.069	mg/L	0.0100	2.069	mg/L	0.48%
V 292.402†	158321.0	1.027	mg/L	0.0083	1.027	mg/L	0.81%
Zn 206.200†	3498.1	1.025	mg/L	0.0007	1.025	mg/L	0.07%

Sequence No.: 2

Autosampler Location: 1

Sample ID: CB

Date Collected: 4/1/2014 8:46:18 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2818053.9	95.16	%	0.983			1.03%
ScR 361.383	240511.8	97.87	%	0.221			0.23%
Ag 328.068†	-25.3	-0.00012	mg/L	0.000181	-0.00012 mg/L	0.000181	145.99%
Al 308.215†	2.5	0.00192	mg/L	0.007072	0.00192 mg/L	0.007072	367.55%
As 188.979†	-2.5	-0.00144	mg/L	0.002310	-0.00144 mg/L	0.002310	160.01%
B 249.677†	13.1	0.00229	mg/L	0.001021	0.00229 mg/L	0.001021	44.63%
Ba 233.527†	-0.7	-0.00018	mg/L	0.000411	-0.00018 mg/L	0.000411	228.66%
Be 313.042†	38.3	0.00008	mg/L	0.000012	0.00008 mg/L	0.000012	16.20%
Ca 317.933†	-18.7	-0.00191	mg/L	0.000864	-0.00191 mg/L	0.000864	45.18%
Cd 228.802†	9.7	0.00030	mg/L	0.000198	0.00030 mg/L	0.000198	66.18%
Co 228.616†	3.9	0.00010	mg/L	0.000122	0.00010 mg/L	0.000122	126.49%
Cr 267.716†	-6.3	-0.00127	mg/L	0.000180	-0.00127 mg/L	0.000180	14.23%
Cu 324.752†	274.8	0.00093	mg/L	0.000280	0.00093 mg/L	0.000280	30.13%
Fe 273.955†	1.5	0.00127	mg/L	0.001225	0.00127 mg/L	0.001225	96.13%
K 766.490†	67.9	0.02983	mg/L	0.011503	0.02983 mg/L	0.011503	38.56%
Mg 279.077†	4.7	0.00417	mg/L	0.004005	0.00417 mg/L	0.004005	95.98%
Mn 257.610†	2.6	0.00008	mg/L	0.000051	0.00008 mg/L	0.000051	62.22%
Mo 202.031†	29.0	0.00149	mg/L	0.000413	0.00149 mg/L	0.000413	27.68%
Na 589.592†	46.8	0.00351	mg/L	0.001173	0.00351 mg/L	0.001173	33.41%
Na 330.237†	-6.3	-0.2946	mg/L	0.21832	-0.2946 mg/L	0.21832	74.10%
Ni 231.604†	0.5	0.00014	mg/L	0.000586	0.00014 mg/L	0.000586	418.28%
Pb 220.353†	1.1	0.00012	mg/L	0.001043	0.00012 mg/L	0.001043	850.86%
Sb 206.836†	29.4	0.00918	mg/L	0.001543	0.00918 mg/L	0.001543	16.80%
Se 196.026†	-1.1	-0.00080	mg/L	0.003082	-0.00080 mg/L	0.003082	385.10%
Si 288.158†	-2.4	-0.00140	mg/L	0.005447	-0.00140 mg/L	0.005447	388.97%
Sn 189.927†	-1.9	-0.00054	mg/L	0.000736	-0.00054 mg/L	0.000736	137.12%
Sr 421.552†	42.7	0.00005	mg/L	0.000015	0.00005 mg/L	0.000015	29.54%
Ti 334.903†	11.4	0.00068	mg/L	0.000497	0.00068 mg/L	0.000497	73.68%
Tl 190.801†	-1.2	-0.00055	mg/L	0.002816	-0.00055 mg/L	0.002816	513.37%
V 292.402†	-6.3	-0.00005	mg/L	0.000045	-0.00005 mg/L	0.000045	99.59%
Zn 206.200†	0.3	0.00009	mg/L	0.000089	0.00009 mg/L	0.000089	96.23%

Sequence No.: 3

Sample ID: CRI-~~ZZZZZZ~~

Autosampler Location: 301

Date Collected: 4/1/2014 8:50:18 AM

Data Type: Original

Dilution: 1.000000X

*4444V
pi.*

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2871721.4	96.98	%	0.508			0.52%
ScR 361.383	240231.2	97.76	%	0.366			0.37%
Ag 328.068†	564.7	0.00277	mg/L	0.000071	0.00277 mg/L	0.000071	2.55%
Al 308.215†	62.5	0.04779	mg/L	0.004773	0.04779 mg/L	0.004773	9.99%
As 188.979†	85.5	0.04974	mg/L	0.001612	0.04974 mg/L	0.001612	3.24%
B 249.677†	126.2	0.02206	mg/L	0.001092	0.02206 mg/L	0.001092	4.95%
Ba 233.527†	12.0	0.00313	mg/L	0.000588	0.00313 mg/L	0.000588	18.80%
Be 313.042†	530.4	0.00105	mg/L	0.000005	0.00105 mg/L	0.000005	0.45%
Ca 317.933†	834.8	0.08519	mg/L	0.001832	0.08519 mg/L	0.001832	2.15%
Cd 228.802†	91.2	0.00248	mg/L	0.000037	0.00248 mg/L	0.000037	1.48%
Co 228.616†	128.4	0.00317	mg/L	0.000221	0.00317 mg/L	0.000221	6.97%
Cr 267.716†	27.2	0.00543	mg/L	0.000533	0.00543 mg/L	0.000533	9.81%
Cu 324.752†	864.1	0.00292	mg/L	0.000369	0.00292 mg/L	0.000369	12.62%
Fe 273.955†	63.0	0.05476	mg/L	0.002095	0.05476 mg/L	0.002095	3.83%
K 766.490†	1191.8	0.5234	mg/L	0.01154	0.5234 mg/L	0.01154	2.20%
Mg 279.077†	64.0	0.05693	mg/L	0.003363	0.05693 mg/L	0.003363	5.91%
Mn 257.610†	34.4	0.00109	mg/L	0.000041	0.00109 mg/L	0.000041	3.79%
Mo 202.031†	100.4	0.00517	mg/L	0.000125	0.00517 mg/L	0.000125	2.42%
Na 589.592†	6871.1	0.5154	mg/L	0.00215	0.5154 mg/L	0.00215	0.42%
Na 330.237†	8.8	0.4064	mg/L	0.20745	0.4064 mg/L	0.20745	51.04%
Ni 231.604†	33.8	0.01002	mg/L	0.001082	0.01002 mg/L	0.001082	10.80%
Pb 220.353†	175.3	0.02047	mg/L	0.001213	0.02047 mg/L	0.001213	5.93%
Sb 206.836†	173.9	0.05421	mg/L	0.001025	0.05421 mg/L	0.001025	1.89%
Se 196.026†	72.8	0.05230	mg/L	0.001685	0.05230 mg/L	0.001685	3.22%
Si 288.158†	104.8	0.05999	mg/L	0.000574	0.05999 mg/L	0.000574	0.96%
Sn 189.927†	32.9	0.00926	mg/L	0.000975	0.00926 mg/L	0.000975	10.53%
Sr 421.552†	888.9	0.00107	mg/L	0.000030	0.00107 mg/L	0.000030	2.80%
Ti 334.903†	94.7	0.00559	mg/L	0.000531	0.00559 mg/L	0.000531	9.49%
Tl 190.801†	107.5	0.04902	mg/L	0.002644	0.04902 mg/L	0.002644	5.39%
V 292.402†	429.1	0.00279	mg/L	0.000106	0.00279 mg/L	0.000106	3.80%
Zn 206.200†	46.8	0.01371	mg/L	0.000209	0.01371 mg/L	0.000209	1.52%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 4/1/2014 8:54:19 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2743839.3	92.66	%	0.495			0.53%
ScR 361.383	234743.5	95.52	%	0.298			0.31%
Ag 328.068†	-274.0	-0.00073	mg/L	0.000293	-0.00073 mg/L	0.000293	40.09%
Al 308.215†	261439.2	200.4	mg/L	0.90	200.4 mg/L	0.90	0.45%
As 188.979†	55.1	0.02335	mg/L	0.004840	0.02335 mg/L	0.004840	20.73%
B 249.677†	-42.5	-0.00743	mg/L	0.003810	-0.00743 mg/L	0.003810	51.28%
Ba 233.527†	110.6	-0.00191	mg/L	0.000584	-0.00191 mg/L	0.000584	30.50%
Be 313.042†	37.6	0.00007	mg/L	0.000006	0.00007 mg/L	0.000006	8.61%
Ca 317.933†	990748.9	101.1	mg/L	0.45	101.1 mg/L	0.45	0.44%
Cd 228.802†	56.0	-0.00023	mg/L	0.000102	-0.00023 mg/L	0.000102	45.11%
Co 228.616†	84.1	0.00206	mg/L	0.000134	0.00206 mg/L	0.000134	6.50%
Cr 267.716†	15.8	-0.00048	mg/L	0.000276	-0.00048 mg/L	0.000276	57.53%
Cu 324.752†	-2358.0	0.00030	mg/L	0.000147	0.00030 mg/L	0.000147	48.67%
Fe 273.955†	229849.8	199.9	mg/L	0.78	199.9 mg/L	0.78	0.39%
K 766.490†	89.9	0.03947	mg/L	0.033629	0.03947 mg/L	0.033629	85.21%
Mg 279.077†	115396.2	102.6	mg/L	0.66	102.6 mg/L	0.66	0.64%
Mn 257.610†	38.5	-0.00127	mg/L	0.000077	-0.00127 mg/L	0.000077	6.06%
Mo 202.031†	77.2	0.00241	mg/L	0.000059	0.00241 mg/L	0.000059	2.44%
Na 589.592†	136.0	0.01020	mg/L	0.003707	0.01020 mg/L	0.003707	36.34%
Na 330.237†	5.8	-0.3445	mg/L	0.09771	-0.3445 mg/L	0.09771	28.36%
Ni 231.604†	5.5	0.00165	mg/L	0.000544	0.00165 mg/L	0.000544	32.93%
Pb 220.353†	-359.5	-0.00132	mg/L	0.000066	-0.00132 mg/L	0.000066	4.96%
Sb 206.836†	70.1	0.02166	mg/L	0.001448	0.02166 mg/L	0.001448	6.68%
Se 196.026†	47.3	0.03399	mg/L	0.004738	0.03399 mg/L	0.004738	13.94%
Si 288.158†	-27.7	-0.00366	mg/L	0.006947	-0.00366 mg/L	0.006947	190.03%
Sn 189.927†	-92.0	-0.01350	mg/L	0.001532	-0.01350 mg/L	0.001532	11.35%
Sr 421.552†	4570.3	0.00550	mg/L	0.000086	0.00550 mg/L	0.000086	1.56%
Ti 334.903†	160.2	0.00234	mg/L	0.000364	0.00234 mg/L	0.000364	15.56%
Tl 190.801†	-37.8	0.00576	mg/L	0.002681	0.00576 mg/L	0.002681	46.51%
V 292.402†	1540.8	-0.00131	mg/L	0.000245	-0.00131 mg/L	0.000245	18.65%
Zn 206.200†	9.7	0.00284	mg/L	0.000501	0.00284 mg/L	0.000501	17.66%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 4/1/2014 8:58:34 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2786180.8	94.09 %	0.175			0.19%
ScR 361.383	236310.2	96.16 %	0.278			0.29%
Ag 328.068†	214277.8	1.052 mg/L	0.0036	1.052 mg/L	0.0036	0.34%
Al 308.215†	260915.4	199.9 mg/L	0.41	199.9 mg/L	0.41	0.20%
As 188.979†	1777.3	1.021 mg/L	0.0038	1.021 mg/L	0.0038	0.37%
B 249.677†	-20.9	-0.00563 mg/L	0.000519	-0.00563 mg/L	0.000519	9.21%
Ba 233.527†	3928.5	0.9975 mg/L	0.00075	0.9975 mg/L	0.00075	0.08%
Be 313.042†	498121.2	0.9842 mg/L	0.00216	0.9842 mg/L	0.00216	0.22%
Ca 317.933†	988803.5	100.9 mg/L	0.08	100.9 mg/L	0.08	0.08%
Cd 228.802†	33971.9	1.008 mg/L	0.0050	1.008 mg/L	0.0050	0.49%
Co 228.616†	37803.2	0.9351 mg/L	0.00206	0.9351 mg/L	0.00206	0.22%
Cr 267.716†	5014.5	0.9997 mg/L	0.00204	0.9997 mg/L	0.00204	0.20%
Cu 324.752†	303570.5	1.036 mg/L	0.0040	1.036 mg/L	0.0040	0.39%
Fe 273.955†	230563.9	200.5 mg/L	0.27	200.5 mg/L	0.27	0.13%
K 766.490†	104.0	0.04569 mg/L	0.009132	0.04569 mg/L	0.009132	19.99%
Mg 279.077†	111224.1	98.84 mg/L	0.181	98.84 mg/L	0.181	0.18%
Mn 257.610†	31004.4	0.9730 mg/L	0.00130	0.9730 mg/L	0.00130	0.13%
Mo 202.031†	77.8	0.00244 mg/L	0.000471	0.00244 mg/L	0.000471	19.28%
Na 589.592†	82.3	0.00617 mg/L	0.003281	0.00617 mg/L	0.003281	53.14%
Na 330.237†	22.9	0.1772 mg/L	0.28769	0.1772 mg/L	0.28769	162.31%
Ni 231.604†	3225.2	0.9548 mg/L	0.00321	0.9548 mg/L	0.00321	0.34%
Pb 220.353†	7966.2	0.9705 mg/L	0.00268	0.9705 mg/L	0.00268	0.28%
Sb 206.836†	3262.8	1.007 mg/L	0.0035	1.007 mg/L	0.0035	0.35%
Se 196.026†	1431.4	1.027 mg/L	0.0034	1.027 mg/L	0.0034	0.33%
Si 288.158†	-47.0	-0.01064 mg/L	0.002279	-0.01064 mg/L	0.002279	21.41%
Sn 189.927†	-105.2	-0.01664 mg/L	0.000561	-0.01664 mg/L	0.000561	3.37%
Sr 421.552†	4503.7	0.00542 mg/L	0.000003	0.00542 mg/L	0.000003	0.05%
Ti 334.903†	159.0	0.00210 mg/L	0.000348	0.00210 mg/L	0.000348	16.61%
Tl 190.801†	2023.8	0.9368 mg/L	0.00389	0.9368 mg/L	0.00389	0.41%
V 292.402†	151565.7	0.9718 mg/L	0.00227	0.9718 mg/L	0.00227	0.23%
Zn 206.200†	3242.5	0.9502 mg/L	0.00325	0.9502 mg/L	0.00325	0.34%

Sequence No.: 6
Sample ID: CV \

Autosampler Location: 7
Date Collected: 4/1/2014 9:03:38 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2846909.9	96.14	%	0.443			0.46%
ScR 361.383	235110.0	95.67	%	0.363			0.38%
Ag 328.068†	213968.1	1.050	mg/L	0.0069	1.050 mg/L	0.0069	0.66%
Al 308.215†	2709.5	2.045	mg/L	0.0088	2.045 mg/L	0.0088	0.43%
As 188.979†	3472.1	2.044	mg/L	0.0095	2.044 mg/L	0.0095	0.46%
B 249.677†	5836.0	1.019	mg/L	0.0034	1.019 mg/L	0.0034	0.33%
Ba 233.527†	3933.2	1.029	mg/L	0.0016	1.029 mg/L	0.0016	0.16%
Be 313.042†	506571.3	1.001	mg/L	0.0040	1.001 mg/L	0.0040	0.40%
Ca 317.933†	20596.9	2.102	mg/L	0.0079	2.102 mg/L	0.0079	0.38%
Cd 228.802†	34783.3	1.029	mg/L	0.0016	1.029 mg/L	0.0016	0.16%
Co 228.616†	40372.6	0.9970	mg/L	0.00305	0.9970 mg/L	0.00305	0.31%
Cr 267.716†	5208.8	1.042	mg/L	0.0044	1.042 mg/L	0.0044	0.42%
Cu 324.752†	295849.5	1.001	mg/L	0.0020	1.001 mg/L	0.0020	0.20%
Fe 273.955†	2430.4	2.107	mg/L	0.0108	2.107 mg/L	0.0108	0.51%
K 766.490†	45749.6	20.09	mg/L	0.086	20.09 mg/L	0.086	0.43%
Mg 279.077†	2272.1	2.028	mg/L	0.0130	2.028 mg/L	0.0130	0.64%
Mn 257.610†	30765.5	0.9681	mg/L	0.00241	0.9681 mg/L	0.00241	0.25%
Mo 202.031†	18588.3	0.9574	mg/L	0.00158	0.9574 mg/L	0.00158	0.17%
Na 589.592†	680781.2	51.06	mg/L	0.150	51.06 mg/L	0.150	0.29%
Na 330.237†	1107.3	51.54	mg/L	0.134	51.54 mg/L	0.134	0.26%
Ni 231.604†	3466.6	1.026	mg/L	0.0020	1.026 mg/L	0.0020	0.19%
Pb 220.353†	17026.0	1.988	mg/L	0.0053	1.988 mg/L	0.0053	0.27%
Sb 206.836†	6681.1	2.080	mg/L	0.0106	2.080 mg/L	0.0106	0.51%
Se 196.026†	2803.5	2.012	mg/L	0.0086	2.012 mg/L	0.0086	0.43%
Si 288.158†	3443.5	1.976	mg/L	0.0215	1.976 mg/L	0.0215	1.09%
Sn 189.927†	3517.2	0.9860	mg/L	0.00527	0.9860 mg/L	0.00527	0.53%
Sr 421.552†	841266.0	1.013	mg/L	0.0009	1.013 mg/L	0.0009	0.09%
Ti 334.903†	16577.3	0.9802	mg/L	0.00057	0.9802 mg/L	0.00057	0.06%
Tl 190.801†	4516.6	2.052	mg/L	0.0137	2.052 mg/L	0.0137	0.67%
V 292.402†	157014.7	1.018	mg/L	0.0034	1.018 mg/L	0.0034	0.33%
Zn 206.200†	3473.2	1.018	mg/L	0.0041	1.018 mg/L	0.0041	0.40%

Sequence No.: 7
 Sample ID: CB7

Autosampler Location: 1
 Date Collected: 4/1/2014 9:07:43 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2842829.3	96.00	%	0.264				0.28%
ScR 361.383	243064.9	98.91	%	0.267				0.27%
Ag 328.068†	-24.9	-0.00012	mg/L	0.000162	-0.00012	mg/L	0.000162	133.05%
Al 308.215†	-1.8	-0.00139	mg/L	0.001273	-0.00139	mg/L	0.001273	91.34%
As 188.979†	-3.2	-0.00185	mg/L	0.000410	-0.00185	mg/L	0.000410	22.19%
B 249.677†	9.2	0.00161	mg/L	0.000622	0.00161	mg/L	0.000622	38.68%
Ba 233.527†	-0.2	-0.00006	mg/L	0.000815	-0.00006	mg/L	0.000815	>999.9%
Be 313.042†	41.3	0.00008	mg/L	0.000025	0.00008	mg/L	0.000025	30.36%
Ca 317.933†	-12.7	-0.00130	mg/L	0.001042	-0.00130	mg/L	0.001042	80.30%
Cd 228.802†	12.8	0.00039	mg/L	0.000148	0.00039	mg/L	0.000148	37.68%
Co 228.616†	1.7	0.00004	mg/L	0.000200	0.00004	mg/L	0.000200	473.59%
Cr 267.716†	1.4	0.00028	mg/L	0.000506	0.00028	mg/L	0.000506	177.61%
Cu 324.752†	273.1	0.00092	mg/L	0.000070	0.00092	mg/L	0.000070	7.59%
Fe 273.955†	1.8	0.00159	mg/L	0.000905	0.00159	mg/L	0.000905	57.06%
K 766.490†	57.8	0.02538	mg/L	0.008078	0.02538	mg/L	0.008078	31.82%
Mg 279.077†	3.1	0.00280	mg/L	0.004082	0.00280	mg/L	0.004082	145.91%
Mn 257.610†	3.1	0.00010	mg/L	0.000034	0.00010	mg/L	0.000034	34.52%
Mo 202.031†	23.7	0.00122	mg/L	0.000129	0.00122	mg/L	0.000129	10.55%
Na 589.592†	79.2	0.00594	mg/L	0.002281	0.00594	mg/L	0.002281	38.41%
Na 330.237†	-0.0	-0.00106	mg/L	0.137976	-0.00106	mg/L	0.137976	>999.9%
Ni 231.604†	-1.4	-0.00040	mg/L	0.000484	-0.00040	mg/L	0.000484	121.62%
Pb 220.353†	6.7	0.00078	mg/L	0.000479	0.00078	mg/L	0.000479	61.67%
Sb 206.836†	39.0	0.01214	mg/L	0.003156	0.01214	mg/L	0.003156	26.01%
Se 196.026†	2.8	0.00203	mg/L	0.000673	0.00203	mg/L	0.000673	33.11%
Si 288.158†	-4.6	-0.00261	mg/L	0.004212	-0.00261	mg/L	0.004212	161.61%
Sn 189.927†	-1.5	-0.00041	mg/L	0.000175	-0.00041	mg/L	0.000175	42.52%
Sr 421.552†	55.3	0.00007	mg/L	0.000022	0.00007	mg/L	0.000022	32.69%
Ti 334.903†	9.0	0.00053	mg/L	0.000404	0.00053	mg/L	0.000404	75.65%
Tl 190.801†	1.3	0.00058	mg/L	0.002003	0.00058	mg/L	0.002003	344.98%
V 292.402†	1.8	0.00001	mg/L	0.000268	0.00001	mg/L	0.000268	>999.9%
Zn 206.200†	2.7	0.00078	mg/L	0.000485	0.00078	mg/L	0.000485	62.44%

User canceled analysis.

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Analysis Begun

Start Time: 4/1/2014 9:12:05 AM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 8

Autosampler Location: 304

Sample ID: CRI

Date Collected: 4/1/2014 9:12:07 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932673.6	99.04 %		0.708			0.71%
ScR 361.383	248841.1	101.3 %		0.49			0.49%
Ag 328.068†	594.6	0.00292 mg/L		0.000152	0.00292 mg/L	0.000152	5.22%
Al 308.215†	59.6	0.04552 mg/L		0.003961	0.04552 mg/L	0.003961	8.70%
As 188.979†	82.6	0.04807 mg/L		0.002667	0.04807 mg/L	0.002667	5.55%
B 249.677†	114.1	0.01994 mg/L		0.000454	0.01994 mg/L	0.000454	2.28%
Ba 233.527†	8.1	0.00211 mg/L		0.000154	0.00211 mg/L	0.000154	7.31%
Be 313.042†	493.8	0.00098 mg/L		0.000013	0.00098 mg/L	0.000013	1.32%
Ca 317.933†	559.3	0.05707 mg/L		0.000778	0.05707 mg/L	0.000778	1.36%
Cd 228.802†	86.1	0.00233 mg/L		0.000179	0.00233 mg/L	0.000179	7.66%
Co 228.616†	126.4	0.00312 mg/L		0.000096	0.00312 mg/L	0.000096	3.08%
Cr 267.716†	28.0	0.00560 mg/L		0.001338	0.00560 mg/L	0.001338	23.92%
Cu 324.752†	750.6	0.00254 mg/L		0.000100	0.00254 mg/L	0.000100	3.94%
Fe 273.955†	58.5	0.05089 mg/L		0.001100	0.05089 mg/L	0.001100	2.16%
K 766.490†	1145.3	0.5030 mg/L		0.01827	0.5030 mg/L	0.01827	3.63%
Mg 279.077†	60.8	0.05410 mg/L		0.003767	0.05410 mg/L	0.003767	6.96%
Mn 257.610†	33.0	0.00104 mg/L		0.000048	0.00104 mg/L	0.000048	4.58%
Mo 202.031†	97.6	0.00503 mg/L		0.000061	0.00503 mg/L	0.000061	1.21%
Na 589.592†	6568.2	0.4926 mg/L		0.00457	0.4926 mg/L	0.00457	0.93%
Na 330.237†	13.8	0.6412 mg/L		0.24354	0.6412 mg/L	0.24354	37.98%
Ni 231.604†	35.6	0.01053 mg/L		0.001699	0.01053 mg/L	0.001699	16.14%
Pb 220.353†	172.6	0.02016 mg/L		0.000485	0.02016 mg/L	0.000485	2.41%
Sb 206.836†	164.6	0.05131 mg/L		0.001606	0.05131 mg/L	0.001606	3.13%
Se 196.026†	63.0	0.04521 mg/L		0.001563	0.04521 mg/L	0.001563	3.46%
Si 288.158†	99.9	0.05719 mg/L		0.002349	0.05719 mg/L	0.002349	4.11%
Sn 189.927†	33.5	0.00940 mg/L		0.000217	0.00940 mg/L	0.000217	2.30%
Sr 421.552†	815.3	0.00098 mg/L		0.000014	0.00098 mg/L	0.000014	1.45%
Ti 334.903†	87.7	0.00518 mg/L		0.000710	0.00518 mg/L	0.000710	13.70%
Tl 190.801†	105.3	0.04799 mg/L		0.001920	0.04799 mg/L	0.001920	4.00%
V 292.402†	429.8	0.00280 mg/L		0.000108	0.00280 mg/L	0.000108	3.86%
Zn 206.200†	37.4	0.01098 mg/L		0.000148	0.01098 mg/L	0.000148	1.35%

User canceled analysis.

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Analysis Begun

Start Time: 4/1/2014 9:17:21 AM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 9

Autosampler Location: 306

Sample ID: YE91 I WMN

Date Collected: 4/1/2014 9:17:22 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE91 I WMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE91 I WMN

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	2829953.8	95.57 %		0.375			0.39%
ScR 361.383	242451.3	98.66 %		1.157			1.17%
Ag 328.068†	17449.8	0.08578 mg/L		0.000439	0.1716 mg/L	0.00088	0.51%
Al 308.215†	17896.2	13.71 mg/L		0.184	27.41 mg/L	0.367	1.34%
As 188.979†	39668.0	23.00 mg/L		0.206	46.00 mg/L	0.411	0.89%
B 249.677†	2172.8	0.3790 mg/L		0.00486	0.7580 mg/L	0.00973	1.28%
Ba 233.527†	5133.3	1.343 mg/L		0.0206	2.686 mg/L	0.0413	1.54%
Be 313.042†	50411.6	0.09951 mg/L		0.000907	0.1990 mg/L	0.00181	0.91%
Ca 317.933†	59271.6	6.049 mg/L		0.0604	12.10 mg/L	0.121	1.00%
Cd 228.802†	5663.5	0.05114 mg/L		0.001859	0.1023 mg/L	0.00372	3.64%
Co 228.616†	14294.9	0.3535 mg/L		0.00237	0.7070 mg/L	0.00473	0.67%
Cr 267.716†	537.2	0.1072 mg/L		0.00065	0.2145 mg/L	0.00130	0.61%
Cu 324.752†	24594.9	0.08356 mg/L		0.000667	0.1671 mg/L	0.00133	0.80%
Fe 273.955†	8449.0	7.343 mg/L		0.0998	14.69 mg/L	0.200	1.36%
K 766.490†	18065.6	7.934 mg/L		0.0274	15.87 mg/L	0.055	0.34%
Mg 279.077†	2817.6	2.503 mg/L		0.0422	5.006 mg/L	0.0845	1.69%
Mn 257.610†	2512.3	0.07905 mg/L		0.001051	0.1581 mg/L	0.00210	1.33%
Mo 202.031†	986.7	0.05073 mg/L		0.000395	0.1015 mg/L	0.00079	0.78%
Na 589.592†	75248.4	5.644 mg/L		0.0491	11.29 mg/L	0.098	0.87%
Na 330.237†	1174.2	54.47 mg/L		0.951	108.9 mg/L	1.90	1.75%
Ni 231.604†	1648.3	0.4878 mg/L		0.00854	0.9756 mg/L	0.01708	1.75%
Pb 220.353†	5952.9	0.6978 mg/L		0.00096	1.396 mg/L	0.0019	0.14%
Sb 206.836†	-42.1	-0.01296 mg/L		0.004173	-0.02593 mg/L	0.008346	32.19%
Se 196.026†	-3798.5	-2.729 mg/L		0.0162	-5.457 mg/L	0.0324	0.59%
Si 288.158†	454.0	0.2608 mg/L		0.00387	0.5217 mg/L	0.00773	1.48%
Sn 189.927†	-127.7	-0.03498 mg/L		0.001275	-0.06995 mg/L	0.002549	3.64%
Sr 421.552†	362216.3	0.4362 mg/L		0.00346	0.8723 mg/L	0.00691	0.79%
Ti 334.903†	69.3	0.00361 mg/L		0.000229	0.00722 mg/L	0.000459	6.36%
Tl 190.801†	348.0	0.1557 mg/L		0.00186	0.3114 mg/L	0.00372	1.20%
V 292.402†	78169.5	0.5049 mg/L		0.00620	1.010 mg/L	0.0124	1.23%
Zn 206.200†	2335.1	0.6842 mg/L		0.01125	1.368 mg/L	0.0225	1.64%

User canceled analysis.

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Analysis BegunStart Time: 4/1/2014 9:21:07 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 10

Autosampler Location: 307

Sample ID: YE91 J WMN

Date Collected: 4/1/2014 9:21:08 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE91 J WMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE91 J WMN

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2796101.8	94.42 %	0.191			0.20%	
ScR 361.383	243898.7	99.25 %	1.060			1.07%	
Ag 328.068†	325.7	0.00170 mg/L	0.000171	0.00340 mg/L	0.000342	10.07%	
Al 308.215†	242.4	0.1803 mg/L	0.00366	0.3606 mg/L	0.00732	2.03%	
As 188.979†	39289.0	22.78 mg/L	0.131	45.56 mg/L	0.263	0.58%	
B 249.677†	141.6	0.02473 mg/L	0.001843	0.04945 mg/L	0.003685	7.45%	
Ba 233.527†	3.2	0.00077 mg/L	0.000111	0.00154 mg/L	0.000222	14.36%	
Be 313.042†	20.1	-0.00005 mg/L	0.000016	-0.00011 mg/L	0.000033	29.92%	
Ca 317.933†	5766.6	0.5885 mg/L	0.00277	1.177 mg/L	0.0055	0.47%	
Cd 228.802†	24.1	-0.1165 mg/L	0.00044	-0.2330 mg/L	0.00088	0.38%	
Co 228.616†	41.7	0.00104 mg/L	0.000080	0.00209 mg/L	0.000159	7.63%	
Cr 267.716†	18.1	0.00348 mg/L	0.000897	0.00695 mg/L	0.001793	25.80%	
Cu 324.752†	-16535.1	-0.05594 mg/L	0.000275	-0.1119 mg/L	0.00055	0.49%	
Fe 273.955†	-4.0	-0.00656 mg/L	0.000707	-0.01311 mg/L	0.001415	10.79%	
K 766.490†	247.9	0.1089 mg/L	0.00389	0.2178 mg/L	0.00777	3.57%	
Mg 279.077†	36.5	0.03233 mg/L	0.001198	0.06467 mg/L	0.002397	3.71%	
Mn 257.610†	70.1	0.00224 mg/L	0.000103	0.00448 mg/L	0.000206	4.59%	
Mo 202.031†	-155.4	-0.00801 mg/L	0.000262	-0.01603 mg/L	0.000523	3.26%	
Na 589.592†	14716.9	1.104 mg/L	0.0050	2.208 mg/L	0.0099	0.45%	
Na 330.237†	1064.6	49.59 mg/L	0.136	99.18 mg/L	0.272	0.27%	
Ni 231.604†	6.1	0.00178 mg/L	0.000830	0.00355 mg/L	0.001661	46.77%	
Pb 220.353†	1215.4	0.1419 mg/L	0.00146	0.2839 mg/L	0.00292	1.03%	
Sb 206.836†	-50.6	-0.01469 mg/L	0.001325	-0.02938 mg/L	0.002650	9.02%	
Se 196.026†	-3953.1	-2.839 mg/L	0.0083	-5.679 mg/L	0.0167	0.29%	
Si 288.158†	180.1	0.1031 mg/L	0.00376	0.2062 mg/L	0.00752	3.65%	
Sn 189.927†	-120.8	-0.03373 mg/L	0.000393	-0.06747 mg/L	0.000787	1.17%	
Sr 421.552†	-1947.5	-0.00235 mg/L	0.000027	-0.00469 mg/L	0.000054	1.15%	
Ti 334.903†	-138.0	-0.00820 mg/L	0.000143	-0.01641 mg/L	0.000286	1.74%	
Tl 190.801†	78.7	0.03448 mg/L	0.000822	0.06896 mg/L	0.001645	2.38%	
V 292.402†	59218.0	0.3824 mg/L	0.00302	0.7649 mg/L	0.00604	0.79%	
Zn 206.200†	28.2	0.00828 mg/L	0.000490	0.01657 mg/L	0.000981	5.92%	

Sequence No.: 11
 Sample ID: YE91 K WMN

Autosampler Location: 308
 Date Collected: 4/1/2014 9:25:08 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE91 K WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE91 K WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2810028.1	94.89	%	0.856			0.90%
ScR 361.383	239346.9	97.40	%	0.686			0.70%
Ag 328.068†	322.0	0.00168	mg/L	0.000164	0.00336 mg/L	0.000329	9.80%
Al 308.215†	254.4	0.1896	mg/L	0.00765	0.3792 mg/L	0.01530	4.04%
As 188.979†	38234.1	22.17	mg/L	0.106	44.33 mg/L	0.213	0.48%
B 249.677†	633.3	0.1107	mg/L	0.00217	0.2213 mg/L	0.00433	1.96%
Ba 233.527†	6.2	0.00154	mg/L	0.000173	0.00309 mg/L	0.000346	11.19%
Be 313.042†	40.0	-0.00001	mg/L	0.000027	-0.00003 mg/L	0.000053	189.79%
Ca 317.933†	534.7	0.05456	mg/L	0.000664	0.1091 mg/L	0.00133	1.22%
Cd 228.802†	26.5	-0.1133	mg/L	0.00034	-0.2266 mg/L	0.00068	0.30%
Co 228.616†	36.7	0.00092	mg/L	0.000063	0.00184 mg/L	0.000127	6.89%
Cr 267.716†	15.5	0.00295	mg/L	0.000633	0.00590 mg/L	0.001266	21.46%
Cu 324.752†	-16281.7	-0.05508	mg/L	0.000434	-0.1102 mg/L	0.00087	0.79%
Fe 273.955†	1.8	-0.00146	mg/L	0.000636	-0.00293 mg/L	0.001271	43.42%
K 766.490†	257.5	0.1131	mg/L	0.00680	0.2262 mg/L	0.01360	6.01%
Mg 279.077†	36.8	0.03266	mg/L	0.005615	0.06532 mg/L	0.011230	17.19%
Mn 257.610†	73.6	0.00235	mg/L	0.000162	0.00471 mg/L	0.000325	6.90%
Mo 202.031†	-162.3	-0.00836	mg/L	0.000049	-0.01672 mg/L	0.000098	0.59%
Na 589.592†	15840.6	1.188	mg/L	0.0059	2.376 mg/L	0.0118	0.50%
Na 330.237†	1063.4	49.54	mg/L	0.565	99.07 mg/L	1.129	1.14%
Ni 231.604†	4.7	0.00136	mg/L	0.001063	0.00272 mg/L	0.002126	78.20%
Pb 220.353†	1187.6	0.1387	mg/L	0.00088	0.2774 mg/L	0.00177	0.64%
Sb 206.836†	-54.3	-0.01585	mg/L	0.000536	-0.03170 mg/L	0.001072	3.38%
Se 196.026†	-3878.4	-2.786	mg/L	0.0273	-5.571 mg/L	0.0546	0.98%
Si 288.158†	175.9	0.1007	mg/L	0.00548	0.2013 mg/L	0.01095	5.44%
Sn 189.927†	-120.5	-0.03373	mg/L	0.000444	-0.06746 mg/L	0.000888	1.32%
Sr 421.552†	-2171.1	-0.00261	mg/L	0.000023	-0.00523 mg/L	0.000045	0.87%
Ti 334.903†	-145.8	-0.00863	mg/L	0.000294	-0.01725 mg/L	0.000588	3.41%
Tl 190.801†	78.1	0.03427	mg/L	0.000834	0.06853 mg/L	0.001668	2.43%
V 292.402†	58376.3	0.3770	mg/L	0.00730	0.7540 mg/L	0.01459	1.94%
Zn 206.200†	21.6	0.00637	mg/L	0.000611	0.01274 mg/L	0.001222	9.59%

Sequence No.: 12

Sample ID: YE46 E-L DMN

Autosampler Location: 309

Date Collected: 4/1/2014 9:29:08 AM

Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YE46 E-L DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 E-L DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2881803.6	97.32	%	0.616			0.63%
ScR 361.383	247403.9	100.7	%	1.01			1.00%
Ag 328.068†	-31.5	-0.00006	mg/L	0.000234	-0.00031 mg/L	0.001168	375.64%
Al 308.215†	-3.1	-0.00242	mg/L	0.001771	-0.01209 mg/L	0.008856	73.28%
As 188.979†	121.9	0.06940	mg/L	0.000719	0.3470 mg/L	0.00360	1.04%
B 249.677†	57.2	0.01001	mg/L	0.001190	0.05004 mg/L	0.005952	11.89%
Ba 233.527†	1.9	0.00049	mg/L	0.001098	0.00244 mg/L	0.005488	224.66%
Be 313.042†	15.4	0.00003	mg/L	0.000029	0.00015 mg/L	0.000145	96.09%
Ca 317.933†	149656.9	15.27	mg/L	0.069	76.36 mg/L	0.344	0.45%
Cd 228.802†	12.4	0.00001	mg/L	0.000145	0.00004 mg/L	0.000723	>999.9%
Co 228.616†	14.4	0.00035	mg/L	0.000131	0.00177 mg/L	0.000657	37.16%
Cr 267.716†	-0.9	-0.00034	mg/L	0.001148	-0.00171 mg/L	0.005739	335.73%
Cu 324.752†	222.9	0.00071	mg/L	0.000115	0.00355 mg/L	0.000577	16.24%
Fe 273.955†	92.7	0.08058	mg/L	0.002630	0.4029 mg/L	0.01315	3.26%
K 766.490†	1566.6	0.6881	mg/L	0.00308	3.440 mg/L	0.0154	0.45%
Mg 279.077†	396.9	0.3512	mg/L	0.00143	1.756 mg/L	0.0072	0.41%
Mn 257.610†	228.2	0.00711	mg/L	0.000068	0.03556 mg/L	0.000342	0.96%
Mo 202.031†	83.7	0.00408	mg/L	0.000378	0.02038 mg/L	0.001890	9.27%
Na 589.592†	32640.2	2.448	mg/L	0.0118	12.24 mg/L	0.059	0.48%
Na 330.237†	54.5	2.448	mg/L	0.1170	12.24 mg/L	0.585	4.78%
Ni 231.604†	3.9	0.00114	mg/L	0.000682	0.00572 mg/L	0.003412	59.60%
Pb 220.353†	-3.8	-0.00045	mg/L	0.001109	-0.00223 mg/L	0.005547	248.56%
Sb 206.836†	1.4	0.00038	mg/L	0.001165	0.00192 mg/L	0.005825	302.73%
Se 196.026†	4.7	0.00339	mg/L	0.006259	0.01695 mg/L	0.031297	184.67%
Si 288.158†	9266.2	5.304	mg/L	0.0202	26.52 mg/L	0.101	0.38%
Sn 189.927†	-24.4	-0.00499	mg/L	0.001252	-0.02494 mg/L	0.006259	25.09%
Sr 421.552†	48970.9	0.05897	mg/L	0.000254	0.2948 mg/L	0.00127	0.43%
Ti 334.903†	29.5	0.00066	mg/L	0.000615	0.00331 mg/L	0.003076	92.97%
Tl 190.801†	4.1	0.00190	mg/L	0.000679	0.00951 mg/L	0.003397	35.71%
V 292.402†	88.7	0.00057	mg/L	0.000092	0.00285 mg/L	0.000462	16.22%
Zn 206.200†	0.3	0.00107	mg/L	0.000382	0.00537 mg/L	0.001910	35.54%

Sequence No.: 13

Sample ID: YE46 E DMN

Autosampler Location: 310

Date Collected: 4/1/2014 9:33:07 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 E DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 E DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929587.4	98.93 %	0.424			0.43%
ScR 361.383	246420.0	100.3 %	0.47			0.47%
Ag 328.068†	-90.7	-0.00002 mg/L	0.000189	-0.00002 mg/L	0.000189	930.67%
Al 308.215†	15.9	0.01190 mg/L	0.002865	0.01190 mg/L	0.002865	24.08%
As 188.979†	589.5	0.3358 mg/L	0.00184	0.3358 mg/L	0.00184	0.55%
B 249.677†	259.7	0.04539 mg/L	0.001116	0.04539 mg/L	0.001116	2.46%
Ba 233.527†	20.6	0.00534 mg/L	0.000957	0.00534 mg/L	0.000957	17.91%
Be 313.042†	21.8	0.00004 mg/L	0.000014	0.00004 mg/L	0.000014	33.52%
Ca 317.933†	688231.4	70.23 mg/L	0.312	70.23 mg/L	0.312	0.44%
Cd 228.802†	56.5	-0.00007 mg/L	0.000065	-0.00007 mg/L	0.000065	87.35%
Co 228.616†	48.9	0.00120 mg/L	0.000100	0.00120 mg/L	0.000100	8.37%
Cr 267.716†	7.8	0.00080 mg/L	0.001030	0.00080 mg/L	0.001030	128.03%
Cu 324.752†	217.7	0.00054 mg/L	0.000266	0.00054 mg/L	0.000266	49.54%
Fe 273.955†	428.8	0.3728 mg/L	0.00268	0.3728 mg/L	0.00268	0.72%
K 766.490†	7189.9	3.158 mg/L	0.0152	3.158 mg/L	0.0152	0.48%
Mg 279.077†	1828.3	1.618 mg/L	0.0110	1.618 mg/L	0.0110	0.68%
Mn 257.610†	1032.6	0.03218 mg/L	0.000126	0.03218 mg/L	0.000126	0.39%
Mo 202.031†	301.2	0.01442 mg/L	0.000098	0.01442 mg/L	0.000098	0.68%
Na 589.592†	153383.7	11.50 mg/L	0.036	11.50 mg/L	0.036	0.31%
Na 330.237†	258.2	11.60 mg/L	0.341	11.60 mg/L	0.341	2.94%
Ni 231.604†	4.1	0.00122 mg/L	0.000518	0.00122 mg/L	0.000518	42.37%
Pb 220.353†	-18.6	-0.00219 mg/L	0.001389	-0.00219 mg/L	0.001389	63.49%
Sb 206.836†	-1.9	-0.00075 mg/L	0.000688	-0.00075 mg/L	0.000688	91.69%
Se 196.026†	17.3	0.01245 mg/L	0.002126	0.01245 mg/L	0.002126	17.07%
Si 288.158†	44285.9	25.35 mg/L	0.192	25.35 mg/L	0.192	0.76%
Sn 189.927†	-71.1	-0.01139 mg/L	0.001189	-0.01139 mg/L	0.001189	10.43%
Sr 421.552†	227037.8	0.2734 mg/L	0.00038	0.2734 mg/L	0.00038	0.14%
Ti 334.903†	121.1	0.00220 mg/L	0.000106	0.00220 mg/L	0.000106	4.84%
Tl 190.801†	20.0	0.00917 mg/L	0.002302	0.00917 mg/L	0.002302	25.11%
V 292.402†	452.0	0.00291 mg/L	0.000088	0.00291 mg/L	0.000088	3.03%
Zn 206.200†	-7.7	0.00247 mg/L	0.000621	0.00247 mg/L	0.000621	25.12%

Sequence No.: 14
Sample ID: YE46 EDUP DMN

Autosampler Location: 311
Date Collected: 4/1/2014 9:37:22 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 EDUP DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 EDUP DMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	2872560.4	97.01 %		0.689			0.71%
ScR 361.383	244825.3	99.63 %		1.581			1.59%
Ag 328.068†	-77.5	0.00005 mg/L		0.000066	0.00005 mg/L	0.000066	122.56%
Al 308.215†	26.2	0.01975 mg/L		0.002513	0.01975 mg/L	0.002513	12.72%
As 188.979†	596.3	0.3396 mg/L		0.00372	0.3396 mg/L	0.00372	1.10%
B 249.677†	262.8	0.04594 mg/L		0.001795	0.04594 mg/L	0.001795	3.91%
Ba 233.527†	23.5	0.00611 mg/L		0.000467	0.00611 mg/L	0.000467	7.64%
Be 313.042†	43.2	0.00008 mg/L		0.000029	0.00008 mg/L	0.000029	33.93%
Ca 317.933†	703708.5	71.81 mg/L		0.467	71.81 mg/L	0.467	0.65%
Cd 228.802†	56.3	-0.00010 mg/L		0.000084	-0.00010 mg/L	0.000084	83.80%
Co 228.616†	52.4	0.00128 mg/L		0.000070	0.00128 mg/L	0.000070	5.48%
Cr 267.716†	5.4	0.00032 mg/L		0.000493	0.00032 mg/L	0.000493	156.36%
Cu 324.752†	330.9	0.00092 mg/L		0.000038	0.00092 mg/L	0.000038	4.20%
Fe 273.955†	435.3	0.3785 mg/L		0.00898	0.3785 mg/L	0.00898	2.37%
K 766.490†	7280.0	3.197 mg/L		0.0343	3.197 mg/L	0.0343	1.07%
Mg 279.077†	1856.8	1.643 mg/L		0.0277	1.643 mg/L	0.0277	1.68%
Mn 257.610†	1052.2	0.03278 mg/L		0.000604	0.03278 mg/L	0.000604	1.84%
Mo 202.031†	309.9	0.01485 mg/L		0.000299	0.01485 mg/L	0.000299	2.01%
Na 589.592†	154925.7	11.62 mg/L		0.056	11.62 mg/L	0.056	0.48%
Na 330.237†	264.0	11.86 mg/L		0.122	11.86 mg/L	0.122	1.03%
Ni 231.604†	3.9	0.00115 mg/L		0.000315	0.00115 mg/L	0.000315	27.38%
Pb 220.353†	-29.5	-0.00346 mg/L		0.000931	-0.00346 mg/L	0.000931	26.95%
Sb 206.836†	0.7	0.00006 mg/L		0.000704	0.00006 mg/L	0.000704	>999.9%
Se 196.026†	15.4	0.01106 mg/L		0.000825	0.01106 mg/L	0.000825	7.46%
Si 288.158†	45043.9	25.78 mg/L		0.147	25.78 mg/L	0.147	0.57%
Sn 189.927†	-72.3	-0.01155 mg/L		0.000886	-0.01155 mg/L	0.000886	7.67%
Sr 421.552†	230372.7	0.2774 mg/L		0.00176	0.2774 mg/L	0.00176	0.63%
Ti 334.903†	129.1	0.00256 mg/L		0.000580	0.00256 mg/L	0.000580	22.68%
Tl 190.801†	22.9	0.01052 mg/L		0.001479	0.01052 mg/L	0.001479	14.06%
V 292.402†	433.1	0.00279 mg/L		0.000185	0.00279 mg/L	0.000185	6.62%
Zn 206.200†	-6.3	0.00297 mg/L		0.000256	0.00297 mg/L	0.000256	8.63%

Sequence No.: 15

Sample ID: YE46 ESPK DMN

Autosampler Location: 312

Date Collected: 4/1/2014 9:41:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 ESPK DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 ESPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2850101.5	96.25	%	0.278			0.29%
ScR 361.383	244850.6	99.64	%	0.632			0.63%
Ag 328.068†	76108.8	0.3741	mg/L	0.01093	0.3741 mg/L	0.01093	2.92%
Al 308.215†	2750.6	2.100	mg/L	0.0181	2.100 mg/L	0.0181	0.86%
As 188.979†	4495.2	2.599	mg/L	0.0233	2.599 mg/L	0.0233	0.90%
B 249.677†	255.3	0.04353	mg/L	0.002213	0.04353 mg/L	0.002213	5.08%
Ba 233.527†	8080.6	2.115	mg/L	0.0171	2.115 mg/L	0.0171	0.81%
Be 313.042†	247890.1	0.4898	mg/L	0.00223	0.4898 mg/L	0.00223	0.45%
Ca 317.933†	804283.9	82.08	mg/L	0.089	82.08 mg/L	0.089	0.11%
Cd 228.802†	19039.3	0.5556	mg/L	0.00310	0.5556 mg/L	0.00310	0.56%
Co 228.616†	20889.9	0.5166	mg/L	0.00186	0.5166 mg/L	0.00186	0.36%
Cr 267.716†	2654.5	0.5292	mg/L	0.00398	0.5292 mg/L	0.00398	0.75%
Cu 324.752†	157444.8	0.5325	mg/L	0.00151	0.5325 mg/L	0.00151	0.28%
Fe 273.955†	2853.2	2.478	mg/L	0.0173	2.478 mg/L	0.0173	0.70%
K 766.490†	31226.0	13.71	mg/L	0.001	13.71 mg/L	0.001	0.00%
Mg 279.077†	13937.6	12.39	mg/L	0.066	12.39 mg/L	0.066	0.53%
Mn 257.610†	17333.8	0.5452	mg/L	0.00452	0.5452 mg/L	0.00452	0.83%
Mo 202.031†	322.9	0.01536	mg/L	0.000059	0.01536 mg/L	0.000059	0.39%
Na 589.592†	296224.9	22.22	mg/L	0.080	22.22 mg/L	0.080	0.36%
Na 330.237†	496.7	22.49	mg/L	0.355	22.49 mg/L	0.355	1.58%
Ni 231.604†	1754.3	0.5184	mg/L	0.00143	0.5184 mg/L	0.00143	0.28%
Pb 220.353†	17953.7	2.095	mg/L	0.0088	2.095 mg/L	0.0088	0.42%
Sb 206.836†	29.9	0.00416	mg/L	0.002005	0.00416 mg/L	0.002005	48.24%
Se 196.026†	3378.8	2.426	mg/L	0.0180	2.426 mg/L	0.0180	0.74%
Si 288.158†	45119.7	25.83	mg/L	0.152	25.83 mg/L	0.152	0.59%
Sn 189.927†	-79.2	-0.01215	mg/L	0.001220	-0.01215 mg/L	0.001220	10.04%
Sr 421.552†	659812.2	0.7945	mg/L	0.00132	0.7945 mg/L	0.00132	0.17%
Ti 334.903†	139.5	0.00235	mg/L	0.000156	0.00235 mg/L	0.000156	6.63%
Tl 190.801†	4621.5	2.103	mg/L	0.0177	2.103 mg/L	0.0177	0.84%
V 292.402†	81600.8	0.5291	mg/L	0.00512	0.5291 mg/L	0.00512	0.97%
Zn 206.200†	1794.1	0.5307	mg/L	0.00578	0.5307 mg/L	0.00578	1.09%

Sequence No.: 16

Autosampler Location: 313

Sample ID: YE46 MB2SPK DMN

Date Collected: 4/1/2014 9:45:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 MB2SPK DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 MB2SPK DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2869506.9	96.90 %	0.370			0.38%
ScR 361.383	244630.4	99.55 %	0.712			0.72%
Ag 328.068†	106058.8	0.5206 mg/L	0.01245	0.5206 mg/L	0.01245	2.39%
Al 308.215†	2804.7	2.142 mg/L	0.0179	2.142 mg/L	0.0179	0.84%
As 188.979†	3813.6	2.210 mg/L	0.0102	2.210 mg/L	0.0102	0.46%
B 249.677†	60.3	0.00944 mg/L	0.001294	0.00944 mg/L	0.001294	13.71%
Ba 233.527†	8105.3	2.122 mg/L	0.0138	2.122 mg/L	0.0138	0.65%
Be 313.042†	245780.2	0.4856 mg/L	0.00177	0.4856 mg/L	0.00177	0.36%
Ca 317.933†	103887.8	10.60 mg/L	0.025	10.60 mg/L	0.025	0.23%
Cd 228.802†	18822.2	0.5511 mg/L	0.00407	0.5511 mg/L	0.00407	0.74%
Co 228.616†	20958.7	0.5183 mg/L	0.00271	0.5183 mg/L	0.00271	0.52%
Cr 267.716†	2680.0	0.5350 mg/L	0.00415	0.5350 mg/L	0.00415	0.78%
Cu 324.752†	150993.8	0.5109 mg/L	0.00150	0.5109 mg/L	0.00150	0.29%
Fe 273.955†	2459.4	2.135 mg/L	0.0168	2.135 mg/L	0.0168	0.79%
K 766.490†	23941.4	10.51 mg/L	0.003	10.51 mg/L	0.003	0.03%
Mg 279.077†	12230.2	10.88 mg/L	0.068	10.88 mg/L	0.068	0.62%
Mn 257.610†	15740.3	0.4954 mg/L	0.00070	0.4954 mg/L	0.00070	0.14%
Mo 202.031†	30.7	0.00142 mg/L	0.000107	0.00142 mg/L	0.000107	7.56%
Na 589.592†	141210.1	10.59 mg/L	0.008	10.59 mg/L	0.008	0.07%
Na 330.237†	237.0	10.82 mg/L	0.248	10.82 mg/L	0.248	2.29%
Ni 231.604†	1794.2	0.5302 mg/L	0.00688	0.5302 mg/L	0.00688	1.30%
Pb 220.353†	18023.0	2.104 mg/L	0.0130	2.104 mg/L	0.0130	0.62%
Sb 206.836†	14.2	-0.00070 mg/L	0.001842	-0.00070 mg/L	0.001842	263.99%
Se 196.026†	3324.4	2.387 mg/L	0.0141	2.387 mg/L	0.0141	0.59%
Si 288.158†	-10.7	-0.00236 mg/L	0.001766	-0.00236 mg/L	0.001766	74.84%
Sn 189.927†	-22.2	-0.00486 mg/L	0.000547	-0.00486 mg/L	0.000547	11.26%
Sr 421.552†	428034.2	0.5154 mg/L	0.00137	0.5154 mg/L	0.00137	0.27%
Ti 334.903†	18.8	0.00026 mg/L	0.000784	0.00026 mg/L	0.000784	297.87%
Tl 190.801†	4629.0	2.107 mg/L	0.0044	2.107 mg/L	0.0044	0.21%
V 292.402†	80951.2	0.5249 mg/L	0.00309	0.5249 mg/L	0.00309	0.59%
Zn 206.200†	1826.0	0.5352 mg/L	0.00442	0.5352 mg/L	0.00442	0.83%

Sequence No.: 17

Sample ID: CV 2

Autosampler Location: 7

Date Collected: 4/1/2014 9:49:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2810545.3	94.91 %	0.667			0.70%
ScR 361.383	236492.4	96.24 %	0.325			0.34%
Ag 328.068†	220028.1	1.080 mg/L	0.0061	1.080 mg/L	0.0061	0.56%
Al 308.215†	2742.5	2.069 mg/L	0.0048	2.069 mg/L	0.0048	0.23%
As 188.979†	3542.0	2.085 mg/L	0.0098	2.085 mg/L	0.0098	0.47%
B 249.677†	5937.0	1.036 mg/L	0.0037	1.036 mg/L	0.0037	0.36%
Ba 233.527†	4009.9	1.049 mg/L	0.0058	1.049 mg/L	0.0058	0.55%
Be 313.042†	514060.0	1.016 mg/L	0.0057	1.016 mg/L	0.0057	0.56%
Ca 317.933†	20991.3	2.142 mg/L	0.0138	2.142 mg/L	0.0138	0.65%
Cd 228.802†	35258.3	1.043 mg/L	0.0043	1.043 mg/L	0.0043	0.41%
Co 228.616†	41225.9	1.018 mg/L	0.0038	1.018 mg/L	0.0038	0.38%
Cr 267.716†	5305.3	1.061 mg/L	0.0047	1.061 mg/L	0.0047	0.44%
Cu 324.752†	300914.1	1.018 mg/L	0.0026	1.018 mg/L	0.0026	0.26%
Fe 273.955†	2457.0	2.130 mg/L	0.0167	2.130 mg/L	0.0167	0.78%
K 766.490†	46286.8	20.33 mg/L	0.033	20.33 mg/L	0.033	0.16%
Mg 279.077†	2301.5	2.054 mg/L	0.0170	2.054 mg/L	0.0170	0.83%
Mn 257.610†	31038.2	0.9767 mg/L	0.00319	0.9767 mg/L	0.00319	0.33%
Mo 202.031†	18951.1	0.9761 mg/L	0.00193	0.9761 mg/L	0.00193	0.20%
Na 589.592†	687666.5	51.58 mg/L	0.114	51.58 mg/L	0.114	0.22%
Na 330.237†	1119.6	52.11 mg/L	0.222	52.11 mg/L	0.222	0.43%
Ni 231.604†	3546.5	1.050 mg/L	0.0046	1.050 mg/L	0.0046	0.43%
Pb 220.353†	17348.4	2.025 mg/L	0.0054	2.025 mg/L	0.0054	0.27%
Sb 206.836†	6756.8	2.104 mg/L	0.0095	2.104 mg/L	0.0095	0.45%
Se 196.026†	2853.2	2.048 mg/L	0.0123	2.048 mg/L	0.0123	0.60%
Si 288.158†	3552.1	2.038 mg/L	0.0194	2.038 mg/L	0.0194	0.95%
Sn 189.927†	3565.5	0.9996 mg/L	0.00483	0.9996 mg/L	0.00483	0.48%
Sr 421.552†	852068.8	1.026 mg/L	0.0012	1.026 mg/L	0.0012	0.12%
Ti 334.903†	16751.1	0.9905 mg/L	0.00159	0.9905 mg/L	0.00159	0.16%
Tl 190.801†	4615.3	2.097 mg/L	0.0127	2.097 mg/L	0.0127	0.60%
V 292.402†	160114.3	1.038 mg/L	0.0026	1.038 mg/L	0.0026	0.25%
Zn 206.200†	3528.8	1.034 mg/L	0.0039	1.034 mg/L	0.0039	0.38%

Sequence No.: 18

Sample ID: CB 2

Autosampler Location: 1

Date Collected: 4/1/2014 9:53:41 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2837110.9	95.81 %	0.189			0.20%
ScR 361.383	239928.0	97.63 %	0.135			0.14%
Ag 328.068†	33.7	0.00017 mg/L	0.000084	0.00017 mg/L	0.000084	51.06%
Al 308.215†	3.1	0.00232 mg/L	0.008796	0.00232 mg/L	0.008796	378.47%
As 188.979†	-0.5	-0.00025 mg/L	0.001254	-0.00025 mg/L	0.001254	508.52%
B 249.677†	8.4	0.00146 mg/L	0.000427	0.00146 mg/L	0.000427	29.14%
Ba 233.527†	-4.1	-0.00109 mg/L	0.000616	-0.00109 mg/L	0.000616	56.68%
Be 313.042†	56.9	0.00011 mg/L	0.000020	0.00011 mg/L	0.000020	18.10%
Ca 317.933†	16.1	0.00165 mg/L	0.000750	0.00165 mg/L	0.000750	45.53%
Cd 228.802†	17.7	0.00053 mg/L	0.000134	0.00053 mg/L	0.000134	25.25%
Co 228.616†	-0.5	-0.00001 mg/L	0.000143	-0.00001 mg/L	0.000143	>999.9%
Cr 267.716†	-1.1	-0.00021 mg/L	0.000893	-0.00021 mg/L	0.000893	423.81%
Cu 324.752†	335.1	0.00113 mg/L	0.000101	0.00113 mg/L	0.000101	8.94%
Fe 273.955†	2.8	0.00247 mg/L	0.001047	0.00247 mg/L	0.001047	42.42%
K 766.490†	47.4	0.02080 mg/L	0.020053	0.02080 mg/L	0.020053	96.40%
Mg 279.077†	6.7	0.00600 mg/L	0.003186	0.00600 mg/L	0.003186	53.10%
Mn 257.610†	5.7	0.00018 mg/L	0.000076	0.00018 mg/L	0.000076	42.39%
Mo 202.031†	26.4	0.00136 mg/L	0.000344	0.00136 mg/L	0.000344	25.32%
Na 589.592†	138.2	0.01036 mg/L	0.002757	0.01036 mg/L	0.002757	26.60%
Na 330.237†	-5.7	-0.2671 mg/L	0.24915	-0.2671 mg/L	0.24915	93.26%
Ni 231.604†	-0.2	-0.00005 mg/L	0.000556	-0.00005 mg/L	0.000556	>999.9%
Pb 220.353†	2.3	0.00026 mg/L	0.000885	0.00026 mg/L	0.000885	336.65%
Sb 206.836†	29.7	0.00925 mg/L	0.001873	0.00925 mg/L	0.001873	20.24%
Se 196.026†	-0.5	-0.00033 mg/L	0.001752	-0.00033 mg/L	0.001752	530.00%
Si 288.158†	0.6	0.00035 mg/L	0.004114	0.00035 mg/L	0.004114	>999.9%
Sn 189.927†	-3.1	-0.00085 mg/L	0.000429	-0.00085 mg/L	0.000429	50.23%
Sr 421.552†	65.5	0.00008 mg/L	0.000053	0.00008 mg/L	0.000053	67.60%
Ti 334.903†	11.6	0.00068 mg/L	0.000334	0.00068 mg/L	0.000334	48.70%
Tl 190.801†	0.4	0.00020 mg/L	0.000787	0.00020 mg/L	0.000787	403.11%
V 292.402†	-25.7	-0.00017 mg/L	0.000155	-0.00017 mg/L	0.000155	93.00%
Zn 206.200†	2.1	0.00062 mg/L	0.000466	0.00062 mg/L	0.000466	75.48%

Sequence No.: 19
Sample ID: YE46 MB2 DMN

Autosampler Location: 305
Date Collected: 4/1/2014 9:57:41 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 MB2 DMN

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE46 MB2 DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3001230.7	101.4	%	0.98			0.97%
ScR 361.383	255649.6	104.0	%	1.34			1.29%
Ag 328.068†	-17.8	-0.00009	mg/L	0.000192	-0.00009 mg/L	0.000192	220.81%
Al 308.215†	46.6	0.03572	mg/L	0.005182	0.03572 mg/L	0.005182	14.51%
As 188.979†	2.6	0.00151	mg/L	0.000862	0.00151 mg/L	0.000862	57.20%
B 249.677†	64.9	0.01134	mg/L	0.000762	0.01134 mg/L	0.000762	6.72%
Ba 233.527†	-2.5	-0.00065	mg/L	0.000455	-0.00065 mg/L	0.000455	69.67%
Be 313.042†	21.9	0.00004	mg/L	0.000036	0.00004 mg/L	0.000036	82.36%
Ca 317.933†	925.6	0.09446	mg/L	0.000495	0.09446 mg/L	0.000495	0.52%
Cd 228.802†	7.8	0.00023	mg/L	0.000059	0.00023 mg/L	0.000059	26.01%
Co 228.616†	19.7	0.00049	mg/L	0.000057	0.00049 mg/L	0.000057	11.70%
Cr 267.716†	4.0	0.00080	mg/L	0.000670	0.00080 mg/L	0.000670	83.64%
Cu 324.752†	219.5	0.00074	mg/L	0.000230	0.00074 mg/L	0.000230	30.98%
Fe 273.955†	-0.0	-0.00003	mg/L	0.001261	-0.00003 mg/L	0.001261	>999.9%
K 766.490†	76.3	0.03349	mg/L	0.010067	0.03349 mg/L	0.010067	30.06%
Mg 279.077†	2.8	0.00247	mg/L	0.002901	0.00247 mg/L	0.002901	117.54%
Mn 257.610†	-2.6	-0.00008	mg/L	0.000169	-0.00008 mg/L	0.000169	204.69%
Mo 202.031†	0.4	0.00002	mg/L	0.000297	0.00002 mg/L	0.000297	>999.9%
Na 589.592†	119.5	0.00897	mg/L	0.001352	0.00897 mg/L	0.001352	15.09%
Na 330.237†	-6.7	-0.3129	mg/L	0.12808	-0.3129 mg/L	0.12808	40.94%
Ni 231.604†	-0.3	-0.00010	mg/L	0.001567	-0.00010 mg/L	0.001567	>999.9%
Pb 220.353†	2.5	0.00030	mg/L	0.000715	0.00030 mg/L	0.000715	241.05%
Sb 206.836†	-0.2	-0.00009	mg/L	0.000613	-0.00009 mg/L	0.000613	682.83%
Se 196.026†	5.7	0.00406	mg/L	0.001193	0.00406 mg/L	0.001193	29.39%
Si 288.158†	-16.4	-0.00940	mg/L	0.001533	-0.00940 mg/L	0.001533	16.31%
Sn 189.927†	-7.7	-0.00214	mg/L	0.000423	-0.00214 mg/L	0.000423	19.77%
Sr 421.552†	419.5	0.00051	mg/L	0.000029	0.00051 mg/L	0.000029	5.76%
Ti 334.903†	-0.1	-0.00002	mg/L	0.000272	-0.00002 mg/L	0.000272	>999.9%
Tl 190.801†	4.5	0.00207	mg/L	0.001490	0.00207 mg/L	0.001490	71.87%
V 292.402†	-24.9	-0.00016	mg/L	0.000071	-0.00016 mg/L	0.000071	45.22%
Zn 206.200†	2.4	0.00071	mg/L	0.000635	0.00071 mg/L	0.000635	89.02%

Sequence No.: 20

Sample ID: YE46 MB1 TWC

Autosampler Location: 314

Date Collected: 4/1/2014 10:01:58 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 MB1 TWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 MB1 TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2909508.1	98.25	%	0.499			0.51%
ScR 361.383	247238.7	100.6	%	0.14			0.14%
Ag 328.068†	35.8	0.00018	mg/L	0.000090	0.00018 mg/L	0.000090	51.23%
Al 308.215†	-1.5	-0.00112	mg/L	0.001367	-0.00112 mg/L	0.001367	122.33%
As 188.979†	-0.4	-0.00019	mg/L	0.002134	-0.00019 mg/L	0.002134	>999.9%
B 249.677†	11.1	0.00193	mg/L	0.001578	0.00193 mg/L	0.001578	81.67%
Ba 233.527†	-3.1	-0.00081	mg/L	0.000610	-0.00081 mg/L	0.000610	74.89%
Be 313.042†	25.7	0.00005	mg/L	0.000016	0.00005 mg/L	0.000016	30.60%
Ca 317.933†	30.4	0.00310	mg/L	0.001923	0.00310 mg/L	0.001923	62.08%
Cd 228.802†	10.6	0.00032	mg/L	0.000066	0.00032 mg/L	0.000066	20.58%
Co 228.616†	5.2	0.00013	mg/L	0.000048	0.00013 mg/L	0.000048	37.36%
Cr 267.716†	0.5	0.00010	mg/L	0.000273	0.00010 mg/L	0.000273	277.99%
Cu 324.752†	344.7	0.00117	mg/L	0.000166	0.00117 mg/L	0.000166	14.24%
Fe 273.955†	2.5	0.00221	mg/L	0.001867	0.00221 mg/L	0.001867	84.54%
K 766.490†	40.7	0.01788	mg/L	0.011159	0.01788 mg/L	0.011159	62.42%
Mg 279.077†	0.2	0.00017	mg/L	0.001588	0.00017 mg/L	0.001588	911.74%
Mn 257.610†	1.6	0.00005	mg/L	0.000156	0.00005 mg/L	0.000156	318.67%
Mo 202.031†	5.0	0.00026	mg/L	0.000133	0.00026 mg/L	0.000133	52.02%
Na 589.592†	119.9	0.00899	mg/L	0.003039	0.00899 mg/L	0.003039	33.80%
Na 330.237†	-0.6	-0.02593	mg/L	0.154974	-0.02593 mg/L	0.154974	597.66%
Ni 231.604†	0.8	0.00025	mg/L	0.000400	0.00025 mg/L	0.000400	160.37%
Pb 220.353†	7.6	0.00088	mg/L	0.000778	0.00088 mg/L	0.000778	87.90%
Sb 206.836†	3.7	0.00114	mg/L	0.000350	0.00114 mg/L	0.000350	30.83%
Se 196.026†	4.5	0.00321	mg/L	0.001690	0.00321 mg/L	0.001690	52.68%
Si 288.158†	12.0	0.00689	mg/L	0.000565	0.00689 mg/L	0.000565	8.20%
Sn 189.927†	-2.1	-0.00059	mg/L	0.000828	-0.00059 mg/L	0.000828	141.41%
Sr 421.552†	28.1	0.00003	mg/L	0.000041	0.00003 mg/L	0.000041	121.50%
Ti 334.903†	10.4	0.00061	mg/L	0.000087	0.00061 mg/L	0.000087	14.10%
Tl 190.801†	6.1	0.00280	mg/L	0.001115	0.00280 mg/L	0.001115	39.83%
V 292.402†	-34.6	-0.00022	mg/L	0.000095	-0.00022 mg/L	0.000095	42.42%
Zn 206.200†	4.6	0.00134	mg/L	0.000450	0.00134 mg/L	0.000450	33.67%

Sequence No.: 21
Sample ID: YE46 D-L TWC
Dilution: 5.000000X

Autosampler Location: 315
Date Collected: 4/1/2014 10:05:59 AM
Data Type: Original

Nebulizer Parameters: YE46 D-L TWC
Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE46 D-L TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2885579.4	97.45	%	0.178			0.18%
ScR 361.383	247660.7	100.8	%	0.09			0.09%
Ag 328.068†	1.8	0.00010	mg/L	0.000286	0.00050 mg/L	0.001428	283.09%
Al 308.215†	25.5	0.01949	mg/L	0.000258	0.09744 mg/L	0.001292	1.33%
As 188.979†	127.8	0.07279	mg/L	0.002632	0.3640 mg/L	0.01316	3.62%
B 249.677†	91.1	0.01592	mg/L	0.001794	0.07959 mg/L	0.008969	11.27%
Ba 233.527†	5.5	0.00142	mg/L	0.000718	0.00710 mg/L	0.003589	50.53%
Be 313.042†	16.5	0.00003	mg/L	0.000027	0.00016 mg/L	0.000137	84.59%
Ca 317.933†	149348.5	15.24	mg/L	0.072	76.21 mg/L	0.361	0.47%
Cd 228.802†	19.0	0.00018	mg/L	0.000108	0.00092 mg/L	0.000538	58.33%
Co 228.616†	15.2	0.00037	mg/L	0.000041	0.00187 mg/L	0.000206	11.01%
Cr 267.716†	0.4	-0.00008	mg/L	0.000497	-0.00042 mg/L	0.002485	591.57%
Cu 324.752†	262.9	0.00085	mg/L	0.000130	0.00423 mg/L	0.000651	15.40%
Fe 273.955†	96.9	0.08427	mg/L	0.000285	0.4214 mg/L	0.00142	0.34%
K 766.490†	1558.3	0.6844	mg/L	0.02105	3.422 mg/L	0.1053	3.08%
Mg 279.077†	394.6	0.3493	mg/L	0.00599	1.746 mg/L	0.0300	1.72%
Mn 257.610†	223.5	0.00696	mg/L	0.000046	0.03482 mg/L	0.000232	0.67%
Mo 202.031†	94.3	0.00462	mg/L	0.000029	0.02310 mg/L	0.000146	0.63%
Na 589.592†	32133.5	2.410	mg/L	0.0084	12.05 mg/L	0.042	0.35%
Na 330.237†	55.2	2.480	mg/L	0.2786	12.40 mg/L	1.393	11.23%
Ni 231.604†	0.4	0.00010	mg/L	0.000879	0.00051 mg/L	0.004396	858.38%
Pb 220.353†	-5.9	-0.00069	mg/L	0.000489	-0.00344 mg/L	0.002444	71.09%
Sb 206.836†	2.8	0.00081	mg/L	0.002319	0.00404 mg/L	0.011596	287.09%
Se 196.026†	7.4	0.00532	mg/L	0.001905	0.02662 mg/L	0.009525	35.78%
Si 288.158†	8064.3	4.616	mg/L	0.0825	23.08 mg/L	0.413	1.79%
Sn 189.927†	-26.6	-0.00561	mg/L	0.000976	-0.02806 mg/L	0.004880	17.39%
Sr 421.552†	48997.6	0.05900	mg/L	0.000128	0.2950 mg/L	0.00064	0.22%
Ti 334.903†	27.2	0.00053	mg/L	0.000673	0.00266 mg/L	0.003366	126.58%
Tl 190.801†	10.0	0.00458	mg/L	0.003581	0.02289 mg/L	0.017905	78.23%
V 292.402†	104.7	0.00067	mg/L	0.000026	0.00337 mg/L	0.000131	3.90%
Zn 206.200†	-0.1	0.00083	mg/L	0.000560	0.00414 mg/L	0.002800	67.56%

Sequence No.: 22

Sample ID: YE46 D TWC

Autosampler Location: 316

Date Collected: 4/1/2014 10:09:58 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 D TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 D TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2871226.5	96.96 %	0.194			0.20%
ScR 361.383	243252.1	98.99 %	0.040			0.04%
Ag 328.068†	-74.1	0.00009 mg/L	0.000101	0.00009 mg/L	0.000101	113.44%
Al 308.215†	140.3	0.1072 mg/L	0.00444	0.1072 mg/L	0.00444	4.14%
As 188.979†	617.5	0.3517 mg/L	0.00079	0.3517 mg/L	0.00079	0.23%
B 249.677†	435.8	0.07617 mg/L	0.000842	0.07617 mg/L	0.000842	1.11%
Ba 233.527†	33.3	0.00867 mg/L	0.000435	0.00867 mg/L	0.000435	5.02%
Be 313.042†	40.5	0.00008 mg/L	0.000004	0.00008 mg/L	0.000004	4.92%
Ca 317.933†	733926.1	74.90 mg/L	0.396	74.90 mg/L	0.396	0.53%
Cd 228.802†	62.1	0.00001 mg/L	0.000077	0.00001 mg/L	0.000077	716.51%
Co 228.616†	41.8	0.00102 mg/L	0.000049	0.00102 mg/L	0.000049	4.83%
Cr 267.716†	5.4	0.00027 mg/L	0.000657	0.00027 mg/L	0.000657	243.95%
Cu 324.752†	467.1	0.00137 mg/L	0.000030	0.00137 mg/L	0.000030	2.20%
Fe 273.955†	467.0	0.4061 mg/L	0.00250	0.4061 mg/L	0.00250	0.62%
K 766.490†	7477.3	3.284 mg/L	0.0043	3.284 mg/L	0.0043	0.13%
Mg 279.077†	1926.4	1.705 mg/L	0.0088	1.705 mg/L	0.0088	0.52%
Mn 257.610†	1085.8	0.03383 mg/L	0.000510	0.03383 mg/L	0.000510	1.51%
Mo 202.031†	348.8	0.01680 mg/L	0.000208	0.01680 mg/L	0.000208	1.24%
Na 589.592†	159132.3	11.94 mg/L	0.041	11.94 mg/L	0.041	0.34%
Na 330.237†	265.9	11.93 mg/L	0.293	11.93 mg/L	0.293	2.46%
Ni 231.604†	4.6	0.00135 mg/L	0.000386	0.00135 mg/L	0.000386	28.62%
Pb 220.353†	-21.9	-0.00254 mg/L	0.000261	-0.00254 mg/L	0.000261	10.24%
Sb 206.836†	4.5	0.00125 mg/L	0.001202	0.00125 mg/L	0.001202	96.52%
Se 196.026†	7.7	0.00550 mg/L	0.004157	0.00550 mg/L	0.004157	75.54%
Si 288.158†	41214.5	23.59 mg/L	0.400	23.59 mg/L	0.400	1.69%
Sn 189.927†	-77.9	-0.01274 mg/L	0.001317	-0.01274 mg/L	0.001317	10.34%
Sr 421.552†	240285.2	0.2893 mg/L	0.00102	0.2893 mg/L	0.00102	0.35%
Ti 334.903†	143.1	0.00317 mg/L	0.000554	0.00317 mg/L	0.000554	17.50%
Tl 190.801†	18.6	0.00854 mg/L	0.002158	0.00854 mg/L	0.002158	25.26%
V 292.402†	504.4	0.00325 mg/L	0.000090	0.00325 mg/L	0.000090	2.77%
Zn 206.200†	-1.1	0.00406 mg/L	0.000564	0.00406 mg/L	0.000564	13.90%

Sequence No.: 23

Autosampler Location: 317

Sample ID: YE46 DDUP TWC

Date Collected: 4/1/2014 10:14:13 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 DDUP TWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 DDUP TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2835073.6	95.74 %	0.311			0.32%
ScR 361.383	239494.2	97.46 %	0.450			0.46%
Ag 328.068†	-52.3	0.00019 mg/L	0.000031	0.00019 mg/L	0.000031	16.53%
Al 308.215†	134.1	0.1024 mg/L	0.00223	0.1024 mg/L	0.00223	2.18%
As 188.979†	601.4	0.3424 mg/L	0.00325	0.3424 mg/L	0.00325	0.95%
B 249.677†	427.3	0.07469 mg/L	0.000291	0.07469 mg/L	0.000291	0.39%
Ba 233.527†	31.9	0.00828 mg/L	0.000451	0.00828 mg/L	0.000451	5.45%
Be 313.042†	44.9	0.00009 mg/L	0.000007	0.00009 mg/L	0.000007	8.13%
Ca 317.933†	717545.4	73.23 mg/L	0.068	73.23 mg/L	0.068	0.09%
Cd 228.802†	60.1	0.00000 mg/L	0.000159	0.00000 mg/L	0.000159	>999.9%
Co 228.616†	36.1	0.00088 mg/L	0.000103	0.00088 mg/L	0.000103	11.69%
Cr 267.716†	7.3	0.00066 mg/L	0.000861	0.00066 mg/L	0.000861	129.69%
Cu 324.752†	500.6	0.00149 mg/L	0.000039	0.00149 mg/L	0.000039	2.61%
Fe 273.955†	462.7	0.4023 mg/L	0.00317	0.4023 mg/L	0.00317	0.79%
K 766.490†	7303.3	3.208 mg/L	0.0400	3.208 mg/L	0.0400	1.25%
Mg 279.077†	1888.5	1.671 mg/L	0.0099	1.671 mg/L	0.0099	0.59%
Mn 257.610†	1072.8	0.03343 mg/L	0.000385	0.03343 mg/L	0.000385	1.15%
Mo 202.031†	334.7	0.01610 mg/L	0.000292	0.01610 mg/L	0.000292	1.81%
Na 589.592†	155151.0	11.64 mg/L	0.013	11.64 mg/L	0.013	0.11%
Na 330.237†	265.5	11.92 mg/L	0.349	11.92 mg/L	0.349	2.93%
Ni 231.604†	7.5	0.00222 mg/L	0.001093	0.00222 mg/L	0.001093	49.31%
Pb 220.353†	-20.9	-0.00243 mg/L	0.000318	-0.00243 mg/L	0.000318	13.06%
Sb 206.836†	9.3	0.00272 mg/L	0.002096	0.00272 mg/L	0.002096	76.96%
Se 196.026†	8.5	0.00610 mg/L	0.004020	0.00610 mg/L	0.004020	65.95%
Si 288.158†	42673.6	24.42 mg/L	0.192	24.42 mg/L	0.192	0.79%
Sn 189.927†	-75.3	-0.01220 mg/L	0.001071	-0.01220 mg/L	0.001071	8.78%
Sr 421.552†	235236.6	0.2833 mg/L	0.00036	0.2833 mg/L	0.00036	0.13%
Ti 334.903†	136.3	0.00289 mg/L	0.001073	0.00289 mg/L	0.001073	37.20%
Tl 190.801†	14.8	0.00682 mg/L	0.000918	0.00682 mg/L	0.000918	13.45%
V 292.402†	468.4	0.00302 mg/L	0.000121	0.00302 mg/L	0.000121	3.99%
Zn 206.200†	-1.2	0.00420 mg/L	0.000381	0.00420 mg/L	0.000381	9.07%

Sequence No.: 24

Autosampler Location: 318

Sample ID: YE46 DSPK TWC

Date Collected: 4/1/2014 10:18:28 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 DSPK TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 DSPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2838781.0	95.86	%	1.289			1.34%
ScR 361.383	242397.4	98.64	%	0.956			0.97%
Ag 328.068†	109303.9	0.5369	mg/L	0.00556	0.5369 mg/L	0.00556	1.04%
Al 308.215†	2811.9	2.147	mg/L	0.0235	2.147 mg/L	0.0235	1.10%
As 188.979†	4239.3	2.450	mg/L	0.0242	2.450 mg/L	0.0242	0.99%
B 249.677†	420.9	0.07252	mg/L	0.001829	0.07252 mg/L	0.001829	2.52%
Ba 233.527†	8089.5	2.118	mg/L	0.0150	2.118 mg/L	0.0150	0.71%
Be 313.042†	256038.9	0.5059	mg/L	0.00179	0.5059 mg/L	0.00179	0.35%
Ca 317.933†	828518.4	84.55	mg/L	0.119	84.55 mg/L	0.119	0.14%
Cd 228.802†	17789.7	0.5190	mg/L	0.00579	0.5190 mg/L	0.00579	1.12%
Co 228.616†	20248.6	0.5007	mg/L	0.00578	0.5007 mg/L	0.00578	1.15%
Cr 267.716†	2604.6	0.5192	mg/L	0.00364	0.5192 mg/L	0.00364	0.70%
Cu 324.752†	150136.3	0.5078	mg/L	0.00424	0.5078 mg/L	0.00424	0.84%
Fe 273.955†	2850.6	2.475	mg/L	0.0292	2.475 mg/L	0.0292	1.18%
K 766.490†	30930.9	13.58	mg/L	0.007	13.58 mg/L	0.007	0.05%
Mg 279.077†	13680.8	12.16	mg/L	0.117	12.16 mg/L	0.117	0.96%
Mn 257.610†	17054.5	0.5364	mg/L	0.00657	0.5364 mg/L	0.00657	1.22%
Mo 202.031†	351.1	0.01677	mg/L	0.000221	0.01677 mg/L	0.000221	1.32%
Na 589.592†	298239.1	22.37	mg/L	0.049	22.37 mg/L	0.049	0.22%
Na 330.237†	499.2	22.60	mg/L	0.132	22.60 mg/L	0.132	0.58%
Ni 231.604†	1721.4	0.5087	mg/L	0.00357	0.5087 mg/L	0.00357	0.70%
Pb 220.353†	17260.2	2.015	mg/L	0.0207	2.015 mg/L	0.0207	1.03%
Sb 206.836†	28.1	0.00366	mg/L	0.002042	0.00366 mg/L	0.002042	55.72%
Se 196.026†	2878.5	2.067	mg/L	0.0227	2.067 mg/L	0.0227	1.10%
Si 288.158†	43562.5	24.94	mg/L	0.345	24.94 mg/L	0.345	1.38%
Sn 189.927†	-81.7	-0.01256	mg/L	0.000967	-0.01256 mg/L	0.000967	7.70%
Sr 421.552†	663326.6	0.7987	mg/L	0.00025	0.7987 mg/L	0.00025	0.03%
Ti 334.903†	146.1	0.00256	mg/L	0.000278	0.00256 mg/L	0.000278	10.85%
Tl 190.801†	4489.5	2.043	mg/L	0.0173	2.043 mg/L	0.0173	0.85%
V 292.402†	79423.7	0.5150	mg/L	0.00544	0.5150 mg/L	0.00544	1.06%
Zn 206.200†	1712.5	0.5066	mg/L	0.00554	0.5066 mg/L	0.00554	1.09%

Sequence No.: 25

Sample ID: YE46 DPOST TWC ~~ZZZZZZ~~

Autosampler Location: 319

Date Collected: 4/1/2014 10:22:28 AM

Data Type: Original

Dilution: 1.000000X

* 4174

Nebulizer Parameters: YE46 DPOST TWC

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: YE46 DPOST TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2816256.9	95.10	%	0.465				0.49%
ScR 361.383	238321.1	96.98	%	0.181				0.19%
Ag 328.068†	103296.4	0.5075	mg/L	0.00364	0.5075	mg/L	0.00364	0.72%
Al 308.215†	2823.1	2.156	mg/L	0.0062	2.156	mg/L	0.0062	0.29%
As 188.979†	4228.1	2.444	mg/L	0.0055	2.444	mg/L	0.0055	0.22%
B 249.677†	427.3	0.07363	mg/L	0.001445	0.07363	mg/L	0.001445	1.96%
Ba 233.527†	8002.9	2.095	mg/L	0.0036	2.095	mg/L	0.0036	0.17%
Be 313.042†	242076.2	0.4783	mg/L	0.00332	0.4783	mg/L	0.00332	0.69%
Ca 317.933†	836232.9	85.34	mg/L	0.155	85.34	mg/L	0.155	0.18%
Cd 228.802†	17751.6	0.5179	mg/L	0.00136	0.5179	mg/L	0.00136	0.26%
Co 228.616†	20100.1	0.4970	mg/L	0.00340	0.4970	mg/L	0.00340	0.68%
Cr 267.716†	2620.7	0.5224	mg/L	0.00128	0.5224	mg/L	0.00128	0.24%
Cu 324.752†	153369.5	0.5187	mg/L	0.00297	0.5187	mg/L	0.00297	0.57%
Fe 273.955†	2847.1	2.472	mg/L	0.0070	2.472	mg/L	0.0070	0.28%
K 766.490†	31161.9	13.69	mg/L	0.070	13.69	mg/L	0.070	0.51%
Mg 279.077†	13778.5	12.25	mg/L	0.024	12.25	mg/L	0.024	0.20%
Mn 257.610†	17080.5	0.5372	mg/L	0.00103	0.5372	mg/L	0.00103	0.19%
Mo 202.031†	351.2	0.01676	mg/L	0.000145	0.01676	mg/L	0.000145	0.86%
Na 589.592†	300683.9	22.55	mg/L	0.113	22.55	mg/L	0.113	0.50%
Na 330.237†	500.2	22.64	mg/L	0.209	22.64	mg/L	0.209	0.92%
Ni 231.604†	1736.9	0.5133	mg/L	0.00210	0.5133	mg/L	0.00210	0.41%
Pb 220.353†	17143.2	2.001	mg/L	0.0092	2.001	mg/L	0.0092	0.46%
Sb 206.836†	27.4	0.00341	mg/L	0.000991	0.00341	mg/L	0.000991	29.04%
Se 196.026†	2877.0	2.066	mg/L	0.0047	2.066	mg/L	0.0047	0.23%
Si 288.158†	43101.5	24.67	mg/L	0.112	24.67	mg/L	0.112	0.45%
Sn 189.927†	-81.7	-0.01246	mg/L	0.000681	-0.01246	mg/L	0.000681	5.47%
Sr 421.552†	665846.7	0.8018	mg/L	0.00213	0.8018	mg/L	0.00213	0.27%
Ti 334.903†	146.2	0.00251	mg/L	0.000399	0.00251	mg/L	0.000399	15.87%
Tl 190.801†	4458.6	2.029	mg/L	0.0024	2.029	mg/L	0.0024	0.12%
V 292.402†	79587.0	0.5161	mg/L	0.00399	0.5161	mg/L	0.00399	0.77%
Zn 206.200†	1719.2	0.5085	mg/L	0.00213	0.5085	mg/L	0.00213	0.42%

Sequence No.: 26
 Sample ID: YE46 MB1SPK TWC

Autosampler Location: 320
 Date Collected: 4/1/2014 10:26:28 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 MB1SPK TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE46 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2874128.6	97.06	%	0.664			0.68%
ScR 361.383	244363.2	99.44	%	0.644			0.65%
Ag 328.068†	109991.6	0.5399	mg/L	0.00538	0.5399 mg/L	0.00538	1.00%
Al 308.215†	2739.8	2.092	mg/L	0.0095	2.092 mg/L	0.0095	0.45%
As 188.979†	3646.0	2.113	mg/L	0.0131	2.113 mg/L	0.0131	0.62%
B 249.677†	6.1	-0.00002	mg/L	0.000268	-0.00002 mg/L	0.000268	>999.9%
Ba 233.527†	8154.1	2.135	mg/L	0.0070	2.135 mg/L	0.0070	0.33%
Be 313.042†	258430.7	0.5106	mg/L	0.00219	0.5106 mg/L	0.00219	0.43%
Ca 317.933†	102808.7	10.49	mg/L	0.043	10.49 mg/L	0.043	0.41%
Cd 228.802†	17911.6	0.5244	mg/L	0.00419	0.5244 mg/L	0.00419	0.80%
Co 228.616†	20681.2	0.5114	mg/L	0.00717	0.5114 mg/L	0.00717	1.40%
Cr 267.716†	2683.7	0.5358	mg/L	0.00116	0.5358 mg/L	0.00116	0.22%
Cu 324.752†	150137.0	0.5080	mg/L	0.00577	0.5080 mg/L	0.00577	1.14%
Fe 273.955†	2475.7	2.149	mg/L	0.0050	2.149 mg/L	0.0050	0.23%
K 766.490†	23679.0	10.40	mg/L	0.054	10.40 mg/L	0.054	0.52%
Mg 279.077†	12121.6	10.79	mg/L	0.024	10.79 mg/L	0.024	0.22%
Mn 257.610†	15755.2	0.4959	mg/L	0.00194	0.4959 mg/L	0.00194	0.39%
Mo 202.031†	30.4	0.00140	mg/L	0.000255	0.00140 mg/L	0.000255	18.21%
Na 589.592†	140454.7	10.53	mg/L	0.057	10.53 mg/L	0.057	0.54%
Na 330.237†	231.6	10.58	mg/L	0.061	10.58 mg/L	0.061	0.58%
Ni 231.604†	1776.5	0.5250	mg/L	0.00362	0.5250 mg/L	0.00362	0.69%
Pb 220.353†	17665.3	2.062	mg/L	0.0218	2.062 mg/L	0.0218	1.06%
Sb 206.836†	20.6	0.00127	mg/L	0.001985	0.00127 mg/L	0.001985	156.46%
Se 196.026†	2898.1	2.081	mg/L	0.0109	2.081 mg/L	0.0109	0.52%
Si 288.158†	168.9	0.1003	mg/L	0.03942	0.1003 mg/L	0.03942	39.28%
Sn 189.927†	-24.9	-0.00562	mg/L	0.001055	-0.00562 mg/L	0.001055	18.79%
Sr 421.552†	426936.9	0.5141	mg/L	0.00297	0.5141 mg/L	0.00297	0.58%
Ti 334.903†	22.4	0.00048	mg/L	0.000620	0.00048 mg/L	0.000620	128.94%
Tl 190.801†	4544.5	2.068	mg/L	0.0156	2.068 mg/L	0.0156	0.75%
V 292.402†	80025.1	0.5190	mg/L	0.00414	0.5190 mg/L	0.00414	0.80%
Zn 206.200†	1761.1	0.5162	mg/L	0.00293	0.5162 mg/L	0.00293	0.57%

Sequence No.: 27

Sample ID: CV 3

Autosampler Location: 7

Date Collected: 4/1/2014 10:30:28 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2851247.7	96.29 %	0.529			0.55%
ScR 361.383	239337.7	97.39 %	0.270			0.28%
Ag 328.068†	215914.9	1.060 mg/L	0.0049	1.060 mg/L	0.0049	0.46%
Al 308.215†	2680.6	2.022 mg/L	0.0043	2.022 mg/L	0.0043	0.21%
As 188.979†	3465.5	2.040 mg/L	0.0128	2.040 mg/L	0.0128	0.63%
B 249.677†	5818.3	1.016 mg/L	0.0012	1.016 mg/L	0.0012	0.12%
Ba 233.527†	3934.7	1.030 mg/L	0.0063	1.030 mg/L	0.0063	0.61%
Be 313.042†	506061.4	0.9999 mg/L	0.00387	0.9999 mg/L	0.00387	0.39%
Ca 317.933†	20612.0	2.103 mg/L	0.0053	2.103 mg/L	0.0053	0.25%
Cd 228.802†	34577.9	1.023 mg/L	0.0026	1.023 mg/L	0.0026	0.25%
Co 228.616†	40588.5	1.002 mg/L	0.0039	1.002 mg/L	0.0039	0.39%
Cr 267.716†	5209.9	1.042 mg/L	0.0003	1.042 mg/L	0.0003	0.02%
Cu 324.752†	296188.7	1.002 mg/L	0.0012	1.002 mg/L	0.0012	0.12%
Fe 273.955†	2401.3	2.081 mg/L	0.0053	2.081 mg/L	0.0053	0.25%
K 766.490†	45795.9	20.11 mg/L	0.055	20.11 mg/L	0.055	0.27%
Mg 279.077†	2258.2	2.016 mg/L	0.0015	2.016 mg/L	0.0015	0.08%
Mn 257.610†	30467.1	0.9587 mg/L	0.00397	0.9587 mg/L	0.00397	0.41%
Mo 202.031†	18593.5	0.9576 mg/L	0.00531	0.9576 mg/L	0.00531	0.55%
Na 589.592†	678655.7	50.90 mg/L	0.017	50.90 mg/L	0.017	0.03%
Na 330.237†	1106.8	51.51 mg/L	0.250	51.51 mg/L	0.250	0.48%
Ni 231.604†	3478.2	1.030 mg/L	0.0017	1.030 mg/L	0.0017	0.17%
Pb 220.353†	17028.4	1.988 mg/L	0.0100	1.988 mg/L	0.0100	0.50%
Sb 206.836†	6636.5	2.066 mg/L	0.0126	2.066 mg/L	0.0126	0.61%
Se 196.026†	2793.2	2.005 mg/L	0.0150	2.005 mg/L	0.0150	0.75%
Si 288.158†	3507.5	2.012 mg/L	0.0356	2.012 mg/L	0.0356	1.77%
Sn 189.927†	3480.5	0.9757 mg/L	0.00616	0.9757 mg/L	0.00616	0.63%
Sr 421.552†	837946.5	1.009 mg/L	0.0004	1.009 mg/L	0.0004	0.03%
Ti 334.903†	16485.5	0.9748 mg/L	0.00089	0.9748 mg/L	0.00089	0.09%
Tl 190.801†	4544.7	2.065 mg/L	0.0132	2.065 mg/L	0.0132	0.64%
V 292.402†	158035.5	1.025 mg/L	0.0049	1.025 mg/L	0.0049	0.48%
Zn 206.200†	3460.7	1.014 mg/L	0.0014	1.014 mg/L	0.0014	0.14%

Sequence No.: 28

Sample ID: CB-3

Autosampler Location: 1

Date Collected: 4/1/2014 10:34:33 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2877701.4	97.18	%	0.670			0.69%
ScR 361.383	245708.8	99.99	%	0.117			0.12%
Ag 328.068†	16.7	0.00008	mg/L	0.000376	0.00008 mg/L	0.000376	458.48%
Al 308.215†	-5.8	-0.00449	mg/L	0.001319	-0.00449 mg/L	0.001319	29.36%
As 188.979†	-1.5	-0.00084	mg/L	0.000236	-0.00084 mg/L	0.000236	28.02%
B 249.677†	10.2	0.00178	mg/L	0.000283	0.00178 mg/L	0.000283	15.87%
Ba 233.527†	-2.2	-0.00056	mg/L	0.000840	-0.00056 mg/L	0.000840	149.09%
Be 313.042†	41.4	0.00008	mg/L	0.000002	0.00008 mg/L	0.000002	2.81%
Ca 317.933†	15.6	0.00159	mg/L	0.000989	0.00159 mg/L	0.000989	62.30%
Cd 228.802†	8.8	0.00027	mg/L	0.000085	0.00027 mg/L	0.000085	31.92%
Co 228.616†	4.3	0.00010	mg/L	0.000118	0.00010 mg/L	0.000118	113.05%
Cr 267.716†	-1.7	-0.00034	mg/L	0.000558	-0.00034 mg/L	0.000558	165.99%
Cu 324.752†	322.1	0.00109	mg/L	0.000106	0.00109 mg/L	0.000106	9.77%
Fe 273.955†	1.4	0.00122	mg/L	0.002381	0.00122 mg/L	0.002381	195.40%
K 766.490†	81.7	0.03589	mg/L	0.005234	0.03589 mg/L	0.005234	14.58%
Mg 279.077†	3.8	0.00338	mg/L	0.002834	0.00338 mg/L	0.002834	83.93%
Mn 257.610†	2.8	0.00009	mg/L	0.000181	0.00009 mg/L	0.000181	208.40%
Mo 202.031†	20.4	0.00105	mg/L	0.000273	0.00105 mg/L	0.000273	26.04%
Na 589.592†	70.9	0.00532	mg/L	0.002165	0.00532 mg/L	0.002165	40.72%
Na 330.237†	-5.4	-0.2527	mg/L	0.25569	-0.2527 mg/L	0.25569	101.18%
Ni 231.604†	0.9	0.00027	mg/L	0.000359	0.00027 mg/L	0.000359	133.68%
Pb 220.353†	5.6	0.00065	mg/L	0.001180	0.00065 mg/L	0.001180	180.36%
Sb 206.836†	28.8	0.00897	mg/L	0.001083	0.00897 mg/L	0.001083	12.08%
Se 196.026†	1.0	0.00069	mg/L	0.002091	0.00069 mg/L	0.002091	304.41%
Si 288.158†	41.2	0.02359	mg/L	0.011361	0.02359 mg/L	0.011361	48.16%
Sn 189.927†	-2.6	-0.00073	mg/L	0.000126	-0.00073 mg/L	0.000126	17.25%
Sr 421.552†	37.1	0.00004	mg/L	0.000043	0.00004 mg/L	0.000043	95.79%
Ti 334.903†	10.3	0.00061	mg/L	0.000228	0.00061 mg/L	0.000228	37.31%
Tl 190.801†	2.0	0.00089	mg/L	0.001693	0.00089 mg/L	0.001693	189.80%
V 292.402†	-17.9	-0.00012	mg/L	0.000086	-0.00012 mg/L	0.000086	73.43%
Zn 206.200†	1.0	0.00029	mg/L	0.000376	0.00029 mg/L	0.000376	127.93%

Sequence No.: 29

Autosampler Location: 301

Sample ID: CRI

Date Collected: 4/1/2014 10:38:34 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2891967.3	97.66 %	0.242			0.25%
ScR 361.383	245924.3	100.1 %	0.35			0.35%
Ag 328.068†	579.4	0.00284 mg/L	0.000284	0.00284 mg/L	0.000284	9.98%
Al 308.215†	63.7	0.04868 mg/L	0.003317	0.04868 mg/L	0.003317	6.82%
As 188.979†	82.5	0.04800 mg/L	0.000618	0.04800 mg/L	0.000618	1.29%
B 249.677†	121.5	0.02124 mg/L	0.000640	0.02124 mg/L	0.000640	3.01%
Ba 233.527†	10.9	0.00283 mg/L	0.000923	0.00283 mg/L	0.000923	32.61%
Be 313.042†	520.1	0.00103 mg/L	0.000007	0.00103 mg/L	0.000007	0.66%
Ca 317.933†	556.7	0.05681 mg/L	0.000281	0.05681 mg/L	0.000281	0.49%
Cd 228.802†	90.1	0.00245 mg/L	0.000285	0.00245 mg/L	0.000285	11.63%
Co 228.616†	130.4	0.00322 mg/L	0.000185	0.00322 mg/L	0.000185	5.76%
Cr 267.716†	24.5	0.00489 mg/L	0.001257	0.00489 mg/L	0.001257	25.69%
Cu 324.752†	933.8	0.00316 mg/L	0.000111	0.00316 mg/L	0.000111	3.51%
Fe 273.955†	62.5	0.05434 mg/L	0.002073	0.05434 mg/L	0.002073	3.82%
K 766.490†	1176.0	0.5165 mg/L	0.00376	0.5165 mg/L	0.00376	0.73%
Mg 279.077†	55.1	0.04907 mg/L	0.004256	0.04907 mg/L	0.004256	8.67%
Mn 257.610†	34.7	0.00109 mg/L	0.000038	0.00109 mg/L	0.000038	3.43%
Mo 202.031†	102.7	0.00529 mg/L	0.000155	0.00529 mg/L	0.000155	2.94%
Na 589.592†	6797.8	0.5099 mg/L	0.00267	0.5099 mg/L	0.00267	0.52%
Na 330.237†	11.0	0.5090 mg/L	0.25046	0.5090 mg/L	0.25046	49.21%
Ni 231.604†	31.8	0.00941 mg/L	0.000692	0.00941 mg/L	0.000692	7.35%
Pb 220.353†	175.8	0.02053 mg/L	0.000918	0.02053 mg/L	0.000918	4.47%
Sb 206.836†	164.6	0.05131 mg/L	0.001649	0.05131 mg/L	0.001649	3.21%
Se 196.026†	74.5	0.05347 mg/L	0.001523	0.05347 mg/L	0.001523	2.85%
Si 288.158†	127.5	0.07301 mg/L	0.010101	0.07301 mg/L	0.010101	13.83%
Sn 189.927†	32.6	0.00915 mg/L	0.001344	0.00915 mg/L	0.001344	14.69%
Sr 421.552†	838.3	0.00101 mg/L	0.000046	0.00101 mg/L	0.000046	4.54%
Ti 334.903†	84.7	0.00501 mg/L	0.000688	0.00501 mg/L	0.000688	13.74%
Tl 190.801†	104.3	0.04754 mg/L	0.000958	0.04754 mg/L	0.000958	2.02%
V 292.402†	437.2	0.00284 mg/L	0.000120	0.00284 mg/L	0.000120	4.21%
Zn 206.200†	38.6	0.01131 mg/L	0.000852	0.01131 mg/L	0.000852	7.53%

Sequence No.: 30

Autosampler Location: 302

Sample ID: ICSA

Date Collected: 4/1/2014 10:42:35 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2766812.4	93.43	%	0.186			0.20%
ScR 361.383	240041.0	97.68	%	0.460			0.47%
Ag 328.068†	-253.4	-0.00063	mg/L	0.000015	-0.00063 mg/L	0.000015	2.42%
Al 308.215†	258953.4	198.4	mg/L	0.75	198.4 mg/L	0.75	0.38%
As 188.979†	50.1	0.02037	mg/L	0.001335	0.02037 mg/L	0.001335	6.55%
B 249.677†	-37.6	-0.00656	mg/L	0.001637	-0.00656 mg/L	0.001637	24.93%
Ba 233.527†	110.1	-0.00202	mg/L	0.000764	-0.00202 mg/L	0.000764	37.75%
Be 313.042†	48.2	0.00009	mg/L	0.000012	0.00009 mg/L	0.000012	12.70%
Ca 317.933†	999104.8	102.0	mg/L	0.67	102.0 mg/L	0.67	0.66%
Cd 228.802†	55.4	-0.00023	mg/L	0.000176	-0.00023 mg/L	0.000176	75.94%
Co 228.616†	89.1	0.00219	mg/L	0.000017	0.00219 mg/L	0.000017	0.76%
Cr 267.716†	11.0	-0.00143	mg/L	0.000668	-0.00143 mg/L	0.000668	46.79%
Cu 324.752†	-2223.5	0.00075	mg/L	0.000075	0.00075 mg/L	0.000075	9.92%
Fe 273.955†	229780.3	199.8	mg/L	1.12	199.8 mg/L	1.12	0.56%
K 766.490†	121.8	0.05351	mg/L	0.011552	0.05351 mg/L	0.011552	21.59%
Mg 279.077†	115114.7	102.3	mg/L	0.36	102.3 mg/L	0.36	0.35%
Mn 257.610†	35.3	-0.00135	mg/L	0.000270	-0.00135 mg/L	0.000270	19.97%
Mo 202.031†	75.4	0.00230	mg/L	0.000323	0.00230 mg/L	0.000323	14.05%
Na 589.592†	170.4	0.01278	mg/L	0.003202	0.01278 mg/L	0.003202	25.06%
Na 330.237†	7.6	-0.2683	mg/L	0.21896	-0.2683 mg/L	0.21896	81.61%
Ni 231.604†	2.3	0.00071	mg/L	0.001286	0.00071 mg/L	0.001286	182.16%
Pb 220.353†	-373.9	-0.00347	mg/L	0.000643	-0.00347 mg/L	0.000643	18.53%
Sb 206.836†	64.6	0.01994	mg/L	0.002344	0.01994 mg/L	0.002344	11.75%
Se 196.026†	51.7	0.03709	mg/L	0.005024	0.03709 mg/L	0.005024	13.55%
Si 288.158†	2.5	0.01358	mg/L	0.012567	0.01358 mg/L	0.012567	92.56%
Sn 189.927†	-101.3	-0.01601	mg/L	0.001255	-0.01601 mg/L	0.001255	7.84%
Sr 421.552†	4549.2	0.00548	mg/L	0.000013	0.00548 mg/L	0.000013	0.23%
Ti 334.903†	150.9	0.00173	mg/L	0.000419	0.00173 mg/L	0.000419	24.23%
Tl 190.801†	-44.3	0.00276	mg/L	0.001634	0.00276 mg/L	0.001634	59.14%
V 292.402†	1498.8	-0.00159	mg/L	0.000251	-0.00159 mg/L	0.000251	15.82%
Zn 206.200†	12.2	0.00356	mg/L	0.000315	0.00356 mg/L	0.000315	8.86%

Sequence No.: 31
 Sample ID: ICSAB

Autosampler Location: 303
 Date Collected: 4/1/2014 10:46:50 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2779060.5	93.85 %	0.301			0.32%
ScR 361.383	239145.1	97.31 %	0.306			0.31%
Ag 328.068†	216521.5	1.063 mg/L	0.0040	1.063 mg/L	0.0040	0.37%
Al 308.215†	260006.7	199.2 mg/L	0.48	199.2 mg/L	0.48	0.24%
As 188.979†	1795.4	1.032 mg/L	0.0049	1.032 mg/L	0.0049	0.48%
B 249.677†	-25.7	-0.00649 mg/L	0.000493	-0.00649 mg/L	0.000493	7.59%
Ba 233.527†	3980.6	1.011 mg/L	0.0036	1.011 mg/L	0.0036	0.36%
Be 313.042†	501672.4	0.9913 mg/L	0.00290	0.9913 mg/L	0.00290	0.29%
Ca 317.933†	1006450.3	102.7 mg/L	0.30	102.7 mg/L	0.30	0.30%
Cd 228.802†	34102.6	1.012 mg/L	0.0018	1.012 mg/L	0.0018	0.18%
Co 228.616†	38273.6	0.9467 mg/L	0.00419	0.9467 mg/L	0.00419	0.44%
Cr 267.716†	5094.7	1.016 mg/L	0.0025	1.016 mg/L	0.0025	0.24%
Cu 324.752†	304956.5	1.040 mg/L	0.0044	1.040 mg/L	0.0044	0.42%
Fe 273.955†	232379.9	202.1 mg/L	1.21	202.1 mg/L	1.21	0.60%
K 766.490†	91.2	0.04005 mg/L	0.008580	0.04005 mg/L	0.008580	21.42%
Mg 279.077†	112532.3	100.0 mg/L	0.27	100.0 mg/L	0.27	0.27%
Mn 257.610†	29893.2	0.9380 mg/L	0.00321	0.9380 mg/L	0.00321	0.34%
Mo 202.031†	69.9	0.00201 mg/L	0.000059	0.00201 mg/L	0.000059	2.96%
Na 589.592†	161.7	0.01213 mg/L	0.001158	0.01213 mg/L	0.001158	9.55%
Na 330.237†	16.0	-0.1586 mg/L	0.22727	-0.1586 mg/L	0.22727	143.32%
Ni 231.604†	3309.3	0.9797 mg/L	0.00358	0.9797 mg/L	0.00358	0.37%
Pb 220.353†	8012.9	0.9758 mg/L	0.00312	0.9758 mg/L	0.00312	0.32%
Sb 206.836†	3288.2	1.015 mg/L	0.0100	1.015 mg/L	0.0100	0.99%
Se 196.026†	1442.0	1.035 mg/L	0.0048	1.035 mg/L	0.0048	0.46%
Si 288.158†	-26.3	0.00138 mg/L	0.006569	0.00138 mg/L	0.006569	476.39%
Sn 189.927†	-102.2	-0.01558 mg/L	0.002168	-0.01558 mg/L	0.002168	13.92%
Sr 421.552†	4504.3	0.00542 mg/L	0.000018	0.00542 mg/L	0.000018	0.34%
Ti 334.903†	155.6	0.00177 mg/L	0.000664	0.00177 mg/L	0.000664	37.59%
Tl 190.801†	2040.6	0.9445 mg/L	0.00290	0.9445 mg/L	0.00290	0.31%
V 292.402†	153307.1	0.9830 mg/L	0.00401	0.9830 mg/L	0.00401	0.41%
Zn 206.200†	3304.6	0.9684 mg/L	0.00179	0.9684 mg/L	0.00179	0.19%

Sequence No.: 32

Autosampler Location: 7

Sample ID: CV 4

Date Collected: 4/1/2014 10:51:54 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2860316.4	96.59	%	0.138				0.14%
ScR 361.383	239922.8	97.63	%	0.523				0.54%
Ag 328.068†	214717.9	1.054	mg/L	0.0090	1.054	mg/L	0.0090	0.85%
Al 308.215†	2688.1	2.028	mg/L	0.0079	2.028	mg/L	0.0079	0.39%
As 188.979†	3500.5	2.061	mg/L	0.0055	2.061	mg/L	0.0055	0.27%
B 249.677†	5842.5	1.020	mg/L	0.0014	1.020	mg/L	0.0014	0.14%
Ba 233.527†	3929.8	1.028	mg/L	0.0084	1.028	mg/L	0.0084	0.82%
Be 313.042†	510206.4	1.008	mg/L	0.0068	1.008	mg/L	0.0068	0.67%
Ca 317.933†	20819.7	2.125	mg/L	0.0041	2.125	mg/L	0.0041	0.20%
Cd 228.802†	34755.3	1.028	mg/L	0.0056	1.028	mg/L	0.0056	0.55%
Co 228.616†	40622.4	1.003	mg/L	0.0069	1.003	mg/L	0.0069	0.68%
Cr 267.716†	5249.5	1.050	mg/L	0.0015	1.050	mg/L	0.0015	0.14%
Cu 324.752†	296579.2	1.003	mg/L	0.0031	1.003	mg/L	0.0031	0.30%
Fe 273.955†	2445.7	2.120	mg/L	0.0006	2.120	mg/L	0.0006	0.03%
K 766.490†	45820.4	20.12	mg/L	0.101	20.12	mg/L	0.101	0.50%
Mg 279.077†	2278.8	2.034	mg/L	0.0089	2.034	mg/L	0.0089	0.44%
Mn 257.610†	30721.0	0.9667	mg/L	0.00338	0.9667	mg/L	0.00338	0.35%
Mo 202.031†	18638.3	0.9599	mg/L	0.00591	0.9599	mg/L	0.00591	0.62%
Na 589.592†	680355.7	51.03	mg/L	0.213	51.03	mg/L	0.213	0.42%
Na 330.237†	1103.0	51.34	mg/L	0.189	51.34	mg/L	0.189	0.37%
Ni 231.604†	3504.1	1.037	mg/L	0.0037	1.037	mg/L	0.0037	0.36%
Pb 220.353†	17105.3	1.997	mg/L	0.0170	1.997	mg/L	0.0170	0.85%
Sb 206.836†	6701.0	2.087	mg/L	0.0083	2.087	mg/L	0.0083	0.40%
Se 196.026†	2819.3	2.024	mg/L	0.0023	2.024	mg/L	0.0023	0.11%
Si 288.158†	3465.8	1.989	mg/L	0.0258	1.989	mg/L	0.0258	1.30%
Sn 189.927†	3507.7	0.9834	mg/L	0.00122	0.9834	mg/L	0.00122	0.12%
Sr 421.552†	842008.9	1.014	mg/L	0.0035	1.014	mg/L	0.0035	0.35%
Ti 334.903†	16563.6	0.9794	mg/L	0.00274	0.9794	mg/L	0.00274	0.28%
Tl 190.801†	4547.9	2.066	mg/L	0.0092	2.066	mg/L	0.0092	0.44%
V 292.402†	157823.7	1.024	mg/L	0.0108	1.024	mg/L	0.0108	1.06%
Zn 206.200†	3510.7	1.029	mg/L	0.0058	1.029	mg/L	0.0058	0.57%

Sequence No.: 33

Sample ID: CB *u*

Autosampler Location: 1

Date Collected: 4/1/2014 10:55:59 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2874989.5	97.09	%	0.122			0.13%
ScR 361.383	245029.6	99.71	%	0.958			0.96%
Ag 328.068†	4.3	0.00002	mg/L	0.000063	0.00002 mg/L	0.000063	300.26%
Al 308.215†	3.3	0.00253	mg/L	0.004240	0.00253 mg/L	0.004240	167.91%
As 188.979†	0.3	0.00020	mg/L	0.001970	0.00020 mg/L	0.001970	992.35%
B 249.677†	8.9	0.00155	mg/L	0.000142	0.00155 mg/L	0.000142	9.15%
Ba 233.527†	-2.6	-0.00068	mg/L	0.000451	-0.00068 mg/L	0.000451	66.06%
Be 313.042†	49.0	0.00010	mg/L	0.000037	0.00010 mg/L	0.000037	37.75%
Ca 317.933†	16.3	0.00166	mg/L	0.000469	0.00166 mg/L	0.000469	28.19%
Cd 228.802†	12.1	0.00036	mg/L	0.000162	0.00036 mg/L	0.000162	44.96%
Co 228.616†	4.2	0.00010	mg/L	0.000169	0.00010 mg/L	0.000169	163.75%
Cr 267.716†	-5.1	-0.00102	mg/L	0.000452	-0.00102 mg/L	0.000452	44.16%
Cu 324.752†	274.6	0.00093	mg/L	0.000187	0.00093 mg/L	0.000187	20.17%
Fe 273.955†	2.5	0.00217	mg/L	0.001605	0.00217 mg/L	0.001605	73.96%
K 766.490†	73.1	0.03209	mg/L	0.023201	0.03209 mg/L	0.023201	72.29%
Mg 279.077†	6.7	0.00599	mg/L	0.005011	0.00599 mg/L	0.005011	83.68%
Mn 257.610†	7.0	0.00022	mg/L	0.000171	0.00022 mg/L	0.000171	77.94%
Mo 202.031†	19.0	0.00098	mg/L	0.000154	0.00098 mg/L	0.000154	15.76%
Na 589.592†	88.3	0.00662	mg/L	0.000481	0.00662 mg/L	0.000481	7.27%
Na 330.237†	-2.9	-0.1363	mg/L	0.09861	-0.1363 mg/L	0.09861	72.35%
Ni 231.604†	1.6	0.00049	mg/L	0.000832	0.00049 mg/L	0.000832	170.29%
Pb 220.353†	7.0	0.00081	mg/L	0.001067	0.00081 mg/L	0.001067	131.35%
Sb 206.836†	37.6	0.01174	mg/L	0.003695	0.01174 mg/L	0.003695	31.48%
Se 196.026†	-1.4	-0.00100	mg/L	0.003115	-0.00100 mg/L	0.003115	312.40%
Si 288.158†	10.2	0.00583	mg/L	0.007705	0.00583 mg/L	0.007705	132.22%
Sn 189.927†	-3.5	-0.00097	mg/L	0.000440	-0.00097 mg/L	0.000440	45.13%
Sr 421.552†	44.9	0.00005	mg/L	0.000005	0.00005 mg/L	0.000005	9.79%
Ti 334.903†	11.4	0.00067	mg/L	0.000192	0.00067 mg/L	0.000192	28.61%
Tl 190.801†	3.0	0.00139	mg/L	0.002063	0.00139 mg/L	0.002063	148.55%
V 292.402†	-41.3	-0.00027	mg/L	0.000160	-0.00027 mg/L	0.000160	59.03%
Zn 206.200†	1.1	0.00032	mg/L	0.000808	0.00032 mg/L	0.000808	254.80%

Sequence No.: 34
 Sample ID: YE32 MB1 SWC

Autosampler Location: 321
 Date Collected: 4/1/2014 10:59:59 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 MB1 SWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

 Mean Data: YE32 MB1 SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921203.9	98.65	%	0.635			0.64%
ScR 361.383	245973.3	100.1	%	0.23			0.23%
Ag 328.068†	-12.1	-0.00006	mg/L	0.000075	-0.00012 mg/L	0.000150	127.05%
Al 308.215†	8.5	0.00654	mg/L	0.001182	0.01307 mg/L	0.002364	18.08%
As 188.979†	-2.6	-0.00150	mg/L	0.001943	-0.00300 mg/L	0.003887	129.77%
B 249.677†	5.2	0.00091	mg/L	0.000206	0.00182 mg/L	0.000412	22.66%
Ba 233.527†	-0.5	-0.00013	mg/L	0.000646	-0.00027 mg/L	0.001291	483.60%
Be 313.042†	48.5	0.00010	mg/L	0.000015	0.00019 mg/L	0.000030	15.77%
Ca 317.933†	177.9	0.01816	mg/L	0.001243	0.03631 mg/L	0.002486	6.85%
Cd 228.802†	7.6	0.00024	mg/L	0.000116	0.00047 mg/L	0.000233	49.25%
Co 228.616†	3.4	0.00008	mg/L	0.000112	0.00017 mg/L	0.000224	135.89%
Cr 267.716†	1.4	0.00029	mg/L	0.000594	0.00058 mg/L	0.001188	205.88%
Cu 324.752†	317.0	0.00107	mg/L	0.000188	0.00214 mg/L	0.000376	17.55%
Fe 273.955†	3.2	0.00278	mg/L	0.001298	0.00556 mg/L	0.002596	46.69%
K 766.490†	60.9	0.02676	mg/L	0.007683	0.05352 mg/L	0.015365	28.71%
Mg 279.077†	2.1	0.00182	mg/L	0.006473	0.00365 mg/L	0.012945	354.78%
Mn 257.610†	3.1	0.00010	mg/L	0.000037	0.00020 mg/L	0.000073	37.21%
Mo 202.031†	7.0	0.00036	mg/L	0.000202	0.00072 mg/L	0.000404	56.16%
Na 589.592†	248.9	0.01867	mg/L	0.000581	0.03733 mg/L	0.001163	3.12%
Na 330.237†	-2.0	-0.09445	mg/L	0.238231	-0.1889 mg/L	0.47646	252.22%
Ni 231.604†	0.4	0.00013	mg/L	0.001026	0.00026 mg/L	0.002051	785.24%
Pb 220.353†	6.5	0.00075	mg/L	0.000572	0.00151 mg/L	0.001144	75.85%
Sb 206.836†	14.2	0.00443	mg/L	0.000795	0.00886 mg/L	0.001590	17.94%
Se 196.026†	1.3	0.00094	mg/L	0.001700	0.00188 mg/L	0.003401	180.65%
Si 288.158†	3.2	0.00185	mg/L	0.003478	0.00370 mg/L	0.006956	188.25%
Sn 189.927†	-1.7	-0.00048	mg/L	0.000166	-0.00095 mg/L	0.000331	34.72%
Sr 421.552†	37.6	0.00005	mg/L	0.000006	0.00009 mg/L	0.000013	13.80%
Ti 334.903†	10.8	0.00064	mg/L	0.000384	0.00127 mg/L	0.000768	60.29%
Tl 190.801†	2.5	0.00115	mg/L	0.001812	0.00229 mg/L	0.003624	158.06%
V 292.402†	-40.2	-0.00026	mg/L	0.000114	-0.00052 mg/L	0.000228	44.10%
Zn 206.200†	6.3	0.00183	mg/L	0.000710	0.00367 mg/L	0.001419	38.71%

Sequence No.: 35
Sample ID: YE32 B SWC

Autosampler Location: 322
Date Collected: 4/1/2014 11:04:00 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 B SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE32 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2888526.7	97.54	%	0.544			0.56%
ScR 361.383	249667.9	101.6	%	1.15			1.13%
Ag 328.068†	-264.1	-0.00101	mg/L	0.000074	-0.00202 mg/L	0.000148	7.33%
Al 308.215†	175477.0	134.5	mg/L	0.52	268.9 mg/L	1.04	0.39%
As 188.979†	-262.8	0.06626	mg/L	0.002471	0.1325 mg/L	0.00494	3.73%
B 249.677†	70.7	0.01221	mg/L	0.000658	0.02442 mg/L	0.001317	5.39%
Ba 233.527†	2192.7	0.5503	mg/L	0.00767	1.101 mg/L	0.0153	1.39%
Be 313.042†	984.3	0.00179	mg/L	0.000049	0.00358 mg/L	0.000099	2.76%
Ca 317.933†	316848.1	32.33	mg/L	0.107	64.67 mg/L	0.213	0.33%
Cd 228.802†	53.3	0.00131	mg/L	0.000040	0.00262 mg/L	0.000080	3.05%
Co 228.616†	2898.5	0.06052	mg/L	0.000535	0.1210 mg/L	0.00107	0.88%
Cr 267.716†	1077.5	0.2156	mg/L	0.00314	0.4311 mg/L	0.00629	1.46%
Cu 324.752†	35877.8	0.1268	mg/L	0.00164	0.2537 mg/L	0.00329	1.30%
Fe 273.955†	176800.7	153.7	mg/L	1.17	307.5 mg/L	2.34	0.76%
K 766.490†	13563.5	5.957	mg/L	0.0337	11.91 mg/L	0.067	0.57%
Mg 279.077†	57049.1	50.67	mg/L	0.198	101.3 mg/L	0.40	0.39%
Mn 257.610†	73451.1	2.309	mg/L	0.0161	4.618 mg/L	0.0323	0.70%
Mo 202.031†	58.5	0.00251	mg/L	0.000226	0.00502 mg/L	0.000453	9.01%
Na 589.592†	15866.3	1.190	mg/L	0.0023	2.380 mg/L	0.0046	0.19%
Na 330.237†	-9.1	0.9455	mg/L	0.13165	1.891 mg/L	0.2633	13.92%
Ni 231.604†	1006.2	0.2978	mg/L	0.00368	0.5957 mg/L	0.00737	1.24%
Pb 220.353†	-90.3	0.01609	mg/L	0.000356	0.03219 mg/L	0.000712	2.21%
Sb 206.836†	42.8	0.01656	mg/L	0.002747	0.03312 mg/L	0.005494	16.59%
Se 196.026†	35.8	0.02544	mg/L	0.006821	0.05087 mg/L	0.013642	26.82%
Si 288.158†	4061.4	2.331	mg/L	0.0418	4.661 mg/L	0.0836	1.79%
Sn 189.927†	-56.9	-0.01084	mg/L	0.000795	-0.02169 mg/L	0.001589	7.33%
Sr 421.552†	107200.5	0.1291	mg/L	0.00068	0.2582 mg/L	0.00136	0.53%
Ti 334.903†	104859.9	6.206	mg/L	0.0326	12.41 mg/L	0.065	0.53%
Tl 190.801†	-28.4	0.00302	mg/L	0.003640	0.00604 mg/L	0.007279	120.47%
V 292.402†	53521.6	0.3346	mg/L	0.00474	0.6692 mg/L	0.00949	1.42%
Zn 206.200†	929.8	0.2729	mg/L	0.00517	0.5457 mg/L	0.01035	1.90%

Sequence No.: 36
 Sample ID: YE32 C SWC

Autosampler Location: 323
 Date Collected: 4/1/2014 11:08:00 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 C SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE32 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904303.4	98.08	%	0.385			0.39%
ScR 361.383	248137.8	101.0	%	0.38			0.37%
Ag 328.068†	-292.9	-0.00111	mg/L	0.000124	-0.00222 mg/L	0.000248	11.16%
Al 308.215†	181036.6	138.7	mg/L	0.45	277.4 mg/L	0.91	0.33%
As 188.979†	-336.7	0.08126	mg/L	0.006319	0.1625 mg/L	0.01264	7.78%
B 249.677†	78.5	0.01356	mg/L	0.000478	0.02711 mg/L	0.000957	3.53%
Ba 233.527†	2286.8	0.5711	mg/L	0.00249	1.142 mg/L	0.0050	0.44%
Be 313.042†	1070.2	0.00193	mg/L	0.000007	0.00386 mg/L	0.000013	0.35%
Ca 317.933†	361246.5	36.87	mg/L	0.188	73.73 mg/L	0.376	0.51%
Cd 228.802†	55.3	0.00142	mg/L	0.000158	0.00283 mg/L	0.000315	11.12%
Co 228.616†	3411.1	0.07028	mg/L	0.000482	0.1406 mg/L	0.00096	0.69%
Cr 267.716†	1394.8	0.2781	mg/L	0.00122	0.5563 mg/L	0.00244	0.44%
Cu 324.752†	45524.0	0.1602	mg/L	0.00112	0.3203 mg/L	0.00223	0.70%
Fe 273.955†	204712.2	178.0	mg/L	1.73	356.0 mg/L	3.46	0.97%
K 766.490†	14386.1	6.318	mg/L	0.0238	12.64 mg/L	0.048	0.38%
Mg 279.077†	77683.3	69.02	mg/L	0.384	138.0 mg/L	0.77	0.56%
Mn 257.610†	87101.1	2.738	mg/L	0.0196	5.476 mg/L	0.0393	0.72%
Mo 202.031†	272.1	0.01344	mg/L	0.000387	0.02689 mg/L	0.000774	2.88%
Na 589.592†	23244.5	1.743	mg/L	0.0047	3.487 mg/L	0.0094	0.27%
Na 330.237†	-6.4	1.468	mg/L	0.1571	2.935 mg/L	0.3141	10.70%
Ni 231.604†	1162.3	0.3440	mg/L	0.00078	0.6881 mg/L	0.00156	0.23%
Pb 220.353†	-66.5	0.01890	mg/L	0.000298	0.03781 mg/L	0.000595	1.57%
Sb 206.836†	38.7	0.01593	mg/L	0.001516	0.03186 mg/L	0.003031	9.51%
Se 196.026†	32.1	0.02276	mg/L	0.003188	0.04553 mg/L	0.006375	14.00%
Si 288.158†	5342.0	3.066	mg/L	0.0133	6.132 mg/L	0.0266	0.43%
Sn 189.927†	-65.0	-0.01223	mg/L	0.001444	-0.02446 mg/L	0.002887	11.80%
Sr 421.552†	148844.2	0.1792	mg/L	0.00054	0.3585 mg/L	0.00109	0.30%
Ti 334.903†	132470.0	7.841	mg/L	0.0277	15.68 mg/L	0.055	0.35%
Tl 190.801†	-27.2	0.00606	mg/L	0.003749	0.01211 mg/L	0.007498	61.91%
V 292.402†	62201.0	0.3887	mg/L	0.00234	0.7774 mg/L	0.00469	0.60%
Zn 206.200†	1063.4	0.3122	mg/L	0.00191	0.6243 mg/L	0.00382	0.61%

Sequence No.: 37
 Sample ID: YE32 D SWC

Autosampler Location: 324
 Date Collected: 4/1/2014 11:12:00 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 D SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE32 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2873282.7	97.03	%	0.473			0.49%
ScR 361.383	250368.4	101.9	%	0.68			0.67%
Ag 328.068†	-199.9	-0.00076	mg/L	0.000100	-0.00153 mg/L	0.000200	13.10%
Al 308.215†	202753.9	155.4	mg/L	0.40	310.7 mg/L	0.81	0.26%
As 188.979†	-283.2	0.06709	mg/L	0.001742	0.1342 mg/L	0.00348	2.60%
B 249.677†	54.1	0.00929	mg/L	0.001521	0.01859 mg/L	0.003041	16.36%
Ba 233.527†	2457.9	0.6211	mg/L	0.00438	1.242 mg/L	0.0088	0.71%
Be 313.042†	1073.9	0.00197	mg/L	0.000020	0.00395 mg/L	0.000040	1.01%
Ca 317.933†	220051.5	22.46	mg/L	0.086	44.91 mg/L	0.173	0.38%
Cd 228.802†	52.1	0.00143	mg/L	0.000179	0.00285 mg/L	0.000358	12.58%
Co 228.616†	3020.4	0.06294	mg/L	0.000733	0.1259 mg/L	0.00147	1.16%
Cr 267.716†	1048.5	0.2103	mg/L	0.00119	0.4206 mg/L	0.00237	0.56%
Cu 324.752†	35266.0	0.1244	mg/L	0.00072	0.2487 mg/L	0.00144	0.58%
Fe 273.955†	166231.7	144.5	mg/L	0.78	289.1 mg/L	1.56	0.54%
K 766.490†	12987.9	5.704	mg/L	0.0080	11.41 mg/L	0.016	0.14%
Mg 279.077†	47501.8	42.18	mg/L	0.121	84.36 mg/L	0.242	0.29%
Mn 257.610†	87239.7	2.743	mg/L	0.0151	5.485 mg/L	0.0302	0.55%
Mo 202.031†	47.8	0.00211	mg/L	0.000091	0.00423 mg/L	0.000182	4.31%
Na 589.592†	15828.1	1.187	mg/L	0.0064	2.374 mg/L	0.0129	0.54%
Na 330.237†	-14.0	0.8713	mg/L	0.11762	1.743 mg/L	0.2352	13.50%
Ni 231.604†	1053.6	0.3119	mg/L	0.00308	0.6237 mg/L	0.00615	0.99%
Pb 220.353†	-111.8	0.01919	mg/L	0.000361	0.03838 mg/L	0.000721	1.88%
Sb 206.836†	37.0	0.01499	mg/L	0.002546	0.02998 mg/L	0.005091	16.98%
Se 196.026†	34.3	0.02437	mg/L	0.005854	0.04874 mg/L	0.011707	24.02%
Si 288.158†	9497.4	5.441	mg/L	0.0103	10.88 mg/L	0.021	0.19%
Sn 189.927†	-51.3	-0.01039	mg/L	0.000824	-0.02078 mg/L	0.001648	7.93%
Sr 421.552†	181819.3	0.2189	mg/L	0.00075	0.4379 mg/L	0.00150	0.34%
Ti 334.903†	110442.4	6.537	mg/L	0.0275	13.07 mg/L	0.055	0.42%
Tl 190.801†	-25.0	0.00361	mg/L	0.001811	0.00722 mg/L	0.003622	50.15%
V 292.402†	48652.2	0.3035	mg/L	0.00135	0.6071 mg/L	0.00271	0.45%
Zn 206.200†	872.1	0.2565	mg/L	0.00101	0.5131 mg/L	0.00203	0.39%

Sequence No.: 38
Sample ID: YE32 E SWC

Autosampler Location: 325
Date Collected: 4/1/2014 11:16:00 AM
Data Type: Original

Dilution: 2.000000X

DZ
Missed tubes

Nebulizer Parameters: YE32 E SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	7749716.5	261.7 %		5.42			2.07%
ScR 361.383	727323.7	296.0 %		4.28			1.45%
Ag 328.068†	-51.6	-0.00025 mg/L		0.000013	-0.00050 mg/L	0.000026	5.23%
Al 308.215†	293.1	0.2244 mg/L		0.48900	0.4489 mg/L	0.97800	217.88%
Saturated within auto integration window (code 4)							
As 188.979†	-14.3	-0.00780 mg/L		0.001047	-0.01560 mg/L	0.002094	13.42%
B 249.677†	-16.2	-0.00284 mg/L		0.000541	-0.00568 mg/L	0.001083	19.05%
Ba 233.527†	-4.8	-0.00130 mg/L		0.002881	-0.00260 mg/L	0.005761	221.97%
Be 313.042†	-469.1	-0.00093 mg/L		0.000016	-0.00186 mg/L	0.000033	1.75%
Ca 317.933†	99.1	0.01012 mg/L		0.000552	0.02024 mg/L	0.001103	5.45%
Cd 228.802†	-43.3	-0.00125 mg/L		0.000131	-0.00250 mg/L	0.000262	10.47%
Co 228.616†	231.1	0.00569 mg/L		0.000442	0.01139 mg/L	0.000885	7.77%
Cr 267.716†	56.7	0.01133 mg/L		0.000844	0.02267 mg/L	0.001687	7.44%
Cu 324.752†	-1075.8	-0.00363 mg/L		0.001588	-0.00726 mg/L	0.003177	43.75%
Fe 273.955†	275.9	0.2398 mg/L		0.45440	0.4797 mg/L	0.90879	189.46%
Saturated within auto integration window (code 4)							
K 766.490†	-285.7	-0.1255 mg/L		0.00243	-0.2509 mg/L	0.00486	1.94%
Mg 279.077†	89.0	0.07905 mg/L		0.192803	0.1581 mg/L	0.38561	243.91%
Mn 257.610†	140.8	0.00443 mg/L		0.012451	0.00885 mg/L	0.024902	281.34%
Mo 202.031†	-24.7	-0.00127 mg/L		0.000060	-0.00254 mg/L	0.000121	4.76%
Na 589.592†	264.6	0.01985 mg/L		0.000976	0.03970 mg/L	0.001953	4.92%
Na 330.237†	100.2	4.673 mg/L		0.0606	9.346 mg/L	0.1213	1.30%
Ni 231.604†	13.2	0.00390 mg/L		0.001379	0.00780 mg/L	0.002759	35.37%
Pb 220.353†	-35.7	-0.00409 mg/L		0.000188	-0.00818 mg/L	0.000377	4.60%
Sb 206.836†	-39.9	-0.01252 mg/L		0.000372	-0.02505 mg/L	0.000743	2.97%
Se 196.026†	22.4	0.01608 mg/L		0.001139	0.03217 mg/L	0.002278	7.08%
Si 288.158†	-12.9	-0.00740 mg/L		0.027703	-0.01479 mg/L	0.055406	374.55%
Sn 189.927†	-2.8	-0.00078 mg/L		0.000445	-0.00156 mg/L	0.000889	56.99%
Sr 421.552†	-142.9	-0.00017 mg/L		0.000010	-0.00034 mg/L	0.000020	5.75%
Ti 334.903†	223.1	0.01321 mg/L		0.019221	0.02641 mg/L	0.038443	145.56%
Saturated within auto integration window (code 4)							
Tl 190.801†	19.8	0.00896 mg/L		0.000731	0.01793 mg/L	0.001462	8.16%
V 292.402†	2123.8	0.01374 mg/L		0.004395	0.02748 mg/L	0.008790	31.98%
Zn 206.200†	-4.7	-0.00139 mg/L		0.000972	-0.00278 mg/L	0.001944	69.98%

Sequence No.: 39

Autosampler Location: 326

Sample ID: YE32 ADUP SWC

Date Collected: 4/1/2014 11:21:01 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 ADUP SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE32 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2854993.5	96.41	%	0.707			0.73%
ScR 361.383	246621.9	100.4	%	0.44			0.44%
Ag 328.068†	-307.7	-0.00108	mg/L	0.000196	-0.00216 mg/L	0.000391	18.10%
Al 308.215†	206978.0	158.6	mg/L	0.24	317.2 mg/L	0.47	0.15%
As 188.979†	-357.3	0.09189	mg/L	0.003833	0.1838 mg/L	0.00767	4.17%
B 249.677†	235.1	0.04086	mg/L	0.001261	0.08172 mg/L	0.002523	3.09%
Ba 233.527†	2316.2	0.5735	mg/L	0.00430	1.147 mg/L	0.0086	0.75%
Be 313.042†	1242.2	0.00225	mg/L	0.000006	0.00449 mg/L	0.000012	0.27%
Ca 317.933†	499398.5	50.96	mg/L	0.123	101.9 mg/L	0.25	0.24%
Cd 228.802†	30.4	0.00300	mg/L	0.000129	0.00599 mg/L	0.000259	4.32%
Co 228.616†	4405.9	0.09326	mg/L	0.000976	0.1865 mg/L	0.00195	1.05%
Cr 267.716†	3367.5	0.6741	mg/L	0.00229	1.348 mg/L	0.0046	0.34%
Cu 324.752†	210231.2	0.7187	mg/L	0.00776	1.437 mg/L	0.0155	1.08%
Fe 273.955†	242378.4	210.8	mg/L	1.92	421.5 mg/L	3.83	0.91%
K 766.490†	13014.6	5.716	mg/L	0.0086	11.43 mg/L	0.017	0.15%
Mg 279.077†	73213.1	65.02	mg/L	0.114	130.0 mg/L	0.23	0.18%
Mn 257.610†	101640.0	3.195	mg/L	0.0236	6.391 mg/L	0.0473	0.74%
Mo 202.031†	214.9	0.01028	mg/L	0.000310	0.02055 mg/L	0.000620	3.02%
Na 589.592†	24851.5	1.864	mg/L	0.0046	3.728 mg/L	0.0092	0.25%
Na 330.237†	-1.1	1.749	mg/L	0.1738	3.498 mg/L	0.3476	9.94%
Ni 231.604†	9851.4	2.916	mg/L	0.0095	5.832 mg/L	0.0190	0.33%
Pb 220.353†	3387.7	0.4256	mg/L	0.00321	0.8513 mg/L	0.00642	0.75%
Sb 206.836†	64.6	0.01969	mg/L	0.001666	0.03937 mg/L	0.003333	8.46%
Se 196.026†	41.9	0.02975	mg/L	0.003604	0.05951 mg/L	0.007208	12.11%
Si 288.158†	2332.7	1.343	mg/L	0.0049	2.687 mg/L	0.0098	0.37%
Sn 189.927†	-45.8	-0.00502	mg/L	0.001897	-0.01004 mg/L	0.003795	37.80%
Sr 421.552†	140539.6	0.1692	mg/L	0.00036	0.3385 mg/L	0.00073	0.22%
Ti 334.903†	144010.2	8.523	mg/L	0.0263	17.05 mg/L	0.053	0.31%
Tl 190.801†	-36.4	0.00511	mg/L	0.002992	0.01021 mg/L	0.005984	58.58%
V 292.402†	72405.0	0.4540	mg/L	0.00553	0.9081 mg/L	0.01106	1.22%
Zn 206.200†	1736.6	0.5092	mg/L	0.00081	1.018 mg/L	0.0016	0.16%

Sequence No.: 40
Sample ID: YE32 A SWC

Autosampler Location: 327
Date Collected: 4/1/2014 11:25:01 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 A SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2861254.0	96.62	%	0.208				0.21%
ScR 361.383	247829.1	100.8	%	0.74				0.74%
Ag 328.068†	-352.1	-0.00135	mg/L	0.000170	-0.00270	mg/L	0.000340	12.60%
Al 308.215†	188608.2	144.5	mg/L	0.39	289.0	mg/L	0.77	0.27%
As 188.979†	-316.3	0.08492	mg/L	0.001243	0.1698	mg/L	0.00249	1.46%
B 249.677†	90.1	0.01556	mg/L	0.001013	0.03113	mg/L	0.002025	6.51%
Ba 233.527†	2116.6	0.5237	mg/L	0.00086	1.047	mg/L	0.0017	0.16%
Be 313.042†	1123.9	0.00203	mg/L	0.000043	0.00406	mg/L	0.000086	2.11%
Ca 317.933†	429396.3	43.82	mg/L	0.137	87.64	mg/L	0.274	0.31%
Cd 228.802†	26.4	0.00229	mg/L	0.000148	0.00457	mg/L	0.000296	6.48%
Co 228.616†	3824.0	0.08054	mg/L	0.000083	0.1611	mg/L	0.00017	0.10%
Cr 267.716†	3038.3	0.6074	mg/L	0.00297	1.215	mg/L	0.0059	0.49%
Cu 324.752†	198260.6	0.6777	mg/L	0.00328	1.355	mg/L	0.0066	0.48%
Fe 273.955†	224709.8	195.4	mg/L	0.22	390.8	mg/L	0.44	0.11%
K 766.490†	14578.1	6.403	mg/L	0.0195	12.81	mg/L	0.039	0.30%
Mg 279.077†	78645.9	69.86	mg/L	0.180	139.7	mg/L	0.36	0.26%
Mn 257.610†	86643.6	2.724	mg/L	0.0038	5.447	mg/L	0.0075	0.14%
Mo 202.031†	237.5	0.01155	mg/L	0.000294	0.02311	mg/L	0.000588	2.54%
Na 589.592†	25918.6	1.944	mg/L	0.0040	3.888	mg/L	0.0080	0.21%
Na 330.237†	0.1	1.634	mg/L	0.2757	3.268	mg/L	0.5515	16.87%
Ni 231.604†	7791.1	2.306	mg/L	0.0207	4.612	mg/L	0.0414	0.90%
Pb 220.353†	2682.9	0.3405	mg/L	0.00117	0.6810	mg/L	0.00233	0.34%
Sb 206.836†	60.5	0.01843	mg/L	0.001712	0.03687	mg/L	0.003424	9.29%
Se 196.026†	38.9	0.02765	mg/L	0.003818	0.05530	mg/L	0.007637	13.81%
Si 288.158†	2608.1	1.501	mg/L	0.0011	3.003	mg/L	0.0022	0.07%
Sn 189.927†	-50.3	-0.00732	mg/L	0.001165	-0.01464	mg/L	0.002329	15.91%
Sr 421.552†	117517.3	0.1415	mg/L	0.00010	0.2830	mg/L	0.00019	0.07%
Ti 334.903†	129126.7	7.642	mg/L	0.0121	15.28	mg/L	0.024	0.16%
Tl 190.801†	-38.4	0.00265	mg/L	0.000698	0.00530	mg/L	0.001395	26.31%
V 292.402†	67459.7	0.4231	mg/L	0.00146	0.8463	mg/L	0.00291	0.34%
Zn 206.200†	1528.5	0.4482	mg/L	0.00420	0.8965	mg/L	0.00840	0.94%

Sequence No.: 41
Sample ID: YE32 ASPK SWC

Autosampler Location: 328
Date Collected: 4/1/2014 11:29:01 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 ASPK SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2886037.6	97.46	%	0.294			0.30%
ScR 361.383	245537.5	99.92	%	0.585			0.59%
Ag 328.068†	106934.0	0.5253	mg/L	0.00313	1.051 mg/L	0.0063	0.60%
Al 308.215†	201182.5	154.1	mg/L	0.84	308.3 mg/L	1.69	0.55%
As 188.979†	3183.5	2.114	mg/L	0.0073	4.229 mg/L	0.0145	0.34%
B 249.677†	100.8	0.01635	mg/L	0.000849	0.03269 mg/L	0.001698	5.19%
Ba 233.527†	10299.9	2.663	mg/L	0.0191	5.325 mg/L	0.0381	0.72%
Be 313.042†	255620.4	0.5049	mg/L	0.00231	1.010 mg/L	0.0046	0.46%
Ca 317.933†	567202.5	57.88	mg/L	0.141	115.8 mg/L	0.28	0.24%
Cd 228.802†	18233.5	0.5371	mg/L	0.00095	1.074 mg/L	0.0019	0.18%
Co 228.616†	24489.1	0.5913	mg/L	0.00113	1.183 mg/L	0.0023	0.19%
Cr 267.716†	6102.4	1.220	mg/L	0.0062	2.440 mg/L	0.0124	0.51%
Cu 324.752†	392342.0	1.335	mg/L	0.0074	2.671 mg/L	0.0147	0.55%
Fe 273.955†	250581.1	217.9	mg/L	1.39	435.8 mg/L	2.78	0.64%
K 766.490†	35702.1	15.68	mg/L	0.083	31.36 mg/L	0.166	0.53%
Mg 279.077†	88096.3	78.26	mg/L	0.310	156.5 mg/L	0.62	0.40%
Mn 257.610†	108033.8	3.397	mg/L	0.0162	6.793 mg/L	0.0324	0.48%
Mo 202.031†	229.4	0.01092	mg/L	0.000267	0.02184 mg/L	0.000533	2.44%
Na 589.592†	163267.2	12.25	mg/L	0.047	24.49 mg/L	0.094	0.38%
Na 330.237†	225.5	11.90	mg/L	0.120	23.80 mg/L	0.240	1.01%
Ni 231.604†	13837.8	4.095	mg/L	0.0199	8.190 mg/L	0.0397	0.48%
Pb 220.353†	21209.8	2.504	mg/L	0.0044	5.008 mg/L	0.0089	0.18%
Sb 206.836†	88.2	0.02108	mg/L	0.003239	0.04217 mg/L	0.006479	15.36%
Se 196.026†	2840.5	2.039	mg/L	0.0038	4.078 mg/L	0.0075	0.18%
Si 288.158†	2851.8	1.644	mg/L	0.0159	3.289 mg/L	0.0319	0.97%
Sn 189.927†	-61.2	-0.00858	mg/L	0.001774	-0.01715 mg/L	0.003547	20.68%
Sr 421.552†	566576.4	0.6822	mg/L	0.00371	1.364 mg/L	0.0074	0.54%
Ti 334.903†	130005.1	7.693	mg/L	0.0308	15.39 mg/L	0.062	0.40%
Tl 190.801†	4259.8	1.961	mg/L	0.0057	3.921 mg/L	0.0114	0.29%
V 292.402†	150910.2	0.9634	mg/L	0.00576	1.927 mg/L	0.0115	0.60%
Zn 206.200†	3460.2	1.014	mg/L	0.0066	2.029 mg/L	0.0131	0.65%

Sequence No.: 42

Sample ID: ~~YE32 APOST SWC~~ 222222

Autosampler Location: 329

Date Collected: 4/1/2014 11:33:02 AM

Data Type: Original

Dilution: 2.000000X

BA 4/2/14

Nebulizer Parameters: YE32 APOST SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 APOST SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2877915.6	97.19	%	0.522			0.54%
ScR 361.383	248330.5	101.1	%	1.28			1.26%
Ag 328.068†	101507.0	0.4986	mg/L	0.00844	0.9972 mg/L	0.01688	1.69%
Al 308.215†	187551.4	143.7	mg/L	0.79	287.4 mg/L	1.58	0.55%
As 188.979†	3250.5	2.147	mg/L	0.0145	4.295 mg/L	0.0289	0.67%
B 249.677†	99.3	0.01613	mg/L	0.000927	0.03226 mg/L	0.001854	5.75%
Ba 233.527†	9897.1	2.561	mg/L	0.0416	5.122 mg/L	0.0831	1.62%
Be 313.042†	241842.8	0.4777	mg/L	0.00413	0.9553 mg/L	0.00827	0.87%
Ca 317.933†	525527.4	53.63	mg/L	0.253	107.3 mg/L	0.51	0.47%
Cd 228.802†	18078.8	0.5311	mg/L	0.00338	1.062 mg/L	0.0068	0.64%
Co 228.616†	23715.7	0.5726	mg/L	0.00379	1.145 mg/L	0.0076	0.66%
Cr 267.716†	5573.2	1.113	mg/L	0.0142	2.227 mg/L	0.0284	1.28%
Cu 324.752†	351099.2	1.195	mg/L	0.0168	2.390 mg/L	0.0335	1.40%
Fe 273.955†	224767.6	195.4	mg/L	1.95	390.9 mg/L	3.91	1.00%
K 766.490†	37992.1	16.69	mg/L	0.134	33.37 mg/L	0.268	0.80%
Mg 279.077†	89015.2	79.09	mg/L	0.468	158.2 mg/L	0.94	0.59%
Mn 257.610†	100980.1	3.175	mg/L	0.0328	6.350 mg/L	0.0656	1.03%
Mo 202.031†	235.1	0.01128	mg/L	0.000595	0.02256 mg/L	0.001189	5.27%
Na 589.592†	164294.1	12.32	mg/L	0.075	24.64 mg/L	0.150	0.61%
Na 330.237†	230.0	12.11	mg/L	0.201	24.23 mg/L	0.401	1.66%
Ni 231.604†	9346.0	2.766	mg/L	0.0384	5.531 mg/L	0.0767	1.39%
Pb 220.353†	19777.4	2.335	mg/L	0.0161	4.670 mg/L	0.0323	0.69%
Sb 206.836†	73.7	0.01764	mg/L	0.003825	0.03528 mg/L	0.007650	21.69%
Se 196.026†	2943.9	2.113	mg/L	0.0237	4.227 mg/L	0.0474	1.12%
Si 288.158†	2563.6	1.479	mg/L	0.0210	2.959 mg/L	0.0420	1.42%
Sn 189.927†	-65.6	-0.01036	mg/L	0.000894	-0.02072 mg/L	0.001788	8.63%
Sr 421.552†	535176.8	0.6444	mg/L	0.00400	1.289 mg/L	0.0080	0.62%
Ti 334.903†	127096.2	7.521	mg/L	0.0485	15.04 mg/L	0.097	0.64%
Tl 190.801†	4194.4	1.929	mg/L	0.0125	3.857 mg/L	0.0250	0.65%
V 292.402†	144489.3	0.9228	mg/L	0.01465	1.846 mg/L	0.0293	1.59%
Zn 206.200†	3196.0	0.9370	mg/L	0.01226	1.874 mg/L	0.0245	1.31%

Sequence No.: 43

Sample ID: YE32 MB1SPK SWN ^C ^{BA} 4/2/14

Autosampler Location: 330

Date Collected: 4/1/2014 11:37:03 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 MB1SPK SWN

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 MB1SPK SWN

Analyte	Mean Intensity	Mean Corrected Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2921919.4	98.67	%	0.368				0.37%
ScR 361.383	247916.4	100.9	%	1.24				1.23%
Ag 328.068†	112514.6	0.5522	mg/L	0.00746	1.104	mg/L	0.0149	1.35%
Al 308.215†	2789.3	2.130	mg/L	0.0217	4.259	mg/L	0.0434	1.02%
As 188.979†	3749.2	2.173	mg/L	0.0184	4.346	mg/L	0.0369	0.85%
B 249.677†	11.2	0.00084	mg/L	0.000432	0.00169	mg/L	0.000864	51.26%
Ba 233.527†	8308.6	2.175	mg/L	0.0166	4.350	mg/L	0.0332	0.76%
Be 313.042†	262607.0	0.5189	mg/L	0.00060	1.038	mg/L	0.0012	0.11%
Ca 317.933†	104522.2	10.67	mg/L	0.023	21.33	mg/L	0.045	0.21%
Cd 228.802†	18365.7	0.5377	mg/L	0.00476	1.075	mg/L	0.0095	0.88%
Co 228.616†	21245.0	0.5253	mg/L	0.00429	1.051	mg/L	0.0086	0.82%
Cr 267.716†	2745.7	0.5482	mg/L	0.00494	1.096	mg/L	0.0099	0.90%
Cu 324.752†	152584.3	0.5163	mg/L	0.00571	1.033	mg/L	0.0114	1.11%
Fe 273.955†	2548.4	2.213	mg/L	0.0255	4.425	mg/L	0.0510	1.15%
K 766.490†	24063.3	10.57	mg/L	0.071	21.14	mg/L	0.142	0.67%
Mg 279.077†	12423.8	11.05	mg/L	0.109	22.11	mg/L	0.218	0.98%
Mn 257.610†	15991.2	0.5033	mg/L	0.00283	1.007	mg/L	0.0057	0.56%
Mo 202.031†	31.2	0.00144	mg/L	0.000157	0.00288	mg/L	0.000313	10.86%
Na 589.592†	142181.1	10.66	mg/L	0.050	21.33	mg/L	0.100	0.47%
Na 330.237†	238.0	10.87	mg/L	0.348	21.74	mg/L	0.695	3.20%
Ni 231.604†	1831.0	0.5411	mg/L	0.00619	1.082	mg/L	0.0124	1.14%
Pb 220.353†	18143.2	2.118	mg/L	0.0181	4.235	mg/L	0.0362	0.86%
Sb 206.836†	21.8	0.00153	mg/L	0.001141	0.00306	mg/L	0.002282	74.53%
Se 196.026†	3014.6	2.164	mg/L	0.0200	4.329	mg/L	0.0400	0.92%
Si 288.158†	-3.0	0.00206	mg/L	0.003570	0.00411	mg/L	0.007141	173.57%
Sn 189.927†	-23.1	-0.00510	mg/L	0.000332	-0.01021	mg/L	0.000665	6.51%
Sr 421.552†	430540.9	0.5184	mg/L	0.00241	1.037	mg/L	0.0048	0.46%
Ti 334.903†	134.7	0.00712	mg/L	0.000396	0.01424	mg/L	0.000791	5.56%
Tl 190.801†	4659.2	2.120	mg/L	0.0118	4.241	mg/L	0.0236	0.56%
V 292.402†	81679.6	0.5297	mg/L	0.00737	1.059	mg/L	0.0147	1.39%
Zn 206.200†	1815.3	0.5321	mg/L	0.00567	1.064	mg/L	0.0113	1.07%

Sequence No.: 44

Autosampler Location: 7

Sample ID: CV

Date Collected: 4/1/2014 11:41:03 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2875993.0	97.12 %	0.534			0.55%
ScR 361.383	239569.7	97.49 %	0.191			0.20%
Ag 328.068†	215041.1	1.055 mg/L	0.0049	1.055 mg/L	0.0049	0.46%
Al 308.215†	2722.4	2.054 mg/L	0.0173	2.054 mg/L	0.0173	0.84%
As 188.979†	3485.2	2.052 mg/L	0.0088	2.052 mg/L	0.0088	0.43%
B 249.677†	5904.0	1.031 mg/L	0.0026	1.031 mg/L	0.0026	0.25%
Ba 233.527†	3992.7	1.045 mg/L	0.0035	1.045 mg/L	0.0035	0.33%
Be 313.042†	511414.4	1.010 mg/L	0.0036	1.010 mg/L	0.0036	0.35%
Ca 317.933†	21012.6	2.144 mg/L	0.0099	2.144 mg/L	0.0099	0.46%
Cd 228.802†	34496.0	1.021 mg/L	0.0049	1.021 mg/L	0.0049	0.48%
Co 228.616†	40522.1	1.001 mg/L	0.0079	1.001 mg/L	0.0079	0.79%
Cr 267.716†	5322.9	1.064 mg/L	0.0032	1.064 mg/L	0.0032	0.30%
Cu 324.752†	296730.1	1.004 mg/L	0.0027	1.004 mg/L	0.0027	0.26%
Fe 273.955†	2457.4	2.130 mg/L	0.0111	2.130 mg/L	0.0111	0.52%
K 766.490†	46152.0	20.27 mg/L	0.147	20.27 mg/L	0.147	0.72%
Mg 279.077†	2308.0	2.060 mg/L	0.0102	2.060 mg/L	0.0102	0.49%
Mn 257.610†	31004.1	0.9756 mg/L	0.00527	0.9756 mg/L	0.00527	0.54%
Mo 202.031†	18516.6	0.9537 mg/L	0.00516	0.9537 mg/L	0.00516	0.54%
Na 589.592†	687512.2	51.57 mg/L	0.188	51.57 mg/L	0.188	0.36%
Na 330.237†	1112.6	51.78 mg/L	0.221	51.78 mg/L	0.221	0.43%
Ni 231.604†	3571.3	1.057 mg/L	0.0029	1.057 mg/L	0.0029	0.27%
Pb 220.353†	17007.5	1.986 mg/L	0.0096	1.986 mg/L	0.0096	0.49%
Sb 206.836†	6636.9	2.066 mg/L	0.0122	2.066 mg/L	0.0122	0.59%
Se 196.026†	2808.0	2.016 mg/L	0.0137	2.016 mg/L	0.0137	0.68%
Si 288.158†	3481.7	1.998 mg/L	0.0149	1.998 mg/L	0.0149	0.75%
Sn 189.927†	3479.5	0.9755 mg/L	0.00435	0.9755 mg/L	0.00435	0.45%
Sr 421.552†	847282.9	1.020 mg/L	0.0021	1.020 mg/L	0.0021	0.20%
Ti 334.903†	16716.3	0.9885 mg/L	0.00165	0.9885 mg/L	0.00165	0.17%
Tl 190.801†	4546.2	2.066 mg/L	0.0128	2.066 mg/L	0.0128	0.62%
V 292.402†	157692.3	1.023 mg/L	0.0059	1.023 mg/L	0.0059	0.58%
Zn 206.200†	3559.5	1.043 mg/L	0.0023	1.043 mg/L	0.0023	0.22%

Sequence No.: 45
Sample ID: CB

Autosampler Location: 1
Date Collected: 4/1/2014 11:45:07 AM
Data Type: Original

Dilution: 1.000000X *4-1-14*

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2938546.3	99.23 %		0.129			0.13%
ScR 361.383	250329.1	101.9 %		1.11			1.09%
Ag 328.068†	14.7	0.00007 mg/L		0.000172	0.00007 mg/L	0.000172	238.80%
Al 308.215†	-3.3	-0.00258 mg/L		0.003054	-0.00258 mg/L	0.003054	118.46%
As 188.979†	-1.2	-0.00067 mg/L		0.001612	-0.00067 mg/L	0.001612	240.82%
B 249.677†	15.2	0.00266 mg/L		0.000011	0.00266 mg/L	0.000011	0.41%
Ba 233.527†	-0.0	-0.00001 mg/L		0.000108	-0.00001 mg/L	0.000108	967.34%
Be 313.042†	35.7	0.00007 mg/L		0.000021	0.00007 mg/L	0.000021	29.85%
Ca 317.933†	12.2	0.00125 mg/L		0.000224	0.00125 mg/L	0.000224	17.93%
Cd 228.802†	10.2	0.00031 mg/L		0.000038	0.00031 mg/L	0.000038	12.18%
Co 228.616†	9.6	0.00023 mg/L		0.000090	0.00023 mg/L	0.000090	38.48%
Cr 267.716†	-1.8	-0.00037 mg/L		0.000835	-0.00037 mg/L	0.000835	227.77%
Cu 324.752†	255.3	0.00086 mg/L		0.000085	0.00086 mg/L	0.000085	9.80%
Fe 273.955†	2.6	0.00230 mg/L		0.001373	0.00230 mg/L	0.001373	59.78%
K 766.490†	41.0	0.01800 mg/L		0.007558	0.01800 mg/L	0.007558	42.00%
Mg 279.077†	7.6	0.00674 mg/L		0.006729	0.00674 mg/L	0.006729	99.85%
Mn 257.610†	3.9	0.00012 mg/L		0.000216	0.00012 mg/L	0.000216	177.04%
Mo 202.031†	23.8	0.00123 mg/L		0.000359	0.00123 mg/L	0.000359	29.23%
Na 589.592†	59.8	0.00449 mg/L		0.002681	0.00449 mg/L	0.002681	59.73%
Na 330.237†	0.1	0.00388 mg/L		0.192409	0.00388 mg/L	0.192409	>999.9%
Ni 231.604†	-2.6	-0.00076 mg/L		0.000817	-0.00076 mg/L	0.000817	107.33%
Pb 220.353†	2.9	0.00034 mg/L		0.000208	0.00034 mg/L	0.000208	61.96%
Sb 206.836†	28.0	0.00873 mg/L		0.001977	0.00873 mg/L	0.001977	22.66%
Se 196.026†	3.4	0.00247 mg/L		0.005763	0.00247 mg/L	0.005763	233.65%
Si 288.158†	9.3	0.00531 mg/L		0.002124	0.00531 mg/L	0.002124	39.98%
Sn 189.927†	-0.7	-0.00019 mg/L		0.001142	-0.00019 mg/L	0.001142	591.35%
Sr 421.552†	46.0	0.00006 mg/L		0.000029	0.00006 mg/L	0.000029	52.15%
Ti 334.903†	20.0	0.00118 mg/L		0.000503	0.00118 mg/L	0.000503	42.57%
Tl 190.801†	1.7	0.00077 mg/L		0.002301	0.00077 mg/L	0.002301	298.53%
V 292.402†	-3.7	-0.00003 mg/L		0.000052	-0.00003 mg/L	0.000052	203.46%
Zn 206.200†	-1.2	-0.00034 mg/L		0.000344	-0.00034 mg/L	0.000344	100.40%

Sequence No.: 46
Sample ID: YE32 F SWC

Autosampler Location: 331
Date Collected: 4/1/2014 11:49:07 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 F SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 F SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2883353.1	97.37	%	0.271			0.28%
ScR 361.383	248153.6	101.0	%	0.65			0.65%
Ag 328.068†	-325.2	-0.00123	mg/L	0.000285	-0.00246 mg/L	0.000569	23.14%
Al 308.215†	201608.8	154.5	mg/L	0.39	309.0 mg/L	0.78	0.25%
As 188.979†	-359.9	0.07603	mg/L	0.003985	0.1521 mg/L	0.00797	5.24%
B 249.677†	72.4	0.01247	mg/L	0.000408	0.02493 mg/L	0.000815	3.27%
Ba 233.527†	2264.1	0.5666	mg/L	0.00318	1.133 mg/L	0.0064	0.56%
Be 313.042†	1198.4	0.00217	mg/L	0.000013	0.00435 mg/L	0.000026	0.59%
Ca 317.933†	414314.9	42.28	mg/L	0.015	84.56 mg/L	0.029	0.03%
Cd 228.802†	43.2	0.00193	mg/L	0.000125	0.00386 mg/L	0.000251	6.49%
Co 228.616†	3588.5	0.07411	mg/L	0.000258	0.1482 mg/L	0.00052	0.35%
Cr 267.716†	1938.6	0.3883	mg/L	0.00295	0.7765 mg/L	0.00589	0.76%
Cu 324.752†	80758.1	0.2790	mg/L	0.00080	0.5579 mg/L	0.00161	0.29%
Fe 273.955†	193312.3	168.1	mg/L	0.54	336.2 mg/L	1.08	0.32%
K 766.490†	14073.8	6.181	mg/L	0.0228	12.36 mg/L	0.046	0.37%
Mg 279.077†	56212.6	49.91	mg/L	0.116	99.83 mg/L	0.233	0.23%
Mn 257.610†	74647.2	2.346	mg/L	0.0046	4.693 mg/L	0.0092	0.20%
Mo 202.031†	90.5	0.00400	mg/L	0.000186	0.00801 mg/L	0.000372	4.64%
Na 589.592†	28659.3	2.150	mg/L	0.0065	4.299 mg/L	0.0130	0.30%
Na 330.237†	3.4	1.938	mg/L	0.1896	3.877 mg/L	0.3791	9.78%
Ni 231.604†	3613.3	1.070	mg/L	0.0048	2.139 mg/L	0.0097	0.45%
Pb 220.353†	599.8	0.1011	mg/L	0.00044	0.2023 mg/L	0.00088	0.43%
Sb 206.836†	49.7	0.01822	mg/L	0.001145	0.03645 mg/L	0.002290	6.28%
Se 196.026†	37.0	0.02629	mg/L	0.003048	0.05259 mg/L	0.006097	11.59%
Si 288.158†	5073.2	2.910	mg/L	0.0148	5.820 mg/L	0.0295	0.51%
Sn 189.927†	-60.3	-0.01022	mg/L	0.000718	-0.02045 mg/L	0.001436	7.03%
Sr 421.552†	164404.7	0.1980	mg/L	0.00044	0.3959 mg/L	0.00089	0.22%
Ti 334.903†	136660.0	8.088	mg/L	0.0188	16.18 mg/L	0.038	0.23%
Tl 190.801†	-30.5	0.00327	mg/L	0.001130	0.00653 mg/L	0.002259	34.60%
V 292.402†	66049.4	0.4143	mg/L	0.00131	0.8287 mg/L	0.00263	0.32%
Zn 206.200†	1272.1	0.3733	mg/L	0.00235	0.7466 mg/L	0.00469	0.63%

Sequence No.: 47
 Sample ID: YE32 G SWC

Autosampler Location: 332
 Date Collected: 4/1/2014 11:53:09 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 G SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE32 G SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2928618.3	98.90	%	0.363			0.37%
ScR 361.383	252992.1	102.9	%	0.91			0.89%
Ag 328.068†	-268.1	-0.00096	mg/L	0.000241	-0.00193 mg/L	0.000482	25.00%
Al 308.215†	186967.0	143.3	mg/L	0.40	286.5 mg/L	0.80	0.28%
As 188.979†	-331.5	0.08271	mg/L	0.007915	0.1654 mg/L	0.01583	9.57%
B 249.677†	69.4	0.01195	mg/L	0.001387	0.02389 mg/L	0.002774	11.61%
Ba 233.527†	2221.9	0.5553	mg/L	0.00415	1.111 mg/L	0.0083	0.75%
Be 313.042†	1089.0	0.00197	mg/L	0.000032	0.00394 mg/L	0.000063	1.60%
Ca 317.933†	407974.8	41.63	mg/L	0.059	83.27 mg/L	0.117	0.14%
Cd 228.802†	56.1	0.00163	mg/L	0.000104	0.00327 mg/L	0.000208	6.38%
Co 228.616†	3435.9	0.07092	mg/L	0.000281	0.1418 mg/L	0.00056	0.40%
Cr 267.716†	1573.8	0.3144	mg/L	0.00240	0.6289 mg/L	0.00481	0.76%
Cu 324.752†	45658.8	0.1603	mg/L	0.00126	0.3206 mg/L	0.00253	0.79%
Fe 273.955†	196123.2	170.5	mg/L	0.33	341.1 mg/L	0.66	0.19%
K 766.490†	13914.2	6.111	mg/L	0.0054	12.22 mg/L	0.011	0.09%
Mg 279.077†	68152.7	60.54	mg/L	0.054	121.1 mg/L	0.11	0.09%
Mn 257.610†	88790.5	2.791	mg/L	0.0062	5.582 mg/L	0.0123	0.22%
Mo 202.031†	70.2	0.00297	mg/L	0.000045	0.00594 mg/L	0.000090	1.52%
Na 589.592†	19843.8	1.488	mg/L	0.0037	2.977 mg/L	0.0074	0.25%
Na 330.237†	-8.4	1.323	mg/L	0.3503	2.646 mg/L	0.7006	26.48%
Ni 231.604†	1653.9	0.4896	mg/L	0.00091	0.9791 mg/L	0.00183	0.19%
Pb 220.353†	-36.6	0.02395	mg/L	0.001286	0.04789 mg/L	0.002573	5.37%
Sb 206.836†	46.6	0.01781	mg/L	0.002117	0.03563 mg/L	0.004234	11.88%
Se 196.026†	42.6	0.03034	mg/L	0.001288	0.06068 mg/L	0.002576	4.25%
Si 288.158†	4849.9	2.783	mg/L	0.0134	5.566 mg/L	0.0269	0.48%
Sn 189.927†	-67.5	-0.01237	mg/L	0.000323	-0.02475 mg/L	0.000646	2.61%
Sr 421.552†	234281.7	0.2821	mg/L	0.00105	0.5642 mg/L	0.00211	0.37%
Ti 334.903†	131939.9	7.809	mg/L	0.0217	15.62 mg/L	0.043	0.28%
Tl 190.801†	-28.3	0.00471	mg/L	0.004605	0.00943 mg/L	0.009209	97.70%
V 292.402†	59546.4	0.3721	mg/L	0.00248	0.7443 mg/L	0.00496	0.67%
Zn 206.200†	1215.6	0.3567	mg/L	0.00244	0.7134 mg/L	0.00488	0.68%

Sequence No.: 48
Sample ID: YE32 H SWC

Autosampler Location: 333
Date Collected: 4/1/2014 11:57:09 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 H SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 H SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2927000.3	98.84 %		0.556			0.56%
ScR 361.383	247176.4	100.6 %		0.18			0.17%
Ag 328.068†	-329.2	-0.00117 mg/L		0.000167	-0.00235 mg/L	0.000333	14.20%
Al 308.215†	196004.3	150.2 mg/L		0.44	300.4 mg/L	0.89	0.30%
As 188.979†	-407.8	0.08296 mg/L		0.005124	0.1659 mg/L	0.01025	6.18%
B 249.677†	82.3	0.01420 mg/L		0.002032	0.02839 mg/L	0.004064	14.31%
Ba 233.527†	2220.3	0.5550 mg/L		0.00163	1.110 mg/L	0.0033	0.29%
Be 313.042†	1300.2	0.00237 mg/L		0.000022	0.00473 mg/L	0.000044	0.93%
Ca 317.933†	542212.5	55.33 mg/L		0.133	110.7 mg/L	0.27	0.24%
Cd 228.802†	54.8	0.00195 mg/L		0.000305	0.00390 mg/L	0.000610	15.64%
Co 228.616†	3719.7	0.07564 mg/L		0.000953	0.1513 mg/L	0.00191	1.26%
Cr 267.716†	1713.5	0.3425 mg/L		0.00136	0.6850 mg/L	0.00273	0.40%
Cu 324.752†	39284.8	0.1384 mg/L		0.00121	0.2769 mg/L	0.00242	0.87%
Fe 273.955†	194933.2	169.5 mg/L		0.33	339.0 mg/L	0.66	0.19%
K 766.490†	14126.9	6.204 mg/L		0.0357	12.41 mg/L	0.071	0.57%
Mg 279.077†	64273.0	57.08 mg/L		0.049	114.2 mg/L	0.10	0.09%
Mn 257.610†	90391.2	2.841 mg/L		0.0030	5.683 mg/L	0.0059	0.10%
Mo 202.031†	74.9	0.00300 mg/L		0.000313	0.00600 mg/L	0.000626	10.43%
Na 589.592†	22183.0	1.664 mg/L		0.0026	3.328 mg/L	0.0052	0.16%
Na 330.237†	-14.9	1.284 mg/L		0.4767	2.569 mg/L	0.9534	37.12%
Ni 231.604†	2066.7	0.6117 mg/L		0.00101	1.223 mg/L	0.0020	0.16%
Pb 220.353†	-113.8	0.01680 mg/L		0.000191	0.03361 mg/L	0.000383	1.14%
Sb 206.836†	41.7	0.01704 mg/L		0.003509	0.03408 mg/L	0.007018	20.60%
Se 196.026†	36.1	0.02565 mg/L		0.006068	0.05129 mg/L	0.012136	23.66%
Si 288.158†	7531.0	4.317 mg/L		0.0037	8.635 mg/L	0.0075	0.09%
Sn 189.927†	-78.5	-0.01354 mg/L		0.000204	-0.02708 mg/L	0.000409	1.51%
Sr 421.552†	175060.3	0.2108 mg/L		0.00046	0.4216 mg/L	0.00092	0.22%
Ti 334.903†	153568.5	9.088 mg/L		0.0189	18.18 mg/L	0.038	0.21%
Tl 190.801†	-32.9	0.00236 mg/L		0.002058	0.00471 mg/L	0.004115	87.31%
V 292.402†	64842.5	0.4058 mg/L		0.00292	0.8115 mg/L	0.00585	0.72%
Zn 206.200†	1081.6	0.3178 mg/L		0.00155	0.6355 mg/L	0.00310	0.49%

Sequence No.: 49
 Sample ID: YE32 I SWC
 Dilution: 2.000000X

Autosampler Location: 334
 Date Collected: 4/1/2014 12:01:10 PM
 Data Type: Original

Nebulizer Parameters: YE32 I SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE32 I SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905810.9	98.13	%	0.457			0.47%
ScR 361.383	249155.9	101.4	%	0.19			0.19%
Ag 328.068†	-90.6	0.00007	mg/L	0.000062	0.00015	0.000125	84.23%
Al 308.215†	187599.9	143.7	mg/L	0.40	287.5	0.81	0.28%
As 188.979†	-286.9	0.1026	mg/L	0.00279	0.2053	0.00558	2.72%
B 249.677†	249.0	0.04326	mg/L	0.002547	0.08653	0.005094	5.89%
Ba 233.527†	3168.6	0.7959	mg/L	0.00746	1.592	0.0149	0.94%
Be 313.042†	1149.0	0.00208	mg/L	0.000057	0.00416	0.000114	2.73%
Ca 317.933†	668152.2	68.19	mg/L	0.364	136.4	0.73	0.53%
Cd 228.802†	-181.5	0.00805	mg/L	0.000100	0.01610	0.000199	1.24%
Co 228.616†	4854.1	0.1036	mg/L	0.00060	0.2072	0.00119	0.58%
Cr 267.716†	22601.3	4.523	mg/L	0.0327	9.045	0.0654	0.72%
Cu 324.752†	1025524.7	3.477	mg/L	0.0070	6.954	0.0140	0.20%
Fe 273.955†	237310.6	206.4	mg/L	1.12	412.7	2.24	0.54%
K 766.490†	13812.6	6.066	mg/L	0.0352	12.13	0.070	0.58%
Mg 279.077†	65217.6	57.91	mg/L	0.450	115.8	0.90	0.78%
Mn 257.610†	96661.3	3.040	mg/L	0.0133	6.080	0.0266	0.44%
Mo 202.031†	229.5	0.01076	mg/L	0.000158	0.02152	0.000315	1.46%
Na 589.592†	27223.8	2.042	mg/L	0.0088	4.084	0.0176	0.43%
Na 330.237†	7.8	1.752	mg/L	0.5877	3.504	1.1755	33.55%
Ni 231.604†	49174.3	14.56	mg/L	0.110	29.11	0.219	0.75%
Pb 220.353†	61648.2	7.225	mg/L	0.0670	14.45	0.134	0.93%
Sb 206.836†	694.0	0.1652	mg/L	0.00427	0.3305	0.00854	2.58%
Se 196.026†	33.7	0.02392	mg/L	0.000799	0.04783	0.001598	3.34%
Si 288.158†	4484.3	2.576	mg/L	0.0050	5.152	0.0100	0.19%
Sn 189.927†	15.9	0.01456	mg/L	0.001011	0.02912	0.002023	6.95%
Sr 421.552†	202516.2	0.2439	mg/L	0.00051	0.4877	0.00101	0.21%
Ti 334.903†	133158.1	7.878	mg/L	0.0311	15.76	0.062	0.40%
Tl 190.801†	-26.4	0.00768	mg/L	0.002182	0.01537	0.004363	28.39%
V 292.402†	63880.5	0.4155	mg/L	0.00411	0.8309	0.00823	0.99%
Zn 206.200†	3379.8	0.9923	mg/L	0.01097	1.985	0.0219	1.11%

Sequence No.: 50
Sample ID: YE32 J SWC

Autosampler Location: 335
Date Collected: 4/1/2014 12:04:27 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 J SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 J SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921236.0	98.65 %		1.077			1.09%
ScR 361.383	252569.4	102.8 %		0.57			0.55%
Ag 328.068†	-287.9	-0.00105 mg/L		0.000120	-0.00210 mg/L	0.000240	11.44%
Al 308.215†	166539.8	127.6 mg/L		0.32	255.2 mg/L	0.63	0.25%
As 188.979†	-328.7	0.07742 mg/L		0.004494	0.1548 mg/L	0.00899	5.80%
B 249.677†	277.6	0.04835 mg/L		0.000814	0.09669 mg/L	0.001627	1.68%
Ba 233.527†	1991.1	0.4972 mg/L		0.00196	0.9944 mg/L	0.00392	0.39%
Be 313.042†	1094.9	0.00199 mg/L		0.000026	0.00398 mg/L	0.000053	1.32%
Ca 317.933†	438311.9	44.73 mg/L		0.101	89.46 mg/L	0.203	0.23%
Cd 228.802†	56.3	0.00248 mg/L		0.000101	0.00495 mg/L	0.000203	4.10%
Co 228.616†	3320.7	0.06828 mg/L		0.000830	0.1366 mg/L	0.00166	1.22%
Cr 267.716†	2245.0	0.4488 mg/L		0.00175	0.8975 mg/L	0.00350	0.39%
Cu 324.752†	80674.0	0.2781 mg/L		0.00110	0.5562 mg/L	0.00220	0.40%
Fe 273.955†	178173.7	154.9 mg/L		0.80	309.9 mg/L	1.59	0.51%
K 766.490†	13964.2	6.133 mg/L		0.0203	12.27 mg/L	0.041	0.33%
Mg 279.077†	61124.3	54.29 mg/L		0.162	108.6 mg/L	0.32	0.30%
Mn 257.610†	85221.6	2.679 mg/L		0.0076	5.358 mg/L	0.0152	0.28%
Mo 202.031†	88.4	0.00386 mg/L		0.000539	0.00772 mg/L	0.001079	13.98%
Na 589.592†	24953.2	1.872 mg/L		0.0037	3.743 mg/L	0.0075	0.20%
Na 330.237†	3.5	1.804 mg/L		0.1252	3.607 mg/L	0.2504	6.94%
Ni 231.604†	4061.3	1.202 mg/L		0.0073	2.404 mg/L	0.0146	0.61%
Pb 220.353†	-91.3	0.01457 mg/L		0.000321	0.02915 mg/L	0.000642	2.20%
Sb 206.836†	50.3	0.01701 mg/L		0.001287	0.03401 mg/L	0.002575	7.57%
Se 196.026†	36.9	0.02627 mg/L		0.006330	0.05253 mg/L	0.012659	24.10%
Si 288.158†	3859.8	2.216 mg/L		0.0135	4.432 mg/L	0.0270	0.61%
Sn 189.927†	-69.0	-0.01243 mg/L		0.000951	-0.02487 mg/L	0.001901	7.64%
Sr 421.552†	176875.3	0.2130 mg/L		0.00021	0.4260 mg/L	0.00043	0.10%
Ti 334.903†	128912.5	7.629 mg/L		0.0108	15.26 mg/L	0.022	0.14%
Tl 190.801†	-18.9	0.00728 mg/L		0.003355	0.01456 mg/L	0.006710	46.08%
V 292.402†	56278.2	0.3525 mg/L		0.00098	0.7051 mg/L	0.00196	0.28%
Zn 206.200†	1261.4	0.3700 mg/L		0.00143	0.7401 mg/L	0.00285	0.39%

Sequence No.: 51
 Sample ID: YE32 K SWC
 Dilution: 2.000000X

Autosampler Location: 336
 Date Collected: 4/1/2014 12:08:27 PM
 Data Type: Original

Nebulizer Parameters: YE32 K SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 K SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2913184.6	98.38	%	0.548			0.56%
ScR 361.383	252759.4	102.9	%	0.71			0.69%
Ag 328.068†	-280.1	-0.00113	mg/L	0.000293	-0.00226 mg/L	0.000587	26.00%
Al 308.215†	198261.1	151.9	mg/L	0.58	303.8 mg/L	1.17	0.38%
As 188.979†	-319.9	0.07286	mg/L	0.001528	0.1457 mg/L	0.00306	2.10%
B 249.677†	167.5	0.02911	mg/L	0.000831	0.05823 mg/L	0.001661	2.85%
Ba 233.527†	2634.7	0.6648	mg/L	0.00570	1.330 mg/L	0.0114	0.86%
Be 313.042†	954.1	0.00172	mg/L	0.000030	0.00344 mg/L	0.000061	1.77%
Ca 317.933†	251770.2	25.69	mg/L	0.021	51.39 mg/L	0.041	0.08%
Cd 228.802†	76.8	0.00295	mg/L	0.000280	0.00591 mg/L	0.000559	9.47%
Co 228.616†	3164.5	0.06486	mg/L	0.000378	0.1297 mg/L	0.00076	0.58%
Cr 267.716†	10564.6	2.114	mg/L	0.0099	4.228 mg/L	0.0198	0.47%
Cu 324.752†	208689.2	0.7116	mg/L	0.00132	1.423 mg/L	0.0026	0.19%
Fe 273.955†	184992.0	160.9	mg/L	0.30	321.7 mg/L	0.60	0.19%
K 766.490†	15172.2	6.664	mg/L	0.0248	13.33 mg/L	0.050	0.37%
Mg 279.077†	60208.6	53.48	mg/L	0.266	107.0 mg/L	0.53	0.50%
Mn 257.610†	79580.9	2.502	mg/L	0.0042	5.003 mg/L	0.0084	0.17%
Mo 202.031†	123.0	0.00594	mg/L	0.000272	0.01187 mg/L	0.000543	4.58%
Na 589.592†	17459.5	1.310	mg/L	0.0059	2.619 mg/L	0.0117	0.45%
Na 330.237†	-7.7	1.322	mg/L	0.5645	2.643 mg/L	1.1291	42.72%
Ni 231.604†	3862.5	1.143	mg/L	0.0106	2.287 mg/L	0.0212	0.93%
Pb 220.353†	-118.3	0.01974	mg/L	0.001637	0.03949 mg/L	0.003274	8.29%
Sb 206.836†	110.3	0.01387	mg/L	0.002248	0.02773 mg/L	0.004496	16.21%
Se 196.026†	38.0	0.02704	mg/L	0.001981	0.05407 mg/L	0.003962	7.33%
Si 288.158†	6684.1	3.833	mg/L	0.0280	7.667 mg/L	0.0560	0.73%
Sn 189.927†	-54.8	-0.01081	mg/L	0.000834	-0.02162 mg/L	0.001667	7.71%
Sr 421.552†	118977.9	0.1433	mg/L	0.00033	0.2865 mg/L	0.00065	0.23%
Ti 334.903†	124703.5	7.381	mg/L	0.0218	14.76 mg/L	0.044	0.30%
Tl 190.801†	-32.3	0.00123	mg/L	0.001992	0.00245 mg/L	0.003985	162.39%
V 292.402†	54178.0	0.3456	mg/L	0.00153	0.6913 mg/L	0.00305	0.44%
Zn 206.200†	1418.8	0.4169	mg/L	0.00440	0.8338 mg/L	0.00881	1.06%

Sequence No.: 52
 Sample ID: YE32 L SWC

Autosampler Location: 337
 Date Collected: 4/1/2014 12:11:42 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 L SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929534.5	98.93 %	0.467			0.47%
ScR 361.383	251008.5	102.1 %	0.76			0.74%
Ag 328.068†	-347.4	-0.00142 mg/L	0.000225	-0.00284 mg/L	0.000450	15.84%
Al 308.215†	186694.0	143.1 mg/L	0.31	286.1 mg/L	0.62	0.22%
As 188.979†	-338.0	0.07441 mg/L	0.001295	0.1488 mg/L	0.00259	1.74%
B 249.677†	88.9	0.01536 mg/L	0.000704	0.03073 mg/L	0.001407	4.58%
Ba 233.527†	2537.5	0.6412 mg/L	0.00762	1.282 mg/L	0.0152	1.19%
Be 313.042†	1069.0	0.00194 mg/L	0.000033	0.00388 mg/L	0.000066	1.69%
Ca 317.933†	311826.4	31.82 mg/L	0.102	63.64 mg/L	0.204	0.32%
Cd 228.802†	-7.9	0.00199 mg/L	0.000074	0.00399 mg/L	0.000147	3.69%
Co 228.616†	3325.4	0.06812 mg/L	0.000463	0.1362 mg/L	0.00093	0.68%
Cr 267.716†	1787.9	0.3581 mg/L	0.00178	0.7163 mg/L	0.00356	0.50%
Cu 324.752†	33497.5	0.1183 mg/L	0.00068	0.2365 mg/L	0.00137	0.58%
Fe 273.955†	169526.1	147.4 mg/L	0.61	294.8 mg/L	1.23	0.42%
K 766.490†	12962.1	5.693 mg/L	0.0050	11.39 mg/L	0.010	0.09%
Mg 279.077†	49086.2	43.59 mg/L	0.035	87.17 mg/L	0.070	0.08%
Mn 257.610†	98425.0	3.094 mg/L	0.0073	6.189 mg/L	0.0146	0.24%
Mo 202.031†	69.6	0.00309 mg/L	0.000164	0.00618 mg/L	0.000328	5.31%
Na 589.592†	21565.7	1.617 mg/L	0.0033	3.235 mg/L	0.0065	0.20%
Na 330.237†	-8.9	1.342 mg/L	0.0398	2.685 mg/L	0.0795	2.96%
Ni 231.604†	8626.2	2.553 mg/L	0.0105	5.107 mg/L	0.0209	0.41%
Pb 220.353†	-115.6	0.01612 mg/L	0.000427	0.03224 mg/L	0.000854	2.65%
Sb 206.836†	35.7	0.01366 mg/L	0.000953	0.02732 mg/L	0.001905	6.97%
Se 196.026†	38.8	0.02763 mg/L	0.003979	0.05526 mg/L	0.007957	14.40%
Si 288.158†	6131.8	3.515 mg/L	0.0241	7.030 mg/L	0.0482	0.69%
Sn 189.927†	-62.1	-0.01209 mg/L	0.000392	-0.02418 mg/L	0.000783	3.24%
Sr 421.552†	147670.5	0.1778 mg/L	0.00008	0.3556 mg/L	0.00016	0.04%
Ti 334.903†	129416.7	7.660 mg/L	0.0100	15.32 mg/L	0.020	0.13%
Tl 190.801†	-25.1	0.00364 mg/L	0.001680	0.00728 mg/L	0.003359	46.16%
V 292.402†	54772.9	0.3429 mg/L	0.00086	0.6858 mg/L	0.00171	0.25%
Zn 206.200†	959.4	0.2818 mg/L	0.00174	0.5636 mg/L	0.00348	0.62%

Sequence No.: 53
 Sample ID: YE32 M SWC
 Dilution: 2.000000X

Autosampler Location: 338
 Date Collected: 4/1/2014 12:15:42 PM
 Data Type: Original

DEZ
44-114

Nebulizer Parameters: YE32 M SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE32 M SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904685.9	98.09 %		0.733			0.75%
ScR 361.383	251005.8	102.1 %		0.29			0.28%
Ag 328.068†	332.7	0.00199 mg/L		0.000076	0.00398 mg/L	0.000152	3.81%
Al 308.215†	183876.3	140.9 mg/L		0.63	281.8 mg/L	1.25	0.45%
As 188.979†	-332.5	0.09810 mg/L		0.004976	0.1962 mg/L	0.00995	5.07%
B 249.677†	327.2	0.05676 mg/L		0.001348	0.1135 mg/L	0.00270	2.38%
Ba 233.527†	4960.5	1.255 mg/L		0.0004	2.510 mg/L	0.0009	0.04%
Be 313.042†	1199.5	0.00218 mg/L		0.000021	0.00437 mg/L	0.000041	0.95%
Ca 317.933†	417656.0	42.62 mg/L		0.255	85.24 mg/L	0.510	0.60%
Cd 228.802†	-771.7	0.01602 mg/L		0.000343	0.03204 mg/L	0.000686	2.14%
Co 228.616†	8404.4	0.1862 mg/L		0.00150	0.3725 mg/L	0.00299	0.80%
Cr 267.716†	23255.4	4.656 mg/L		0.0160	9.311 mg/L	0.0320	0.34%
Cu 324.752†	2929661.5	9.921 mg/L		0.0325	19.84 mg/L	0.065	0.33%
Fe 273.955†	288095.4	250.5 mg/L		0.82	501.0 mg/L	1.63	0.33%
K 766.490†	13410.5	5.890 mg/L		0.0425	11.78 mg/L	0.085	0.72%
Mg 279.077†	60273.0	53.48 mg/L		0.252	107.0 mg/L	0.50	0.47%
Mn 257.610†	101940.1	3.206 mg/L		0.0102	6.412 mg/L	0.0203	0.32%
Mo 202.031†	347.0	0.01721 mg/L		0.000357	0.03442 mg/L	0.000713	2.07%
Na 589.592†	21890.7	1.642 mg/L		0.0111	3.284 mg/L	0.0221	0.67%
Na 330.237†	4.4	1.586 mg/L		0.3834	3.172 mg/L	0.7668	24.17%
Ni 231.604†	137195.4	40.61 mg/L		0.205	81.22 mg/L	0.411	0.51%
Pb 220.353†	43411.1	5.089 mg/L		0.0241	10.18 mg/L	0.048	0.47%
Sb 206.836†	349.5	0.05671 mg/L		0.002400	0.1134 mg/L	0.00480	4.23%
Se 196.026†	25.9	0.01825 mg/L		0.005294	0.03650 mg/L	0.010587	29.00%
Si 288.158†	2062.9	1.190 mg/L		0.0101	2.380 mg/L	0.0202	0.85%
Sn 189.927†	125.1	0.04202 mg/L		0.002848	0.08403 mg/L	0.005696	6.78%
Sr 421.552†	150669.6	0.1814 mg/L		0.00080	0.3629 mg/L	0.00161	0.44%
Ti 334.903†	142524.4	8.435 mg/L		0.0361	16.87 mg/L	0.072	0.43%
Tl 190.801†	-47.0	0.00292 mg/L		0.002418	0.00584 mg/L	0.004837	82.80%
V 292.402†	59402.1	0.3843 mg/L		0.00127	0.7686 mg/L	0.00255	0.33%
Zn 206.200†	7050.0	2.067 mg/L		0.0068	4.134 mg/L	0.0136	0.33%

Sequence No.: 54
 Sample ID: YE32 N SWC

Autosampler Location: 339
 Date Collected: 4/1/2014 12:19:43 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 N SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE32 N SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2933512.9	99.06	%	0.497			0.50%
ScR 361.383	252234.8	102.6	%	0.63			0.61%
Ag 328.068†	-293.0	-0.00107	mg/L	0.000144	-0.00214 mg/L	0.000288	13.48%
Al 308.215†	167908.8	128.7	mg/L	0.54	257.3 mg/L	1.08	0.42%
As 188.979†	-352.0	0.07707	mg/L	0.002321	0.1541 mg/L	0.00464	3.01%
B 249.677†	298.1	0.05191	mg/L	0.001101	0.1038 mg/L	0.00220	2.12%
Ba 233.527†	2314.2	0.5809	mg/L	0.00251	1.162 mg/L	0.0050	0.43%
Be 313.042†	1142.5	0.00207	mg/L	0.000030	0.00414 mg/L	0.000061	1.47%
Ca 317.933†	427272.7	43.60	mg/L	0.134	87.21 mg/L	0.269	0.31%
Cd 228.802†	18.5	0.00262	mg/L	0.000305	0.00524 mg/L	0.000609	11.62%
Co 228.616†	3697.5	0.07675	mg/L	0.000234	0.1535 mg/L	0.00047	0.30%
Cr 267.716†	1730.4	0.3457	mg/L	0.00097	0.6914 mg/L	0.00193	0.28%
Cu 324.752†	63649.4	0.2207	mg/L	0.00172	0.4413 mg/L	0.00345	0.78%
Fe 273.955†	183704.9	159.7	mg/L	0.86	319.5 mg/L	1.72	0.54%
K 766.490†	16914.3	7.429	mg/L	0.0231	14.86 mg/L	0.046	0.31%
Mg 279.077†	64579.7	57.36	mg/L	0.205	114.7 mg/L	0.41	0.36%
Mn 257.610†	84982.7	2.672	mg/L	0.0128	5.343 mg/L	0.0256	0.48%
Mo 202.031†	138.2	0.00644	mg/L	0.000183	0.01289 mg/L	0.000367	2.85%
Na 589.592†	26240.3	1.968	mg/L	0.0124	3.936 mg/L	0.0248	0.63%
Na 330.237†	-0.2	1.730	mg/L	0.1257	3.460 mg/L	0.2513	7.26%
Ni 231.604†	8319.7	2.463	mg/L	0.0085	4.925 mg/L	0.0169	0.34%
Pb 220.353†	-69.6	0.01718	mg/L	0.001407	0.03435 mg/L	0.002815	8.19%
Sb 206.836†	29.1	0.01218	mg/L	0.003772	0.02435 mg/L	0.007545	30.98%
Se 196.026†	35.0	0.02487	mg/L	0.003835	0.04974 mg/L	0.007671	15.42%
Si 288.158†	3218.4	1.849	mg/L	0.0170	3.698 mg/L	0.0340	0.92%
Sn 189.927†	-72.2	-0.01342	mg/L	0.000819	-0.02684 mg/L	0.001638	6.10%
Sr 421.552†	204808.2	0.2466	mg/L	0.00125	0.4932 mg/L	0.00250	0.51%
Ti 334.903†	135007.1	7.990	mg/L	0.0328	15.98 mg/L	0.066	0.41%
Tl 190.801†	-30.7	0.00226	mg/L	0.001833	0.00453 mg/L	0.003667	80.95%
V 292.402†	63016.2	0.3952	mg/L	0.00454	0.7903 mg/L	0.00907	1.15%
Zn 206.200†	1322.2	0.3877	mg/L	0.00305	0.7755 mg/L	0.00610	0.79%

Sequence No.: 55
 Sample ID: YE32 O SWC

Autosampler Location: 340
 Date Collected: 4/1/2014 12:23:43 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 O SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE32 O SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2895970.9	97.80	%	0.301			0.31%
ScR 361.383	250293.4	101.9	%	0.07			0.07%
Ag 328.068†	-291.2	-0.00103	mg/L	0.000222	-0.00206 mg/L	0.000445	21.57%
Al 308.215†	177042.4	135.7	mg/L	0.41	271.3 mg/L	0.82	0.30%
As 188.979†	-349.2	0.08152	mg/L	0.002427	0.1630 mg/L	0.00485	2.98%
B 249.677†	341.5	0.05949	mg/L	0.001276	0.1190 mg/L	0.00255	2.14%
Ba 233.527†	2134.5	0.5322	mg/L	0.00164	1.064 mg/L	0.0033	0.31%
Be 313.042†	1050.2	0.00188	mg/L	0.000017	0.00376 mg/L	0.000033	0.89%
Ca 317.933†	465243.3	47.48	mg/L	0.185	94.96 mg/L	0.369	0.39%
Cd 228.802†	18.1	0.00265	mg/L	0.000096	0.00529 mg/L	0.000192	3.63%
Co 228.616†	3852.8	0.08041	mg/L	0.000149	0.1608 mg/L	0.00030	0.19%
Cr 267.716†	2040.0	0.4079	mg/L	0.00284	0.8157 mg/L	0.00567	0.70%
Cu 324.752†	57120.2	0.1990	mg/L	0.00132	0.3981 mg/L	0.00265	0.67%
Fe 273.955†	196058.8	170.5	mg/L	1.27	341.0 mg/L	2.54	0.75%
K 766.490†	19550.0	8.586	mg/L	0.0090	17.17 mg/L	0.018	0.11%
Mg 279.077†	65084.2	57.81	mg/L	0.186	115.6 mg/L	0.37	0.32%
Mn 257.610†	85251.9	2.680	mg/L	0.0237	5.360 mg/L	0.0473	0.88%
Mo 202.031†	225.8	0.01089	mg/L	0.000045	0.02178 mg/L	0.000090	0.41%
Na 589.592†	33922.6	2.544	mg/L	0.0060	5.089 mg/L	0.0119	0.23%
Na 330.237†	16.3	2.498	mg/L	0.2704	4.996 mg/L	0.5408	10.82%
Ni 231.604†	8787.2	2.601	mg/L	0.0129	5.202 mg/L	0.0258	0.50%
Pb 220.353†	-70.3	0.01851	mg/L	0.001147	0.03702 mg/L	0.002294	6.20%
Sb 206.836†	39.5	0.01477	mg/L	0.000983	0.02953 mg/L	0.001967	6.66%
Se 196.026†	40.3	0.02866	mg/L	0.007065	0.05731 mg/L	0.014129	24.65%
Si 288.158†	3873.0	2.224	mg/L	0.0187	4.448 mg/L	0.0375	0.84%
Sn 189.927†	-68.6	-0.01191	mg/L	0.000811	-0.02381 mg/L	0.001621	6.81%
Sr 421.552†	151126.1	0.1820	mg/L	0.00085	0.3640 mg/L	0.00170	0.47%
Ti 334.903†	136554.8	8.082	mg/L	0.0488	16.16 mg/L	0.098	0.60%
Tl 190.801†	-31.3	0.00311	mg/L	0.001727	0.00622 mg/L	0.003454	55.55%
V 292.402†	66357.4	0.4163	mg/L	0.00311	0.8327 mg/L	0.00621	0.75%
Zn 206.200†	1354.7	0.3974	mg/L	0.00289	0.7948 mg/L	0.00578	0.73%

Sequence No.: 56

Sample ID: CV 0

Autosampler Location: 7

Date Collected: 4/1/2014 12:27:43 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2889362.1	97.57 %	0.397			0.41%
ScR 361.383	243923.8	99.26 %	0.589			0.59%
Ag 328.068†	215404.5	1.057 mg/L	0.0040	1.057 mg/L	0.0040	0.38%
Al 308.215†	2724.1	2.055 mg/L	0.0120	2.055 mg/L	0.0120	0.58%
As 188.979†	3655.7	2.151 mg/L	0.0049	2.151 mg/L	0.0049	0.23%
B 249.677†	5896.5	1.029 mg/L	0.0030	1.029 mg/L	0.0030	0.29%
Ba 233.527†	4054.5	1.061 mg/L	0.0071	1.061 mg/L	0.0071	0.67%
Be 313.042†	512051.8	1.012 mg/L	0.0033	1.012 mg/L	0.0033	0.33%
Ca 317.933†	21136.6	2.157 mg/L	0.0098	2.157 mg/L	0.0098	0.45%
Cd 228.802†	35163.1	1.040 mg/L	0.0018	1.040 mg/L	0.0018	0.17%
Co 228.616†	41361.7	1.021 mg/L	0.0037	1.021 mg/L	0.0037	0.36%
Cr 267.716†	5349.3	1.070 mg/L	0.0033	1.070 mg/L	0.0033	0.31%
Cu 324.752†	308796.7	1.044 mg/L	0.0040	1.044 mg/L	0.0040	0.38%
Fe 273.955†	2481.2	2.151 mg/L	0.0070	2.151 mg/L	0.0070	0.33%
K 766.490†	45743.3	20.09 mg/L	0.092	20.09 mg/L	0.092	0.46%
Mg 279.077†	2327.7	2.078 mg/L	0.0080	2.078 mg/L	0.0080	0.39%
Mn 257.610†	31201.1	0.9818 mg/L	0.00515	0.9818 mg/L	0.00515	0.52%
Mo 202.031†	19159.1	0.9868 mg/L	0.00116	0.9868 mg/L	0.00116	0.12%
Na 589.592†	686390.4	51.48 mg/L	0.174	51.48 mg/L	0.174	0.34%
Na 330.237†	1109.1	51.61 mg/L	0.099	51.61 mg/L	0.099	0.19%
Ni 231.604†	3604.8	1.067 mg/L	0.0058	1.067 mg/L	0.0058	0.55%
Pb 220.353†	17841.0	2.083 mg/L	0.0044	2.083 mg/L	0.0044	0.21%
Sb 206.836†	6823.3	2.125 mg/L	0.0029	2.125 mg/L	0.0029	0.14%
Se 196.026†	2952.7	2.119 mg/L	0.0026	2.119 mg/L	0.0026	0.12%
Si 288.158†	3488.5	2.002 mg/L	0.0252	2.002 mg/L	0.0252	1.26%
Sn 189.927†	3545.7	0.9940 mg/L	0.00364	0.9940 mg/L	0.00364	0.37%
Sr 421.552†	846366.6	1.019 mg/L	0.0020	1.019 mg/L	0.0020	0.19%
Ti 334.903†	16845.5	0.9961 mg/L	0.00178	0.9961 mg/L	0.00178	0.18%
Tl 190.801†	4593.4	2.087 mg/L	0.0127	2.087 mg/L	0.0127	0.61%
V 292.402†	160001.8	1.038 mg/L	0.0041	1.038 mg/L	0.0041	0.40%
Zn 206.200†	3634.0	1.065 mg/L	0.0039	1.065 mg/L	0.0039	0.36%

Sequence No.: 57
 Sample ID: CB ②

Autosampler Location: 1
 Date Collected: 4/1/2014 12:31:46 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2936672.7	99.17	%	0.264				0.27%
ScR 361.383	249399.1	101.5	%	0.57				0.57%
Ag 328.068†	-11.9	-0.00006	mg/L	0.000112	-0.00006	mg/L	0.000112	190.62%
Al 308.215†	7.7	0.00585	mg/L	0.003232	0.00585	mg/L	0.003232	55.27%
As 188.979†	-2.4	-0.00135	mg/L	0.001040	-0.00135	mg/L	0.001040	77.03%
B 249.677†	12.3	0.00216	mg/L	0.000821	0.00216	mg/L	0.000821	38.09%
Ba 233.527†	-2.7	-0.00070	mg/L	0.000315	-0.00070	mg/L	0.000315	45.16%
Be 313.042†	-7.2	-0.00001	mg/L	0.000038	-0.00001	mg/L	0.000038	265.00%
Ca 317.933†	-4.0	-0.00041	mg/L	0.000895	-0.00041	mg/L	0.000895	218.39%
Cd 228.802†	18.1	0.00055	mg/L	0.000116	0.00055	mg/L	0.000116	21.15%
Co 228.616†	0.5	0.00001	mg/L	0.000163	0.00001	mg/L	0.000163	>999.9%
Cr 267.716†	-4.1	-0.00082	mg/L	0.000751	-0.00082	mg/L	0.000751	91.15%
Cu 324.752†	827.4	0.00280	mg/L	0.000220	0.00280	mg/L	0.000220	7.85%
Fe 273.955†	3.6	0.00312	mg/L	0.000695	0.00312	mg/L	0.000695	22.28%
K 766.490†	56.7	0.02492	mg/L	0.017705	0.02492	mg/L	0.017705	71.05%
Mg 279.077†	-2.7	-0.00243	mg/L	0.009718	-0.00243	mg/L	0.009718	400.56%
Mn 257.610†	5.2	0.00016	mg/L	0.000128	0.00016	mg/L	0.000128	78.23%
Mo 202.031†	22.3	0.00115	mg/L	0.000208	0.00115	mg/L	0.000208	18.11%
Na 589.592†	42.8	0.00321	mg/L	0.003428	0.00321	mg/L	0.003428	106.72%
Na 330.237†	-7.3	-0.3416	mg/L	0.19521	-0.3416	mg/L	0.19521	57.15%
Ni 231.604†	-1.7	-0.00049	mg/L	0.000559	-0.00049	mg/L	0.000559	115.16%
Pb 220.353†	4.3	0.00049	mg/L	0.000550	0.00049	mg/L	0.000550	111.62%
Sb 206.836†	38.7	0.01208	mg/L	0.001245	0.01208	mg/L	0.001245	10.31%
Se 196.026†	-3.1	-0.00225	mg/L	0.003192	-0.00225	mg/L	0.003192	141.77%
Si 288.158†	12.2	0.00698	mg/L	0.005379	0.00698	mg/L	0.005379	77.08%
Sn 189.927†	-1.4	-0.00039	mg/L	0.001240	-0.00039	mg/L	0.001240	314.77%
Sr 421.552†	50.4	0.00006	mg/L	0.000023	0.00006	mg/L	0.000023	37.65%
Ti 334.903†	22.8	0.00135	mg/L	0.000182	0.00135	mg/L	0.000182	13.48%
Tl 190.801†	-4.4	-0.00199	mg/L	0.001565	-0.00199	mg/L	0.001565	78.83%
V 292.402†	-21.2	-0.00014	mg/L	0.000205	-0.00014	mg/L	0.000205	145.68%
Zn 206.200†	2.1	0.00060	mg/L	0.000740	0.00060	mg/L	0.000740	122.78%

Sequence No.: 58
 Sample ID: YE32 E SWC

Autosampler Location: 341
 Date Collected: 4/1/2014 12:35:46 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 E SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE32 E SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2943640.6	99.41	%	0.710			0.71%
ScR 361.383	255082.6	103.8	%	0.44			0.43%
Ag 328.068†	-155.9	-0.00039	mg/L	0.000187	-0.00078 mg/L	0.000373	47.70%
Al 308.215†	192337.1	147.4	mg/L	0.25	294.7 mg/L	0.50	0.17%
As 188.979†	-343.5	0.08510	mg/L	0.000819	0.1702 mg/L	0.00164	0.96%
B 249.677†	130.9	0.02264	mg/L	0.000800	0.04527 mg/L	0.001600	3.53%
Ba 233.527†	2635.7	0.6579	mg/L	0.00549	1.316 mg/L	0.0110	0.84%
Be 313.042†	1080.4	0.00194	mg/L	0.000031	0.00388 mg/L	0.000062	1.60%
Ca 317.933†	425817.8	43.45	mg/L	0.151	86.91 mg/L	0.303	0.35%
Cd 228.802†	-176.9	0.00404	mg/L	0.000042	0.00808 mg/L	0.000083	1.03%
Co 228.616†	4835.5	0.1035	mg/L	0.00089	0.2069 mg/L	0.00177	0.86%
Cr 267.716†	5956.9	1.193	mg/L	0.0076	2.385 mg/L	0.0152	0.64%
Cu 324.752†	765732.9	2.598	mg/L	0.0106	5.195 mg/L	0.0211	0.41%
Fe 273.955†	230151.5	200.1	mg/L	0.30	400.3 mg/L	0.61	0.15%
K 766.490†	13836.6	6.077	mg/L	0.0203	12.15 mg/L	0.041	0.33%
Mg 279.077†	65330.9	58.01	mg/L	0.119	116.0 mg/L	0.24	0.20%
Mn 257.610†	89621.1	2.817	mg/L	0.0026	5.635 mg/L	0.0053	0.09%
Mo 202.031†	237.9	0.01158	mg/L	0.000341	0.02315 mg/L	0.000682	2.95%
Na 589.592†	20775.7	1.558	mg/L	0.0029	3.116 mg/L	0.0058	0.19%
Na 330.237†	-7.6	1.334	mg/L	0.2726	2.667 mg/L	0.5452	20.44%
Ni 231.604†	34308.1	10.15	mg/L	0.047	20.31 mg/L	0.094	0.46%
Pb 220.353†	4849.3	0.5931	mg/L	0.00515	1.186 mg/L	0.0103	0.87%
Sb 206.836†	104.9	0.02508	mg/L	0.002299	0.05016 mg/L	0.004598	9.17%
Se 196.026†	39.6	0.02815	mg/L	0.003472	0.05630 mg/L	0.006945	12.34%
Si 288.158†	4470.1	2.566	mg/L	0.0326	5.132 mg/L	0.0653	1.27%
Sn 189.927†	-27.8	-0.00094	mg/L	0.000771	-0.00189 mg/L	0.001542	81.67%
Sr 421.552†	177045.6	0.2132	mg/L	0.00029	0.4264 mg/L	0.00057	0.13%
Ti 334.903†	137056.4	8.111	mg/L	0.0116	16.22 mg/L	0.023	0.14%
Tl 190.801†	-41.1	0.00157	mg/L	0.003466	0.00314 mg/L	0.006931	220.72%
V 292.402†	66733.4	0.4203	mg/L	0.00199	0.8406 mg/L	0.00398	0.47%
Zn 206.200†	2323.4	0.6815	mg/L	0.00291	1.363 mg/L	0.0058	0.43%

Sequence No.: 59
Sample ID: YE32 P SWC

Autosampler Location: 342
Date Collected: 4/1/2014 12:39:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 P SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 P SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2943046.4	99.39 %		0.370			0.37%
ScR 361.383	251787.4	102.5 %		0.71			0.69%
Ag 328.068†	-270.7	-0.00108 mg/L		0.000079	-0.00217 mg/L	0.000157	7.24%
Al 308.215†	175757.1	134.7 mg/L		0.46	269.3 mg/L	0.92	0.34%
As 188.979†	-288.0	0.06247 mg/L		0.001426	0.1249 mg/L	0.00285	2.28%
B 249.677†	127.0	0.02201 mg/L		0.001305	0.04402 mg/L	0.002609	5.93%
Ba 233.527†	1993.3	0.4987 mg/L		0.00734	0.9974 mg/L	0.01468	1.47%
Be 313.042†	916.1	0.00166 mg/L		0.000028	0.00331 mg/L	0.000055	1.67%
Ca 317.933†	252011.1	25.72 mg/L		0.033	51.44 mg/L	0.066	0.13%
Cd 228.802†	1.4	0.00288 mg/L		0.000054	0.00575 mg/L	0.000108	1.87%
Co 228.616†	3608.6	0.07709 mg/L		0.000334	0.1542 mg/L	0.00067	0.43%
Cr 267.716†	1801.0	0.3604 mg/L		0.00195	0.7208 mg/L	0.00390	0.54%
Cu 324.752†	86568.4	0.2980 mg/L		0.00069	0.5961 mg/L	0.00138	0.23%
Fe 273.955†	169415.0	147.3 mg/L		0.48	294.6 mg/L	0.96	0.33%
K 766.490†	12619.5	5.542 mg/L		0.0067	11.08 mg/L	0.013	0.12%
Mg 279.077†	54435.4	48.35 mg/L		0.155	96.69 mg/L	0.310	0.32%
Mn 257.610†	67555.3	2.123 mg/L		0.0056	4.247 mg/L	0.0113	0.27%
Mo 202.031†	62.5	0.00282 mg/L		0.000029	0.00564 mg/L	0.000059	1.04%
Na 589.592†	19661.1	1.475 mg/L		0.0048	2.949 mg/L	0.0096	0.33%
Na 330.237†	-3.4	1.269 mg/L		0.2996	2.538 mg/L	0.5993	23.61%
Ni 231.604†	11195.3	3.314 mg/L		0.0176	6.627 mg/L	0.0351	0.53%
Pb 220.353†	-113.4	0.01414 mg/L		0.000453	0.02829 mg/L	0.000907	3.21%
Sb 206.836†	46.2	0.01594 mg/L		0.001304	0.03189 mg/L	0.002609	8.18%
Se 196.026†	25.2	0.01784 mg/L		0.005451	0.03569 mg/L	0.010901	30.55%
Si 288.158†	5033.8	2.887 mg/L		0.0267	5.774 mg/L	0.0533	0.92%
Sn 189.927†	-53.6	-0.01066 mg/L		0.000972	-0.02131 mg/L	0.001943	9.12%
Sr 421.552†	128307.2	0.1545 mg/L		0.00042	0.3090 mg/L	0.00084	0.27%
Ti 334.903†	109800.5	6.499 mg/L		0.0151	13.00 mg/L	0.030	0.23%
Tl 190.801†	-30.7	0.00108 mg/L		0.002700	0.00216 mg/L	0.005401	250.42%
V 292.402†	52676.0	0.3299 mg/L		0.00117	0.6598 mg/L	0.00234	0.35%
Zn 206.200†	1657.2	0.4861 mg/L		0.00174	0.9722 mg/L	0.00349	0.36%

Sequence No.: 60
Sample ID: YE32 Q SWC

Autosampler Location: 343
Date Collected: 4/1/2014 12:43:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 Q SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE32 Q SWC

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2923204.6	98.72	%	0.492				0.50%
ScR 361.383	253390.2	103.1	%	0.03				0.03%
Ag 328.068†	-300.1	-0.00110	mg/L	0.000167	-0.00220	mg/L	0.000334	15.22%
Al 308.215†	195519.0	149.8	mg/L	0.72	299.6	mg/L	1.44	0.48%
As 188.979†	-379.3	0.08616	mg/L	0.002829	0.1723	mg/L	0.00566	3.28%
B 249.677†	599.1	0.1044	mg/L	0.00043	0.2089	mg/L	0.00085	0.41%
Ba 233.527†	2592.3	0.6484	mg/L	0.00184	1.297	mg/L	0.0037	0.28%
Be 313.042†	1149.3	0.00206	mg/L	0.000010	0.00413	mg/L	0.000020	0.49%
Ca 317.933†	414635.7	42.31	mg/L	0.102	84.63	mg/L	0.204	0.24%
Cd 228.802†	-87.6	0.00322	mg/L	0.000023	0.00643	mg/L	0.000047	0.73%
Co 228.616†	4779.8	0.1016	mg/L	0.00063	0.2033	mg/L	0.00125	0.62%
Cr 267.716†	2643.5	0.5285	mg/L	0.00162	1.057	mg/L	0.0032	0.31%
Cu 324.752†	175004.5	0.5986	mg/L	0.00545	1.197	mg/L	0.0109	0.91%
Fe 273.955†	219193.1	190.6	mg/L	0.54	381.2	mg/L	1.07	0.28%
K 766.490†	16214.7	7.121	mg/L	0.0256	14.24	mg/L	0.051	0.36%
Mg 279.077†	75348.7	66.93	mg/L	0.240	133.9	mg/L	0.48	0.36%
Mn 257.610†	79116.8	2.487	mg/L	0.0056	4.974	mg/L	0.0111	0.22%
Mo 202.031†	71.5	0.00303	mg/L	0.000188	0.00606	mg/L	0.000376	6.21%
Na 589.592†	26179.9	1.964	mg/L	0.0108	3.927	mg/L	0.0215	0.55%
Na 330.237†	-5.1	1.660	mg/L	0.3132	3.320	mg/L	0.6265	18.87%
Ni 231.604†	21788.7	6.449	mg/L	0.0242	12.90	mg/L	0.048	0.37%
Pb 220.353†	246.0	0.05815	mg/L	0.000392	0.1163	mg/L	0.00078	0.67%
Sb 206.836†	48.2	0.01651	mg/L	0.001510	0.03302	mg/L	0.003021	9.15%
Se 196.026†	35.9	0.02547	mg/L	0.006074	0.05093	mg/L	0.012148	23.85%
Si 288.158†	1452.6	0.8397	mg/L	0.00968	1.679	mg/L	0.0194	1.15%
Sn 189.927†	-62.7	-0.01076	mg/L	0.000696	-0.02152	mg/L	0.001393	6.47%
Sr 421.552†	165375.6	0.1991	mg/L	0.00069	0.3983	mg/L	0.00137	0.35%
Ti 334.903†	146837.0	8.691	mg/L	0.0348	17.38	mg/L	0.070	0.40%
Tl 190.801†	-37.1	0.00248	mg/L	0.003736	0.00496	mg/L	0.007473	150.56%
V 292.402†	71031.7	0.4455	mg/L	0.00367	0.8910	mg/L	0.00734	0.82%
Zn 206.200†	1768.9	0.5185	mg/L	0.00186	1.037	mg/L	0.0037	0.36%

Sequence No.: 61
Sample ID: YE32 R SWC

Autosampler Location: 344
Date Collected: 4/1/2014 12:47:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 R SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 R SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2937178.7	99.19 %	%	0.576			0.58%
ScR 361.383	252792.1	102.9 %	%	0.44			0.43%
Ag 328.068†	-271.5	-0.00097 mg/L	mg/L	0.000247	-0.00193 mg/L	0.000495	25.60%
Al 308.215†	167180.5	128.1 mg/L	mg/L	0.64	256.2 mg/L	1.27	0.50%
As 188.979†	-314.0	0.07388 mg/L	mg/L	0.003989	0.1478 mg/L	0.00798	5.40%
B 249.677†	473.8	0.08262 mg/L	mg/L	0.000943	0.1652 mg/L	0.00189	1.14%
Ba 233.527†	2471.1	0.6211 mg/L	mg/L	0.00389	1.242 mg/L	0.0078	0.63%
Be 313.042†	1030.0	0.00186 mg/L	mg/L	0.000029	0.00372 mg/L	0.000059	1.58%
Ca 317.933†	427792.7	43.66 mg/L	mg/L	0.171	87.31 mg/L	0.341	0.39%
Cd 228.802†	17.8	0.00212 mg/L	mg/L	0.000092	0.00425 mg/L	0.000184	4.32%
Co 228.616†	3555.5	0.07455 mg/L	mg/L	0.000282	0.1491 mg/L	0.00056	0.38%
Cr 267.716†	1377.5	0.2753 mg/L	mg/L	0.00138	0.5507 mg/L	0.00276	0.50%
Cu 324.752†	102191.5	0.3515 mg/L	mg/L	0.00133	0.7029 mg/L	0.00266	0.38%
Fe 273.955†	190403.1	165.6 mg/L	mg/L	0.60	331.1 mg/L	1.19	0.36%
K 766.490†	17138.2	7.527 mg/L	mg/L	0.0425	15.05 mg/L	0.085	0.57%
Mg 279.077†	63654.6	56.54 mg/L	mg/L	0.248	113.1 mg/L	0.50	0.44%
Mn 257.610†	77160.5	2.426 mg/L	mg/L	0.0052	4.851 mg/L	0.0103	0.21%
Mo 202.031†	157.0	0.00741 mg/L	mg/L	0.000055	0.01482 mg/L	0.000111	0.75%
Na 589.592†	31237.7	2.343 mg/L	mg/L	0.0071	4.686 mg/L	0.0141	0.30%
Na 330.237†	8.3	1.951 mg/L	mg/L	0.1692	3.903 mg/L	0.3384	8.67%
Ni 231.604†	7244.6	2.144 mg/L	mg/L	0.0072	4.289 mg/L	0.0145	0.34%
Pb 220.353†	-86.1	0.01450 mg/L	mg/L	0.000501	0.02900 mg/L	0.001003	3.46%
Sb 206.836†	38.5	0.01545 mg/L	mg/L	0.000681	0.03089 mg/L	0.001363	4.41%
Se 196.026†	33.3	0.02360 mg/L	mg/L	0.005264	0.04719 mg/L	0.010528	22.31%
Si 288.158†	3148.2	1.809 mg/L	mg/L	0.0167	3.618 mg/L	0.0334	0.92%
Sn 189.927†	-68.9	-0.01263 mg/L	mg/L	0.001259	-0.02525 mg/L	0.002518	9.97%
Sr 421.552†	144268.0	0.1737 mg/L	mg/L	0.00047	0.3474 mg/L	0.00094	0.27%
Ti 334.903†	123029.0	7.281 mg/L	mg/L	0.0278	14.56 mg/L	0.056	0.38%
Tl 190.801†	-32.3	0.00229 mg/L	mg/L	0.001324	0.00458 mg/L	0.002648	57.81%
V 292.402†	61411.1	0.3845 mg/L	mg/L	0.00192	0.7691 mg/L	0.00385	0.50%
Zn 206.200†	1187.8	0.3484 mg/L	mg/L	0.00130	0.6967 mg/L	0.00260	0.37%

Sequence No.: 62
Sample ID: YE32 S SWC

Autosampler Location: 345
Date Collected: 4/1/2014 12:51:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 S SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 S SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2912782.2	98.36	%	0.514			0.52%
ScR 361.383	255035.8	103.8	%	0.46			0.44%
Ag 328.068†	-381.9	-0.00145	mg/L	0.000295	-0.00290 mg/L	0.000591	20.36%
Al 308.215†	184556.5	141.4	mg/L	0.60	282.8 mg/L	1.20	0.43%
As 188.979†	-453.6	0.08820	mg/L	0.004132	0.1764 mg/L	0.00826	4.69%
B 249.677†	606.8	0.1058	mg/L	0.00070	0.2117 mg/L	0.00140	0.66%
Ba 233.527†	2040.2	0.5040	mg/L	0.00322	1.008 mg/L	0.0064	0.64%
Be 313.042†	1163.7	0.00206	mg/L	0.000030	0.00412 mg/L	0.000060	1.45%
Ca 317.933†	461154.8	47.06	mg/L	0.178	94.12 mg/L	0.356	0.38%
Cd 228.802†	21.8	0.00306	mg/L	0.000037	0.00612 mg/L	0.000074	1.20%
Co 228.616†	4079.7	0.08265	mg/L	0.000350	0.1653 mg/L	0.00070	0.42%
Cr 267.716†	1417.5	0.2843	mg/L	0.00256	0.5687 mg/L	0.00511	0.90%
Cu 324.752†	184775.2	0.6316	mg/L	0.00187	1.263 mg/L	0.0037	0.30%
Fe 273.955†	221791.1	192.9	mg/L	1.14	385.7 mg/L	2.28	0.59%
K 766.490†	15737.3	6.912	mg/L	0.0280	13.82 mg/L	0.056	0.40%
Mg 279.077†	60865.8	54.04	mg/L	0.282	108.1 mg/L	0.56	0.52%
Mn 257.610†	83870.6	2.636	mg/L	0.0094	5.273 mg/L	0.0188	0.36%
Mo 202.031†	260.7	0.01270	mg/L	0.000321	0.02540 mg/L	0.000643	2.53%
Na 589.592†	38971.8	2.923	mg/L	0.0072	5.846 mg/L	0.0145	0.25%
Na 330.237†	9.2	2.660	mg/L	0.1215	5.320 mg/L	0.2429	4.57%
Ni 231.604†	9441.9	2.795	mg/L	0.0252	5.589 mg/L	0.0504	0.90%
Pb 220.353†	-87.8	0.01606	mg/L	0.000387	0.03212 mg/L	0.000775	2.41%
Sb 206.836†	35.9	0.01713	mg/L	0.000826	0.03426 mg/L	0.001651	4.82%
Se 196.026†	31.2	0.02206	mg/L	0.004528	0.04412 mg/L	0.009056	20.53%
Si 288.158†	4185.0	2.402	mg/L	0.0150	4.804 mg/L	0.0300	0.62%
Sn 189.927†	-76.9	-0.01393	mg/L	0.000873	-0.02787 mg/L	0.001747	6.27%
Sr 421.552†	142171.9	0.1712	mg/L	0.00051	0.3424 mg/L	0.00102	0.30%
Ti 334.903†	168242.2	9.958	mg/L	0.0311	19.92 mg/L	0.062	0.31%
Tl 190.801†	-35.8	0.00328	mg/L	0.003582	0.00657 mg/L	0.007164	109.06%
V 292.402†	83433.4	0.5237	mg/L	0.00160	1.047 mg/L	0.0032	0.31%
Zn 206.200†	1419.1	0.4162	mg/L	0.00375	0.8325 mg/L	0.00750	0.90%

Sequence No.: 63
 Sample ID: YE32 T SWC

Autosampler Location: 346
 Date Collected: 4/1/2014 12:55:48 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 T SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE32 T SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2919770.2	98.60	%	0.249			0.25%
ScR 361.383	252973.1	102.9	%	0.35			0.34%
Ag 328.068†	-223.2	-0.00085	mg/L	0.000118	-0.00170 mg/L	0.000236	13.87%
Al 308.215†	197067.3	151.0	mg/L	0.26	302.0 mg/L	0.53	0.17%
As 188.979†	-328.5	0.07879	mg/L	0.003546	0.1576 mg/L	0.00709	4.50%
B 249.677†	456.1	0.07952	mg/L	0.001783	0.1590 mg/L	0.00357	2.24%
Ba 233.527†	2553.1	0.6439	mg/L	0.00478	1.288 mg/L	0.0096	0.74%
Be 313.042†	958.6	0.00172	mg/L	0.000022	0.00344 mg/L	0.000044	1.27%
Ca 317.933†	239488.3	24.44	mg/L	0.093	48.88 mg/L	0.186	0.38%
Cd 228.802†	29.6	0.00337	mg/L	0.000056	0.00675 mg/L	0.000113	1.67%
Co 228.616†	3602.9	0.07495	mg/L	0.000128	0.1499 mg/L	0.00026	0.17%
Cr 267.716†	6244.1	1.250	mg/L	0.0068	2.500 mg/L	0.0136	0.54%
Cu 324.752†	143562.1	0.4910	mg/L	0.00129	0.9821 mg/L	0.00257	0.26%
Fe 273.955†	179646.5	156.2	mg/L	0.39	312.4 mg/L	0.77	0.25%
K 766.490†	10864.4	4.772	mg/L	0.0128	9.543 mg/L	0.0255	0.27%
Mg 279.077†	52287.2	46.43	mg/L	0.075	92.86 mg/L	0.151	0.16%
Mn 257.610†	80222.8	2.522	mg/L	0.0047	5.044 mg/L	0.0095	0.19%
Mo 202.031†	52.7	0.00233	mg/L	0.000298	0.00467 mg/L	0.000596	12.77%
Na 589.592†	15005.0	1.125	mg/L	0.0024	2.251 mg/L	0.0048	0.21%
Na 330.237†	-16.5	0.9998	mg/L	0.15921	2.000 mg/L	0.3184	15.92%
Ni 231.604†	9866.7	2.920	mg/L	0.0177	5.841 mg/L	0.0354	0.61%
Pb 220.353†	-125.2	0.01779	mg/L	0.000933	0.03558 mg/L	0.001865	5.24%
Sb 206.836†	77.8	0.01527	mg/L	0.002251	0.03054 mg/L	0.004501	14.74%
Se 196.026†	30.8	0.02182	mg/L	0.003994	0.04364 mg/L	0.007989	18.31%
Si 288.158†	5646.2	3.238	mg/L	0.0225	6.476 mg/L	0.0450	0.69%
Sn 189.927†	-48.0	-0.00903	mg/L	0.001967	-0.01806 mg/L	0.003935	21.79%
Sr 421.552†	124558.2	0.1500	mg/L	0.00037	0.3000 mg/L	0.00074	0.25%
Ti 334.903†	129204.5	7.648	mg/L	0.0184	15.30 mg/L	0.037	0.24%
Tl 190.801†	-33.5	0.00033	mg/L	0.000688	0.00066 mg/L	0.001376	208.51%
V 292.402†	58152.4	0.3678	mg/L	0.00111	0.7357 mg/L	0.00223	0.30%
Zn 206.200†	1297.4	0.3810	mg/L	0.00171	0.7620 mg/L	0.00342	0.45%

Sequence No.: 64
 Sample ID: YE34 B SWC

Autosampler Location: 347
 Date Collected: 4/1/2014 12:59:49 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 B SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34 B SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2897883.1	97.86 %	0.730			0.75%
ScR 361.383	254427.8	103.5 %	0.72			0.69%
Ag 328.068†	-317.7	-0.00121 mg/L	0.000089	-0.00243 mg/L	0.000178	7.32%
Al 308.215†	175183.8	134.2 mg/L	0.66	268.5 mg/L	1.33	0.49%
As 188.979†	-327.4	0.08103 mg/L	0.002704	0.1621 mg/L	0.00541	3.34%
B 249.677†	999.5	0.1745 mg/L	0.00201	0.3489 mg/L	0.00402	1.15%
Ba 233.527†	2409.7	0.6031 mg/L	0.00796	1.206 mg/L	0.0159	1.32%
Be 313.042†	1077.4	0.00194 mg/L	0.000004	0.00388 mg/L	0.000007	0.19%
Ca 317.933†	382130.5	39.00 mg/L	0.207	77.99 mg/L	0.414	0.53%
Cd 228.802†	-0.4	0.00380 mg/L	0.000093	0.00760 mg/L	0.000186	2.45%
Co 228.616†	3990.2	0.08422 mg/L	0.000708	0.1684 mg/L	0.00142	0.84%
Cr 267.716†	1346.0	0.2693 mg/L	0.00372	0.5386 mg/L	0.00743	1.38%
Cu 324.752†	130996.2	0.4493 mg/L	0.00503	0.8987 mg/L	0.01005	1.12%
Fe 273.955†	202595.1	176.2 mg/L	0.77	352.3 mg/L	1.53	0.44%
K 766.490†	13277.8	5.832 mg/L	0.0245	11.66 mg/L	0.049	0.42%
Mg 279.077†	64909.4	57.65 mg/L	0.313	115.3 mg/L	0.63	0.54%
Mn 257.610†	77620.2	2.440 mg/L	0.0062	4.880 mg/L	0.0123	0.25%
Mo 202.031†	107.3	0.00492 mg/L	0.000334	0.00984 mg/L	0.000667	6.78%
Na 589.592†	88440.0	6.633 mg/L	0.0352	13.27 mg/L	0.070	0.53%
Na 330.237†	102.3	6.465 mg/L	0.2381	12.93 mg/L	0.476	3.68%
Ni 231.604†	14990.9	4.437 mg/L	0.0374	8.874 mg/L	0.0748	0.84%
Pb 220.353†	-80.6	0.01631 mg/L	0.001213	0.03261 mg/L	0.002426	7.44%
Sb 206.836†	40.4	0.01653 mg/L	0.001428	0.03307 mg/L	0.002856	8.64%
Se 196.026†	29.4	0.02083 mg/L	0.006234	0.04167 mg/L	0.012469	29.92%
Si 288.158†	2569.6	1.478 mg/L	0.0174	2.955 mg/L	0.0347	1.18%
Sn 189.927†	-61.8	-0.01111 mg/L	0.001552	-0.02223 mg/L	0.003104	13.96%
Sr 421.552†	149835.8	0.1804 mg/L	0.00085	0.3608 mg/L	0.00169	0.47%
Ti 334.903†	129890.5	7.688 mg/L	0.0300	15.38 mg/L	0.060	0.39%
Tl 190.801†	-38.3	0.00064 mg/L	0.005266	0.00128 mg/L	0.010531	822.21%
V 292.402†	65166.1	0.4079 mg/L	0.00484	0.8159 mg/L	0.00969	1.19%
Zn 206.200†	1189.1	0.3487 mg/L	0.00358	0.6974 mg/L	0.00716	1.03%

Sequence No.: 65
Sample ID: YE34 C SWC

Autosampler Location: 348
Date Collected: 4/1/2014 1:03:49 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 C SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2908722.1	98.23 %		0.304				0.31%
ScR 361.383	254619.8	103.6 %		0.61				0.59%
Ag 328.068†	-282.1	-0.00106 mg/L		0.000115	-0.00213 mg/L	0.000231		10.83%
Al 308.215†	158513.7	121.5 mg/L		0.46	242.9 mg/L	0.91		0.38%
As 188.979†	-311.7	0.07093 mg/L		0.003145	0.1419 mg/L	0.00629		4.43%
B 249.677†	925.3	0.1615 mg/L		0.00104	0.3231 mg/L	0.00208		0.64%
Ba 233.527†	2343.9	0.5883 mg/L		0.00423	1.177 mg/L	0.0085		0.72%
Be 313.042†	1005.0	0.00181 mg/L		0.000022	0.00362 mg/L	0.000044		1.21%
Ca 317.933†	354729.2	36.20 mg/L		0.203	72.40 mg/L	0.407		0.56%
Cd 228.802†	31.9	0.00349 mg/L		0.000177	0.00699 mg/L	0.000354		5.07%
Co 228.616†	3502.3	0.07334 mg/L		0.000434	0.1467 mg/L	0.00087		0.59%
Cr 267.716†	1337.5	0.2678 mg/L		0.00223	0.5355 mg/L	0.00446		0.83%
Cu 324.752†	124748.7	0.4277 mg/L		0.00230	0.8553 mg/L	0.00460		0.54%
Fe 273.955†	185669.6	161.5 mg/L		0.50	322.9 mg/L	1.01		0.31%
K 766.490†	21271.4	9.342 mg/L		0.0159	18.68 mg/L	0.032		0.17%
Mg 279.077†	57521.9	51.08 mg/L		0.190	102.2 mg/L	0.38		0.37%
Mn 257.610†	71462.4	2.246 mg/L		0.0074	4.493 mg/L	0.0147		0.33%
Mo 202.031†	217.1	0.01062 mg/L		0.000261	0.02124 mg/L	0.000522		2.46%
Na 589.592†	82860.1	6.215 mg/L		0.0291	12.43 mg/L	0.058		0.47%
Na 330.237†	98.7	6.177 mg/L		0.2560	12.35 mg/L	0.512		4.14%
Ni 231.604†	10375.7	3.071 mg/L		0.0122	6.142 mg/L	0.0244		0.40%
Pb 220.353†	-77.5	0.01403 mg/L		0.000439	0.02806 mg/L	0.000878		3.13%
Sb 206.836†	41.6	0.01641 mg/L		0.002015	0.03282 mg/L	0.004031		12.28%
Se 196.026†	38.0	0.02699 mg/L		0.003828	0.05398 mg/L	0.007657		14.19%
Si 288.158†	2984.1	1.714 mg/L		0.0063	3.428 mg/L	0.0126		0.37%
Sn 189.927†	-59.6	-0.01095 mg/L		0.002120	-0.02191 mg/L	0.004240		19.35%
Sr 421.552†	145448.6	0.1751 mg/L		0.00072	0.3503 mg/L	0.00143		0.41%
Ti 334.903†	120696.5	7.143 mg/L		0.0240	14.29 mg/L	0.048		0.34%
Tl 190.801†	-32.7	0.00168 mg/L		0.001408	0.00337 mg/L	0.002815		83.63%
V 292.402†	60427.9	0.3784 mg/L		0.00233	0.7569 mg/L	0.00466		0.62%
Zn 206.200†	1120.2	0.3285 mg/L		0.00136	0.6571 mg/L	0.00272		0.41%

Sequence No.: 66
Sample ID: YE34 D SWC

Autosampler Location: 349
Date Collected: 4/1/2014 1:07:49 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 D SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2919807.7	98.60	%	0.525			0.53%
ScR 361.383	252855.0	102.9	%	0.10			0.09%
Ag 328.068†	-346.2	-0.00142	mg/L	0.000228	-0.00284	0.000457	16.09%
Al 308.215†	236803.5	181.4	mg/L	0.80	362.9	1.60	0.44%
As 188.979†	-341.1	0.07163	mg/L	0.004151	0.1433	0.00830	5.80%
B 249.677†	684.5	0.1194	mg/L	0.00173	0.2389	0.00345	1.45%
Ba 233.527†	2615.8	0.6577	mg/L	0.00291	1.315	0.0058	0.44%
Be 313.042†	755.0	0.00130	mg/L	0.000034	0.00261	0.000068	2.60%
Ca 317.933†	278036.1	28.37	mg/L	0.059	56.75	0.118	0.21%
Cd 228.802†	86.5	0.00428	mg/L	0.000065	0.00857	0.000130	1.52%
Co 228.616†	3165.1	0.06386	mg/L	0.000150	0.1277	0.00030	0.24%
Cr 267.716†	29227.7	5.848	mg/L	0.0257	11.70	0.051	0.44%
Cu 324.752†	247673.4	0.8440	mg/L	0.00225	1.688	0.0045	0.27%
Fe 273.955†	199734.9	173.7	mg/L	0.86	347.4	1.72	0.50%
K 766.490†	11609.5	5.099	mg/L	0.0275	10.20	0.055	0.54%
Mg 279.077†	61228.2	54.38	mg/L	0.207	108.8	0.41	0.38%
Mn 257.610†	73193.4	2.300	mg/L	0.0083	4.601	0.0167	0.36%
Mo 202.031†	62.3	0.00277	mg/L	0.000224	0.00553	0.000448	8.10%
Na 589.592†	46634.0	3.498	mg/L	0.0135	6.995	0.0270	0.39%
Na 330.237†	39.6	3.666	mg/L	0.4644	7.331	0.9287	12.67%
Ni 231.604†	7579.1	2.243	mg/L	0.0156	4.487	0.0312	0.69%
Pb 220.353†	-226.2	0.02093	mg/L	0.001069	0.04186	0.002138	5.11%
Sb 206.836†	273.9	0.01692	mg/L	0.003285	0.03384	0.006571	19.42%
Se 196.026†	37.7	0.02681	mg/L	0.003477	0.05363	0.006955	12.97%
Si 288.158†	3374.4	1.941	mg/L	0.0258	3.883	0.0517	1.33%
Sn 189.927†	-55.6	-0.01059	mg/L	0.001108	-0.02118	0.002216	10.46%
Sr 421.552†	108811.9	0.1310	mg/L	0.00057	0.2621	0.00114	0.44%
Ti 334.903†	132643.7	7.850	mg/L	0.0203	15.70	0.041	0.26%
Tl 190.801†	-33.1	0.00057	mg/L	0.002376	0.00113	0.004751	419.81%
V 292.402†	64329.4	0.4256	mg/L	0.00058	0.8511	0.00115	0.14%
Zn 206.200†	1033.8	0.3048	mg/L	0.00260	0.6095	0.00521	0.85%

Sequence No.: 67

Sample ID: YE34 MB1SPK SWC

Autosampler Location: 350

Date Collected: 4/1/2014 1:11:04 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 MB1SPK SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 MB1SPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2942521.5	99.37	%	0.632			0.64%
ScR 361.383	251369.6	102.3	%	0.09			0.08%
Ag 328.068†	111921.1	0.5493	mg/L	0.00180	1.099 mg/L	0.0036	0.33%
Al 308.215†	2755.8	2.104	mg/L	0.0031	4.208 mg/L	0.0062	0.15%
As 188.979†	3858.1	2.236	mg/L	0.0158	4.472 mg/L	0.0315	0.71%
B 249.677†	15.9	0.00168	mg/L	0.001073	0.00335 mg/L	0.002145	63.99%
Ba 233.527†	8303.8	2.174	mg/L	0.0080	4.348 mg/L	0.0160	0.37%
Be 313.042†	262712.1	0.5191	mg/L	0.00282	1.038 mg/L	0.0056	0.54%
Ca 317.933†	104152.1	10.63	mg/L	0.061	21.26 mg/L	0.123	0.58%
Cd 228.802†	18433.7	0.5394	mg/L	0.00245	1.079 mg/L	0.0049	0.45%
Co 228.616†	21222.5	0.5248	mg/L	0.00172	1.050 mg/L	0.0034	0.33%
Cr 267.716†	2721.7	0.5434	mg/L	0.00075	1.087 mg/L	0.0015	0.14%
Cu 324.752†	151748.9	0.5135	mg/L	0.00238	1.027 mg/L	0.0048	0.46%
Fe 273.955†	2536.1	2.202	mg/L	0.0016	4.404 mg/L	0.0032	0.07%
K 766.490†	23659.4	10.39	mg/L	0.033	20.78 mg/L	0.066	0.32%
Mg 279.077†	12375.1	11.01	mg/L	0.037	22.02 mg/L	0.074	0.34%
Mn 257.610†	15994.1	0.5034	mg/L	0.00352	1.007 mg/L	0.0070	0.70%
Mo 202.031†	39.6	0.00187	mg/L	0.000136	0.00374 mg/L	0.000272	7.28%
Na 589.592†	141133.7	10.59	mg/L	0.042	21.17 mg/L	0.083	0.39%
Na 330.237†	235.9	10.77	mg/L	0.150	21.55 mg/L	0.299	1.39%
Ni 231.604†	1819.2	0.5376	mg/L	0.00334	1.075 mg/L	0.0067	0.62%
Pb 220.353†	18215.4	2.126	mg/L	0.0144	4.252 mg/L	0.0288	0.68%
Sb 206.836†	23.6	0.00216	mg/L	0.002891	0.00431 mg/L	0.005782	134.15%
Se 196.026†	3127.9	2.246	mg/L	0.0195	4.492 mg/L	0.0390	0.87%
Si 288.158†	1.1	0.00439	mg/L	0.003781	0.00877 mg/L	0.007563	86.23%
Sn 189.927†	-19.8	-0.00417	mg/L	0.000441	-0.00835 mg/L	0.000883	10.57%
Sr 421.552†	427246.0	0.5145	mg/L	0.00178	1.029 mg/L	0.0036	0.35%
Ti 334.903†	156.4	0.00840	mg/L	0.000188	0.01680 mg/L	0.000377	2.24%
Tl 190.801†	4599.1	2.093	mg/L	0.0126	4.186 mg/L	0.0252	0.60%
V 292.402†	81811.3	0.5305	mg/L	0.00074	1.061 mg/L	0.0015	0.14%
Zn 206.200†	1829.4	0.5362	mg/L	0.00265	1.072 mg/L	0.0053	0.49%

Sequence No.: 68

Autosampler Location: 7

Sample ID: CV 7

Date Collected: 4/1/2014 1:15:04 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921178.7	98.65 %		0.329			0.33%
ScR 361.383	245985.6	100.1 %		1.23			1.23%
Ag 328.068†	211800.9	1.039 mg/L		0.0108	1.039 mg/L	0.0108	1.04%
Al 308.215†	2664.2	2.010 mg/L		0.0268	2.010 mg/L	0.0268	1.34%
As 188.979†	3604.7	2.121 mg/L		0.0083	2.121 mg/L	0.0083	0.39%
B 249.677†	5784.1	1.010 mg/L		0.0112	1.010 mg/L	0.0112	1.10%
Ba 233.527†	3976.1	1.041 mg/L		0.0145	1.041 mg/L	0.0145	1.40%
Be 313.042†	508985.1	1.006 mg/L		0.0030	1.006 mg/L	0.0030	0.30%
Ca 317.933†	20757.4	2.118 mg/L		0.0255	2.118 mg/L	0.0255	1.20%
Cd 228.802†	34598.2	1.023 mg/L		0.0102	1.023 mg/L	0.0102	1.00%
Co 228.616†	40482.9	0.9998 mg/L		0.01114	0.9998 mg/L	0.01114	1.11%
Cr 267.716†	5247.5	1.049 mg/L		0.0112	1.049 mg/L	0.0112	1.06%
Cu 324.752†	303411.4	1.026 mg/L		0.0110	1.026 mg/L	0.0110	1.07%
Fe 273.955†	2449.3	2.123 mg/L		0.0286	2.123 mg/L	0.0286	1.35%
K 766.490†	45436.7	19.96 mg/L		0.159	19.96 mg/L	0.159	0.80%
Mg 279.077†	2285.2	2.040 mg/L		0.0275	2.040 mg/L	0.0275	1.35%
Mn 257.610†	31035.0	0.9766 mg/L		0.00468	0.9766 mg/L	0.00468	0.48%
Mo 202.031†	18871.4	0.9719 mg/L		0.00433	0.9719 mg/L	0.00433	0.45%
Na 589.592†	679225.1	50.94 mg/L		0.371	50.94 mg/L	0.371	0.73%
Na 330.237†	1095.7	50.99 mg/L		0.598	50.99 mg/L	0.598	1.17%
Ni 231.604†	3541.6	1.049 mg/L		0.0114	1.049 mg/L	0.0114	1.09%
Pb 220.353†	17563.6	2.050 mg/L		0.0095	2.050 mg/L	0.0095	0.46%
Sb 206.836†	6725.9	2.094 mg/L		0.0120	2.094 mg/L	0.0120	0.57%
Se 196.026†	2917.2	2.094 mg/L		0.0107	2.094 mg/L	0.0107	0.51%
Si 288.158†	3417.0	1.961 mg/L		0.0185	1.961 mg/L	0.0185	0.94%
Sn 189.927†	3501.3	0.9816 mg/L		0.00788	0.9816 mg/L	0.00788	0.80%
Sr 421.552†	837571.8	1.009 mg/L		0.0062	1.009 mg/L	0.0062	0.61%
Ti 334.903†	16576.1	0.9801 mg/L		0.00288	0.9801 mg/L	0.00288	0.29%
Tl 190.801†	4513.1	2.050 mg/L		0.0090	2.050 mg/L	0.0090	0.44%
V 292.402†	157203.6	1.020 mg/L		0.0096	1.020 mg/L	0.0096	0.94%
Zn 206.200†	3572.7	1.047 mg/L		0.0127	1.047 mg/L	0.0127	1.21%

Sequence No.: 69
Sample ID: CB 7

Autosampler Location: 1
Date Collected: 4/1/2014 1:19:08 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929809.7	98.94 %		0.834			0.84%
ScR 361.383	254814.3	103.7 %		0.80			0.77%
Ag 328.068†	-45.8	-0.00022 mg/L		0.000069	-0.00022 mg/L	0.000069	30.74%
Al 308.215†	-4.0	-0.00311 mg/L		0.003982	-0.00311 mg/L	0.003982	128.10%
As 188.979†	-1.1	-0.00059 mg/L		0.002089	-0.00059 mg/L	0.002089	351.31%
B 249.677†	14.5	0.00253 mg/L		0.001280	0.00253 mg/L	0.001280	50.61%
Ba 233.527†	1.7	0.00044 mg/L		0.000446	0.00044 mg/L	0.000446	101.10%
Be 313.042†	-1.9	-0.00000 mg/L		0.000023	-0.00000 mg/L	0.000023	622.59%
Ca 317.933†	3.1	0.00031 mg/L		0.001200	0.00031 mg/L	0.001200	385.50%
Cd 228.802†	14.8	0.00044 mg/L		0.000056	0.00044 mg/L	0.000056	12.64%
Co 228.616†	-2.2	-0.00006 mg/L		0.000040	-0.00006 mg/L	0.000040	71.15%
Cr 267.716†	0.2	0.00003 mg/L		0.001375	0.00003 mg/L	0.001375	>999.9%
Cu 324.752†	781.7	0.00264 mg/L		0.000239	0.00264 mg/L	0.000239	9.05%
Fe 273.955†	2.7	0.00236 mg/L		0.001062	0.00236 mg/L	0.001062	45.03%
K 766.490†	112.2	0.04927 mg/L		0.015305	0.04927 mg/L	0.015305	31.06%
Mg 279.077†	0.8	0.00076 mg/L		0.005004	0.00076 mg/L	0.005004	662.80%
Mn 257.610†	2.5	0.00008 mg/L		0.000088	0.00008 mg/L	0.000088	111.15%
Mo 202.031†	24.8	0.00128 mg/L		0.000437	0.00128 mg/L	0.000437	34.17%
Na 589.592†	66.1	0.00496 mg/L		0.003586	0.00496 mg/L	0.003586	72.30%
Na 330.237†	-2.7	-0.1276 mg/L		0.21757	-0.1276 mg/L	0.21757	170.57%
Ni 231.604†	-1.0	-0.00027 mg/L		0.000837	-0.00027 mg/L	0.000837	305.32%
Pb 220.353†	10.5	0.00122 mg/L		0.000540	0.00122 mg/L	0.000540	44.07%
Sb 206.836†	42.1	0.01311 mg/L		0.002659	0.01311 mg/L	0.002659	20.28%
Se 196.026†	-0.1	-0.00009 mg/L		0.005066	-0.00009 mg/L	0.005066	>999.9%
Si 288.158†	6.5	0.00372 mg/L		0.005515	0.00372 mg/L	0.005515	148.09%
Sn 189.927†	-1.7	-0.00047 mg/L		0.000257	-0.00047 mg/L	0.000257	55.05%
Sr 421.552†	29.3	0.00004 mg/L		0.000028	0.00004 mg/L	0.000028	79.28%
Ti 334.903†	27.1	0.00160 mg/L		0.000530	0.00160 mg/L	0.000530	33.12%
Tl 190.801†	-2.9	-0.00134 mg/L		0.001960	-0.00134 mg/L	0.001960	146.52%
V 292.402†	-16.2	-0.00010 mg/L		0.000231	-0.00010 mg/L	0.000231	220.41%
Zn 206.200†	2.0	0.00059 mg/L		0.000357	0.00059 mg/L	0.000357	60.63%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YE32

W
D-28.4

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET

DATE: 3/27/14 (A)

ANALYST: KE 7:32

Analytical Balance: 1123230597

Drying Ovens: 12
Muffle Furnace: N/A

Batch drying time		TS (%) calculated as:		TVS (mg/kg dry wt) calculated as:					
record times as mm/dd/yyyy hh:mm	date/time in oven	Final dry wt (g) = (Dry Wt - Tare Wt)	TS = (Final Dry Wt)/(grams Sample-Tare)	Final ash wt (g) = (min ash wt - tare wt)	TVS (mg/kg) = [(Dry wt-Ash wt)/(dry weight)] *1,000,000				
3/27/2014 7:32	KE	10.0000	Cal OK!	CV-02	CV-02				
3/28/2014 4:58	KE	7.4895	Cal OK!	CV-02	CV-02				
elapsed hrs = 21.4		7.4004	Cal OK!	CV-02	CV-02				
SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)	dry Wt (g)	TS (%)	ASH WT 550C (grams)	Ash Wt (g)	TVS (mg/kg) (%)
Blank		1.1461	1.1461	1	0.00		1		
YE32 A1		7.4895	1.1512	7.2602	6.11	96.38%	2		
YE32 A1 dup		7.4004	1.1342	7.1786	6.04	96.46%			

RPD = 0.08%									
YE32 B1		7.0286	1.1474	6.5206	5.37	91.36%			NA
YE32 C1		7.2318	1.1359	6.9322	5.80	95.09%			
YE32 D1		7.8733	1.1494	6.9208	5.77	86.83%			
YE32 E1		7.3664	1.1471	7.0322	5.89	94.63%			
YE32 F1		7.9769	1.1468	7.5760	6.43	94.13%			
YE32 G1		7.9391	1.1178	7.5674	6.45	94.65%			
YE32 H1		8.1858	1.1345	7.3054	6.17	87.51%			
YE32 I 1		7.2721	1.1362	6.9389	5.80	94.57%			
YE32 J 1		7.3481	1.1259	7.0928	5.97	95.90%			
YE32 K1		7.1478	1.2104	6.7256	5.52	92.89%			
YE32 L1		8.1351	1.1674	7.0883	5.92	84.98%			
YE32 M1		7.2666	1.1700	6.8642	5.69	93.40%			
YE32 N1		7.9448	1.1463	7.6538	6.51	95.72%			
YE32 O1		7.3227	1.1294	7.0816	5.95	96.11%			
YE32 P1		8.9483	1.1590	7.8390	6.68	85.76%			
YE32 Q1		8.8929	1.1045	8.5441	7.44	95.52%			
YE32 R1		7.2014	1.1709	6.9457	5.77	95.76%			
YE32 S1		7.2496	1.1282	6.8906	5.76	94.14%			

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET

SOLIDS (dry at 104 (12-24 hr) then combust at 550 (30 min)) **DATE:** 3/27/14 (A) **ANALYST:** KE 7:32

Instrumentation **Drying Ovens:** 12 **Analytical Balance:** 1123230597

Muffle Furnace: N/A

Batch drying time		TS (%) calculated as:		TVS (mg/kg dry wt) calculated as:	
record times as mm/dd/yyyy hh:mm	Final dry wt (g) = (Dry Wt - Tare Wt)	Final ash wt (g) = (min ash wt - tare wt)	Final ash wt (g) = (min ash wt - tare wt)	TVS (mg/kg) = [(Dry wt-Ash wt)/(dry weight)] *1,000,000	TVS (mg/kg) = [(Dry wt-Ash wt)/(dry weight)] *1,000,000
3/27/2014 7:32 KE	TS = (Final Dry Wt)/(grams Sample-Tare)			if ash wt > dry wt, "Chk for Err"	if dry wt-ash wt < 0.001 g, "< (1/dry wt) *1,000,000"
3/28/2014 4:58 KE					
elapsed hrs = 21.4					
Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02
Date & Time	3/27/14 6:10 KE	3/27/14 5:25 KE	3/28/14 5:12 KE		
Cal Wt (g)	10.0000	10.0000	10.0000		
record weights to 4 places	Cal OK!	Cal OK!	Cal OK!		
DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)	dry Wt (g)	TS (%)
	8.1141	1.0897	7.0890	6.00	85.41%
SAMPLE ID	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)	dry Wt (g)	TS (%)
YE32 T1	8.1141	1.0897	7.0890	6.00	85.41%
	ASH WT 550C (grams)	Ash Wt (g)	TVS (mg/kg)	TVS (%)	TVS (mg/kg) (%)
	1	2			

YF32 : 00169



Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL / VOLATILE SOLIDS (TS/TVS) BENCHSHEET

(A) ① 3-27-14 (W) ② 1.1572 3-27-14 (W)

Analyst: (D)		Date: 3-27-14	Oven ID: 6L	Muffle ID: N/A	Balance ID: 1125230597	
Time in Oven: 7.72		Time Out of Oven: 6L		Elapsed Time (> 12 Hrs):		
Sample ID	Dish #	Cal Weight ID		CV-02	CV-02	CV-02
		Date & Time	Cal Weight (10.0000)			
DRY at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places						
TS (%) calculated as: Final Dry Weight (g) = (Dry Weight - Tare Weight) TS = (Final Dry Weight) / (Grams Sample - Tare Weight)						
Final Ash Weight (g) = (Minimum Ash Weight - Tare Weight) TVS (mg/kg) = [(Dry Weight - Ash Weight) / (Dry Weight) * 1,000,000 If Ash Weight > Dry Weight then "Check for Error" If Dry Weight - Ash Weight < 0.001 < (1/Dry Weight) * 1,000,000						
		CV-02	CV-02	CV-02	CV-02	CV-02
		3-27-14 6:10	3-27-14 5:12			
		10.0000 (D)	10.0000 (D)			
		Sample	Tare	Dry Weight 104 °C	Dry Weight	Ash Weight 550 °C
		1	2	3	grams	1 2 3
BLANK	1	1.1461	1.1461			
YE32	2	7.4895	7.2602			Sand + Rocks
	3	7.4024	7.1786			N-
	4	7.0286	6.5206			Sand
	5	7.2318	6.9322			Sand + Rocks
	6	7.8733	6.9208			Sand + Clay
	7	7.3664	7.0322			Sand + Rocks
	8	7.9769	7.5760			
	9	7.9391	7.5674			
	10	8.1858	7.3054			
	11	7.2721	6.9389			
	12	7.3481	7.0800	7.0828		
	13	7.4478	6.7256			
	14	8.1351	7.0823			
	15	7.2666	6.8642			
	16	7.9448	7.6538			
	17	7.3227	7.0816			
	18	8.9483	7.8340			
	19	8.8929	8.5441			Sand + Rocks
	20	7.2014	6.9457			
	21	7.2496	6.8906			
	22	8.1141	7.0890			Sand + Clay

YE32 : 00170

3/29/14

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time 2/28/14 18:30	Date / Time: 3/29/14 20:02
REAGENTS	Analyst: RR	Analyst: RR
Sulfuric acid: 10317C Diphenylcarbazine: C001179	EQUIPMENT	pH Meter ID: ACCUMET AR60 Electrode ID: SN1320016P 16 Balance ID: 1123230597 Spec ID: #1

CALIBRATION					
<i>Curve Standard</i>					
ARI ID: C000892	stock	0.0709	g K2Cr2O7	500	mL pH2 = 50.1 mg/L Cr+6
Date Prepared: 3/28/2014	Intermediate	5	mL Stock to	50	mL pH2 = 5.01 mg/L Cr+6

Standard Curve Data					
final volume of prepared standards = 50 mL					
mL intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs	
		1	2		
0.0	0.00	0.000		0.000	= blank abs
0.1	0.01	0.008		0.008	0.010 100%
0.5	0.05	0.040		0.040	0.050 100%
1.0	0.10	0.081		0.081	0.101 101%
5.0	0.50	0.401		0.401	0.500 100%
10.0	1.00	0.804		0.804	1.003 100%
Regression Data Conc = (abs-intercept)/slope intercept = 0.0000 slope = 0.8016 r = 1.000 Comment: Calibration OK! maxabs = 0.804					

Calibration Verification Standard					
Source intermediate	ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6	
CVS =	0.050	mL stock to	200	mL DI =	0.25 mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)					
Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6 as K2Cr2O7	
DQL Intermediate	Dilute 0.1	mL stock to	10	mg/L Cr+6 as K2Cr2O8	
DQL Standard	Dilute 0.40	mL Int to	100	mg/L Cr+6 as K2Cr2O8	
Insoluble Chk	source = Fisher 053150/ B002310		16.088%	percent Cr+6 as PbCrO4	

SAMPLE DATA
 $mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope$

SAMPLE ID	sample pH adjusted dilution: 40 mL adjusted to 50				Spectrophotometric Data				Conc (mg/L)	NOTES
	dilution	ABS @ 540nm	Background	Extract mg/L	dilution	ABS @ 540nm	Background	Extract mg/L		
ICB	1	0.000		0.000			0.000	< 0.01	Blk OK	
ICV	1	0.203		0.253			0.253	0.253	101.30%	
Extraction Data										
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	ABS @ 540nm	Background	Extract mg/L	mg/kg dry wt	
Prep Blk	100.00%	2.5000	0.100	1.250	1	0.001		0.002	< 0.4	Blk OK
Prep Chk Sol	100.00%	2.5000	0.100	1.250	1	0.305		0.476	19.025	95.1%
Sol Spk at 0.05 mL Solstk = 0.05 mg Cr+6 20.00 mg/kg										
Prep Chk Insol	100.00%	2.5000	0.100	1.250	20	0.640		0.998	798	94%
Insol Spk at 13.2 mg PbCrO4 = 2.124 mg Cr+6 849 mg/kg										
YE32 A1	96.38%	2.5682	0.100	1.250	1	0.004		0.006	< 0.41	
YE32 A1 dup	96.38%	2.5366	0.100	1.250	1	0.006		0.009	< 0.41	RPD NA
soluble ms	96.38%	2.5920	0.100	1.250	1	0.007		0.011	0.4	% Rec = 2.2
Sol Spk at 0.05 mL Solstk = 0.05 mg Cr+6 20.0 mg/kg										
insoluble ms	96.38%	2.5291	0.100	1.250	20	0.581		0.906	743.4	% Rec = 90.1
Insol Spk at 12.5 mg PbCrO4 = 2.011 mg Cr+6 825 mg/kg										
YE32 B1	91.36%	2.5817	0.100	1.250	1	0.001		0.002	< 0.43	
YE32 C1	95.09%	2.5703	0.100	1.250	1	0.001		0.002	< 0.41	
YE32 D1	85.83%	2.5032	0.100	1.250	1	0.004		0.006	< 0.47	
CCB					1	0.000		0.000	< 0.01	Blk OK
CCV					1	0.203		0.253	0.253	101.30%
YE32 E1	94.63%	2.5948	0.100	1.250	1	0.030		0.047	1.9	
YE32 F1	94.13%	2.5082	0.100	1.250	1	0.001		0.002	< 0.42	
YE32 G1	94.55%	2.5349	0.100	1.250	1	0.002		0.003	< 0.42	
YE32 H1	87.51%	2.5432	0.100	1.250	1	0.003		0.005	< 0.45	
YE32 I1	94.57%	2.5151	0.100	1.250	1	0.338		0.527	22.2	
YE32 J1	95.90%	2.5837	0.100	1.250	1	0.025		0.039	1.6	
YE32 K1	92.89%	2.5713	0.100	1.250	1	0.208		0.324	13.6	
YE32 L1	84.98%	2.5717	0.100	1.250	1	0.013		0.020	0.9	

YE32 M1	93.40%	2.5553	0.100	1.250	4	1.398		2.180	91.3	offscale dilute
YE32 N1	95.72%	2.5833	0.100	1.250	1	0.012		0.019	0.8	
CCB					1	0.000		0.000	< 0.01	Blk OK
CCV					1	0.204		0.254	0.254	101.80%
YE32 O1	96.11%	2.5573	0.100	1.250	1	0.012		0.019	0.8	
YE32 P1	85.76%	2.5277	0.100	1.250	1	0.034		0.053	2.4	
YE32 Q1	95.52%	2.5783	0.100	1.250	1	0.004		0.006	< 0.41	
YE32 R1	95.76%	2.5151	0.100	1.250	1	0.003		0.005	< 0.42	
YE32 S1	94.14%	2.5479	0.100	1.250	1	0.002		0.003	< 0.42	
YE32 T1	85.41%	2.5279	0.100	1.250	1	0.101		0.158	7.3	
CCB					1	0.000		0.000	< 0.01	Blk OK
CCV					1	0.203		0.253	0.253	101.30%
YE32 M1	93.40%	2.5553	0.100	1.250	2	0.740		1.154	96.7	
YE32 A1	96.38%	2.568	0.100	1.250	1	0.004		0.006	< 0.41	Recovery
YE32 A1 ver	96.38%	2.568	0.100	1.000	1	0.664		0.828	33	84%
desired spike =	0.99	mg/L by diluting	0.20	mL stock to	10	mL extract =	0.99	40.0	interference	
CCB					1	0.001		0.001	< 0.01	Blk OK
CCV					1	0.203		0.253	0.253	101.30%

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time <u>3/28/14 18:50</u>	Date / Time: <u>3/29/14 10:07</u>
	Analyst: <u>FR</u>	Analyst: <u>FR</u>
REAGENTS Sulfuric acid: <u>10317C</u> Diphenylcarbazine: <u>0001179</u>	EQUIPMENT	pH Meter ID: <u>ACCUMET AK60</u> Electrode ID: <u>1320016816</u> Balance ID: <u>1123230597</u> Spec ID: <u>#1</u>

CALIBRATION					
Curve Standard					
ARI ID: <u>C000892</u>	stock	0.0709	g K2Cr2O7	500	mL pH2 = 50.1 mg/L Cr+6
Date Prepared: <u>3/28/14</u>	Intermediate	5	mL Stock to	50	mL pH2 = 5.01 mg/L Cr+6

Standard Curve Data					final volume of prepared standards = <u>50</u> mL	
mL intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs		
		1	2			
0.0	0.00	<u>0.000</u>			= blank abs	
0.1	0.01	<u>0.008</u>			#VALUE!	
0.5	0.05	<u>0.040</u>			#VALUE!	
1.0	0.10	<u>0.081</u>			#VALUE!	
5.0	0.50	<u>0.401</u>			#VALUE!	
10.0	1.00	<u>0.804</u>			#VALUE!	

Regression Data	
Conc = (abs-intercept)/slope	
intercept =	
slope =	
r =	
Comment:	
maxabs =	

Calibration Verification Standard					
Source	<u>ERA # 160412/ B001620</u>	Stock Conc	<u>1,000</u>	mg/L Cr+6	
intermediate		mL stock to		mg/L Cr+6	
CVS =	<u>0.050</u>	mL stock to	<u>200</u>	mL DI =	<u>0.25</u> mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)					
Soluble Chk	source = <u>ERA # 160412/ B001620</u>	Stock Conc	<u>1,000</u>	mg/L Cr+6 as K2Cr2O7	
DQL Intermediate	Dilute <u>0.1</u>	mL stock to	<u>10</u>	mg/L Cr+6 as K2Cr2O8	
DQL Standard	Dilute <u>0.40</u>	mL Int to	<u>100</u>	mg/L Cr+6 as K2Cr2O8	
Insoluble Chk	source = <u>Fisher 053150/ B002310</u>		<u>16.088%</u>	percent Cr+6 as PbCrO4	

SAMPLE DATA
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	sample pH adjusted dilution: 40 mL adjusted to 50				Spectrophotometric Data				Conc (mg/L)	NOTES
					dilution	ABS @ 540nm	Background	Extract mg/L		
ICB					1	<u>0.000</u>				
ICV					1	<u>0.203</u>				
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	ABS @ 540nm	Background	Extract mg/L	mg/kg dry wt	
Prep Blk	100.00%	2.5	0.100	1.250	1	<u>0.001</u>				
Prep Chk Sol	100.00%	2.5	0.100	1.250	1	<u>0.305</u>				
	Sol Spk at	<u>0.05</u>	mL Solstk =	<u>0.05</u>		mg Cr+6		<u>20.00</u>	mg/kg	
Prep Chk Insol	100.00%	2.5	0.100	1.250	20	<u>0.640</u>				
	Insol Spk at	<u>132</u>	mg PbCrO4 =	<u>0.000</u>		mg Cr+6		<u>0</u>	mg/kg	
✓ YE32 A'	<u>96.38</u>	<u>2.5682</u>	0.100	1.250	1	<u>0.004</u>				
✓ B'	<u>91.20</u>	<u>2.5817</u>	0.100	1.250	1	<u>0.001</u>				
✓ C'	<u>95.09</u>	<u>2.5703</u>	<u>0.100</u>	<u>1.250</u>	1	<u>0.001</u>				
✓ D'	<u>85.83</u>	<u>2.5777</u>	<u>0.100</u>	<u>1.250</u>	1	<u>0.004</u>				
CCB					1	<u>0.000</u>				
CCV					1	<u>0.203</u>				
✓ YE32 E'	<u>94.63</u>	<u>2.5948</u>	0.100	1.250	1	<u>0.030</u>				
✓ F'	<u>94.13</u>	<u>2.5082</u>	0.100	1.250	1	<u>0.001</u>				
✓ G'	<u>94.55</u>	<u>2.5349</u>	0.100	1.250	1	<u>0.002</u>				
✓ H'	<u>87.57</u>	<u>2.5432</u>	0.100	1.250	1	<u>0.003</u>				
✓ I'	<u>94.57</u>	<u>2.5157</u>	0.100	1.250	1	<u>0.338</u>				
✓ J'	<u>95.90</u>	<u>2.5837</u>	0.100	1.250	1	<u>0.025</u>				
✓ K'	<u>92.89</u>	<u>2.5713</u>	0.100	1.250	1	<u>0.208</u>				
✓ L'	<u>84.98</u>	<u>2.5717</u>	0.100	1.250	1	<u>0.013</u>				
✓ M'	<u>93.40</u>	<u>2.5553</u>	0.100	1.250	1	<u>1.398</u>				
✓ N'	<u>95.72</u>	<u>2.5833</u>	0.100	1.250	1	<u>0.012</u>				

CCB						1	0.000						
CCV						1	0.204						
YESI	O'	96.11	2.5573	0.100	1.250	1	0.012						
	P'	85.76	2.5277	0.100	1.250	1	0.034						
	Q'	95.52	2.5783	0.100	1.250	1	0.004						
	R'	95.76	2.5151	0.100	1.250	1	0.003						
	S'	94.14	2.5479	0.100	1.250	1	0.002						
	T'	85.41	2.5279	0.100	1.250	1	0.101						
CCB			2.5	0.100	1.250	1	0.000						
CCV			2.5	0.100	1.250	1	0.203						
YESI M'		93.40	2.5553	0.100	1.250	2	0.740						
A. YESI		96.58	2.5682	0.100	1.250	1	0.664						
CCB						1	0.001						
CCV						1	0.203						
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
			2.5	0.100	1.250	1							
CCB						1							
CCV						1							

**Hexavalent Chromium
3060 Alkaline Digestion Protocol**

Date: 3/28/14 18:30
Analyst: PL

- 1) Digest
- | | | | |
|--|-------|------------------------------|--|
| Sample | 2.5 | g | Balance ID: <u>1123230597</u> |
| soluble spike (K ₂ Cr ₂ O ₇) | 0.05 | mL | use 1000 mg/L LCS = 0.5 mg/L = 20ppm solid |
| insoluble spike (PbCrO ₄) | 10-20 | mg PbCrO ₄ | PbCrO ₄ = 16.888% Cr |
| optional trivalent spike (Cr(III)•6H ₂ O) | 5 | mg Cr(III)•6H ₂ O | Cr(III)•6H ₂ O = 19.500% Cr |
| ID: C000221 Alk-CO3 Digest Soln | 50 | mL | 20 g NaOH + 30 g Na ₂ CO ₃ , dilute to 1 liter (pH >11.5) |
| ID: B002851 MgCl ₂ | 0.4 | g | anhydrous powder |
| ID: 10035C 1M Phosphate buffer | 0.5 | mL | 87.09 g K ₂ HPO ₄ + 68.04 g KH ₂ PO ₄ to 1 liter |
| mix | 5 | minutes | |
| heat (90-95 °C) | 60 | minutes | Set Block temp to 115 °C (AIM Prgm #3) |
- 2) Transfer to filtration funnel (3X10 mL rinses) and filter (0.45µm membrane)
- 3) Neutralize filtrate to pH 7.5 ±0.5
ID: 5M Nitric acid dropwise Soluble Spike: _____ ERA # 160412 _____
- 4) Dilute to 100 mL Insoluble Spike: _____ Fisher: 053150 _____
reagent water

Sample	Client ID	grams	mL	Notes
Dig Blank		2.5 000	100	Temp: _____ °C pH: _____
Blk Spk	Soluble (K ₂ Cr ₂ O ₇)	2.5 000	100	added _____ mL 1000 ppm stock
Blk Spk	Insoluble (PbCrO ₄)	2.5 000	100	added <u>13.2</u> mg PbCrO ₄
YE32 A1		2.5 082	100	
dup		2.5 366	100	
sol spk		2.5 920	100	added _____ mL 1000 ppm stock
insol spk		2.5 291	100	added <u>12.5</u> mg PbCrO ₄
B1		2.5 817	100	
C1		2.5 703	100	
D1		2.5 032	100	
E1		2.5 948	100	
F1		2.5 082	100	
G1		2.5 349	100	
H1		2.5 432	100	
I1		2.5 151	100	
J1		2.5 837	100	
K1		2.5 713	100	
L1		2.5 717	100	
M1		2.5 553	100	
N1		2.5 883	100	
O1		2.5 573	100	
P1		2.5 277	100	
Q1		2.5 788	100	
R1		2.5 151	100	
S1		2.5 479	100	
T1		2.5 279	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	

3 0.001

2 0.203

1 0.000

ID# 540nm
Abs

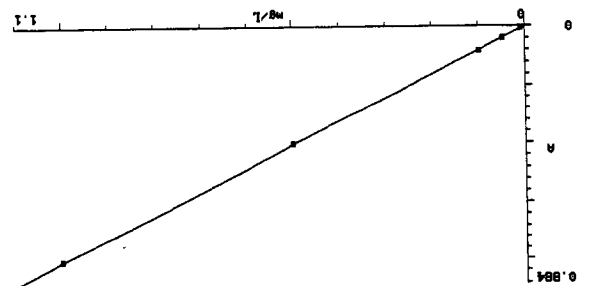
Advanced A-XI-C
20:03 29Mar14
Test Name CHROME 6 [Saved]
Measurement Mode Absorbance
Wavelength 540nm
Ref. Wavelength Correction Off
Delay Time (min:sec) 0:00
ID# (0=OFF) 1
Low/High Limits 0.000/1.000
Statistics Off
Auto Print On

TEST SETUP
GENESYS 10 v2.021 2626048006

Conc. mg/L
Abs 540nm
0.000 0.000
0.010 0.008
0.050 0.040
0.100 0.081
0.500 0.401
1.000 0.804

PK
3/29/14

Curve Fit
Linear
Slope 0.804
Intercept -1.25E-05
Std Dev 0.001
Corr Coeff 1.000



Standard Curve
20:02 29Mar14
Test Name CHROME 6
Date Standards Measured 29Mar14
Wavelength 540nm
Ref. Wavelength Correction Off
Curve Fit Linear
Number of Standards 6
Units mg/L
ID# (0=OFF) Off
Low/High Limits 0.000/1.000
Statistics Off
Auto Print On

TEST SETUP
GENESYS 10 v2.021 2626048006

19 0.338
18 0.003
17 0.002
16 0.001
15 0.030
14 0.203
13 0.000
12 0.004
11 0.001
10 0.001
9 0.581
8 0.007
7 0.006
6 0.004
5 0.640
4 0.305

34 0.203

33 0.000

32 0.101

31 0.002

30 0.003

29 0.004

28 0.034

27 0.012

26 0.204

25 0.000

24 0.012

23 1.398

22 0.013

21 0.208

20 0.025

50 0.203

49 0.001

48 0.664 *vert.*

47 0.740 *2x*

46 0.203

45 0.001

44 0.002 *bbg*

43 0.001

42 0.000

41 0.000

40 0.002

39 0.000

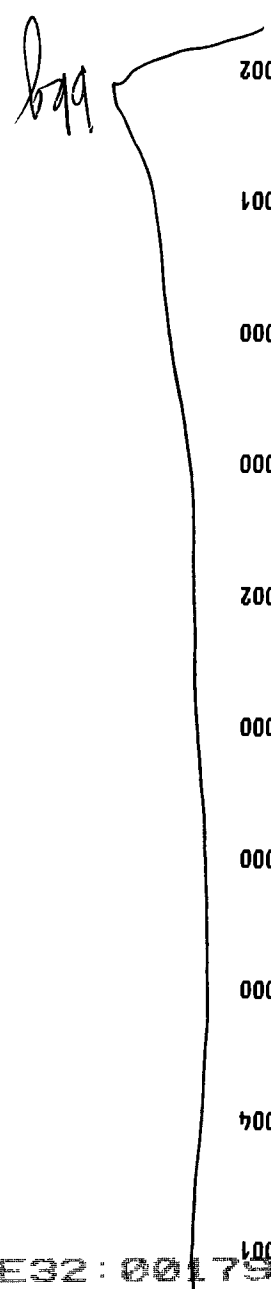
38 0.000

37 0.000

36 0.004

35 0.001

YE32:00179





Corrective Actions Inorganic Analyses

Criteria Flagged:	ARI Job No.:	<u>YE32</u>
Unacceptable Blank: <input type="checkbox"/>	Date of Event:	<u>3/29/14</u>
Unacceptable Duplicate: <input type="checkbox"/>	Client ID:	<u>GeoEngineers</u>
Unacceptable Spike: <input checked="" type="checkbox"/>	Method/Element:	<u>Cx 6+0</u>
Unacceptable Reference: <input type="checkbox"/>	Prep Code:	

Details of Problem/Recommended Corrective Action:
matrix soluble spike failed @ 2.2%

Samples Affected: A

Corrective Action Taken: ran the method specified verification. Confirmed interference. No other action required.

Analyst Initials: df
Date: 3/29/14

Supervisor: [Signature]
Date: 4/2/14

Table of Contents: ARI Job YE33

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

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BC
Signature

April-04-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 11, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YE33

Dear Ian:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro", written over a faint circular stamp or watermark.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YE33

Enclosures

Chain of Custody Documentation

ARI Job ID: YE33

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 488
 Turn-around Requested: _____
 Date: 3/24/14
 ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette
 No. of Coolers: 2
 Cooler Temps: 05, 5.8

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Field	
BEI-SBL-05-1	3/24	1110	S	1	X		X		
BEI-SBL-3-3.5		1111			X		X		
BEI-SBL-5-5.5		1115			X		X		
BEI-SBL-7-7.5		1116			X		X		
BEI-SBL-9-9.5		1117						X	
BEI-SBL-11-11.5		1121						X	
BEI-SBL-13-13.5		1122						X	
BEI-SBL-14.5-15		1123						X	
Comments/Special Instructions					Relinquished by: (Signature) <i>Paul Robinette</i>	Relinquished by: (Signature) <i>Rich Wilson</i>	Received by: (Signature) <i>Rich Wilson</i>		
1 Metals include: chromium, nickel, lead					Printed Name: <i>Paul Robinette</i>	Printed Name: <i>Rich Wilson</i>	Printed Name:		
2 Dissolved Nickel not field filtered					Company: <i>ARI</i>	Company:	Company:		
					Date & Time: <i>3/25/14 13:15</i>	Date & Time: <i>3/25/14 1915</i>	Date & Time:		

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: VEB Turn-around Requested: _____ Date: 3/24

ARI Client Company: **GeoEngineers** Phone: **253-383-4940** Page: 7 of 14

Client Contact: **Ian Young** No. of Coolers: 2 Cooler Temps: 05.5, 8

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold	
GEI-SB77-05-1	3/21	1140	S	1	X		X		
GEI-SB77-3-3.5	}	1141	}	}	X		X		
GEI-SB77a-5-5.5		1152			X		X		
GEI-SB77a-7-7.5	}	1157	}	}	X		X		
GEI-SB77a-9-9.5		1158			X		X		
GEI-SB77a-11-11.5	}	1200	}	}			X		
GEI-SB77a-13-13.5		1201					X		
GEI-SB77a-14.5-15	}	1202	}	}			X		
Comments/Special Instructions					Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)		
1 Metals include: chromium, nickel, lead					Printed Name: <i>Paul Robinette</i>	Printed Name: <i>Paul Robinette</i>	Printed Name:		
2 Dissolved Nickel not field filtered					Company: <i>GeoE</i>	Company:	Company:		
					Date & Time: <i>3/25/24 13:15</i>	Date & Time:	Date & Time:		

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 4633 Turn-around Requested: _____ Date: 3/24/14

ARI Client Company: **GeoEngineers** Phone: **253-383-4940** Page: 8 of 14

Client Contact: **Ian Young**

Client Project Name: **Aladden Plating**

Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold		

<u>GEI-SBB-05-1</u>	<u>3/24</u>	<u>1224</u>	<u>S</u>	<u>1</u>	<u>X</u>			<u>X</u>	<u>Hold</u>	
<u>GEI-SBB-3-3.5</u>		<u>1225</u>			<u>X</u>			<u>X</u>		
<u>GEI-SBB-5-8.5</u>		<u>1226</u>			<u>X</u>			<u>X</u>		
<u>GEI-SBB-7-7.5</u>		<u>1227</u>			<u>X</u>			<u>X</u>		
<u>GEI-SBB-9-9.5</u>		<u>1228</u>							<u>X</u>	
<u>GEI-SBB-11-11.5</u>		<u>1229</u>							<u>X</u>	
<u>GEI-SBB-13-13.5</u>		<u>1231</u>							<u>X</u>	
<u>GEI-SBB-14.5-15</u>		<u>1230</u>							<u>X</u>	

Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered	Relinquished by: (Signature) <u>Paul Robinette</u>	Received by: (Signature) _____
	Printed Name: <u>Paul Robinette</u>	Printed Name: _____
	Company: <u>GEI</u>	Company: _____
	Date & Time: <u>3/25/14 13:15</u>	Date & Time: <u>3/25/14 13:15</u>

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 633
 Turn-around Requested: _____
 Date: 3/24/14
 Page: 9 of 14
 No. of Coolers: 2
 Cooler Temps: -05.5, 1.8

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Client Company: **GeoEngineers**
 Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**

Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Sample ID	Date	Time	Matrix	No. Containers
GEI-SB9-0.5-1	3/24	1319	S	1
GEI-SB9-3-3.5	}	1320	}	}
GEI-SB9-5-5.5		1323		
GEI-SB9-7-7.5		1324		
GEI-SB9-9-9.5		1325		
GEI-SB9-11-11.5	}	1329	}	}
GEI-SB9-13-13.5		1330		
GEI-SB9-14.5-15		1331		

Analysis Requested					Notes/Comments				
Total Metals EPA 200.7/6010C	Dissolved Nickel EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hand						
X		X							
X		X							
X		X							
X		X							
			X						
			X						
			X						
			X						

Comments/Special Instructions
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by: [Signature]
 Printed Name: Paul Robinette
 Company: GeoE
 Date & Time: 3/25/14 13:15

Received by: [Signature]
 Printed Name: Rich Hudson
 Company: ARI
 Date & Time: 3/25/14 13:15

Relinquished by: _____
 Printed Name: _____
 Company: _____
 Date & Time: _____

Received by: _____
 Printed Name: _____
 Company: _____
 Date & Time: _____

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

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Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Date: 3/24/14
 Page: 10 of 14
 No. of Coolers: 2
 Cooler Temps: 05, 5.8

ARI Assigned Number: 433
 Turn-around Requested:
 ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young

Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments	
					Total Metals EPA 200.7/6010C	Dissolved Nickel EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold		
GET-SBID-05-1	3/24	1341	S	1	X					
GET-SBID-3-3.5	}	1342	}	}	X					
GET-SBID-5-5.5		1347			X					
GET-SBID-7-7.5		1348			X					
GET-SBID-9-9.5		1349			X					
GET-SBID-11-11.5	}	1351	}	}			X			
GET-SBID-13-13.5		1352					X			
GET-SBID-14.5-15		1354					X			

Comments/Special Instructions
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Received by: (Signature) *Paul Robinette*
 Printed Name: Paul Robinette
 Company: GET

Relinquished by: (Signature) *Rich Weber*
 Printed Name: Rich Weber
 Company: ARI

Date & Time: 3/25/14 13:15

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

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Cooler Receipt Form

ARI Client: GeoEngineer

Project Name: Aladdin Plating

COC No(s): _____ (NA)

Delivered by Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: YE33

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1400 _____ - .5 5.8

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 122912229

Cooler Accepted by: _____ Date: 3/25/14 Time: 1315

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? . . . Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs). NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA _____

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JM Date: 3/26/14 Time: 1629

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
<u>GEI-988-0-0.5</u>	<u>GEI-988-0.5-1</u>		

Additional Notes, Discrepancies, & Resolutions:
All samples that are on page 7 of COCs were collected 3/24/14, COC says 3/24/14.

By: JM Date: 3/27/14

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YE33



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YE33

Sample Receipt

Forty soil samples were received on March 25, 2014 under ARI job YE33. The cooler temperatures measured by IR thermometer following ARI SOP were -0.5 and 5.8°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries of chromium, lead, and nickel were outside control limits for sample **GEI-SB6-0.5-1**. The sample results exceed the spike concentrations by a factor of four or more. No corrective action was taken.

The duplicate RPDs of chromium and lead were outside the control limit for sample **GEI-SB6-0.5-1**. All relevant data have been flagged with a "*" qualifier on the Form VI. No further corrective action was taken.

General Chemistry Parameters (Hexavalent Chromium)

The sample and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The SRM percent recoveries were within control limits.

The matrix spike percent recoveries were within control limits.

The replicate RPD of hexavalent chromium was outside the control limit for sample **GEI-SB6-0.5-1**. All other quality control parameters were met for this analysis. No corrective action was taken.

Sample ID Cross Reference Report



ARI Job No: YE33
 Client: GeoEngineers
 Project Event: 0504-095-00
 Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	GEI-SB6-0.5-1	YE33A	14-5453	Soil	03/24/14 11:10 03/25/14 13:15
2.	GEI-SB6-3-3.5	YE33B	14-5454	Soil	03/24/14 11:11 03/25/14 13:15
3.	GEI-SB6-5-5.5	YE33C	14-5455	Soil	03/24/14 11:15 03/25/14 13:15
4.	GEI-SB6-7-7.5	YE33D	14-5456	Soil	03/24/14 11:16 03/25/14 13:15
5.	GEI-SB7-0.5-1	YE33E	14-5457	Soil	03/24/14 11:40 03/25/14 13:15
6.	GEI-SB7-3-3.5	YE33F	14-5458	Soil	03/24/14 11:41 03/25/14 13:15
7.	GEI-SB7a-5-5.5	YE33G	14-5459	Soil	03/24/14 11:56 03/25/14 13:15
8.	GEI-SB7a-7-7.5	YE33H	14-5460	Soil	03/24/14 11:57 03/25/14 13:15
9.	GEI-SB8-0.5-1	YE33I	14-5461	Soil	03/24/14 12:24 03/25/14 13:15
10.	GEI-SB8-3-3.5	YE33J	14-5462	Soil	03/24/14 12:25 03/25/14 13:15
11.	GEI-SB8-5-5.5	YE33K	14-5463	Soil	03/24/14 12:26 03/25/14 13:15
12.	GEI-SB8-7-7.5	YE33L	14-5464	Soil	03/24/14 12:37 03/25/14 13:15
13.	GEI-SB9-0.5-1	YE33M	14-5465	Soil	03/24/14 13:19 03/25/14 13:15
14.	GEI-SB9-3-3.5	YE33N	14-5466	Soil	03/24/14 13:20 03/25/14 13:15
15.	GEI-SB9-5-5.5	YE33O	14-5467	Soil	03/24/14 13:23 03/25/14 13:15
16.	GEI-SB9-7-7.5	YE33P	14-5468	Soil	03/24/14 13:23 03/25/14 13:15
17.	GEI-SB10-0.5-1	YE33Q	14-5469	Soil	03/24/14 13:41 03/25/14 13:15
18.	GEI-SB10-3-3.5	YE33R	14-5470	Soil	03/24/14 13:42 03/25/14 13:15
19.	GEI-SB10-5-5.5	YE33S	14-5471	Soil	03/24/14 13:47 03/25/14 13:15
20.	GEI-SB10-7-7.5	YE33T	14-5472	Soil	03/24/14 13:48 03/25/14 13:15
21.	GEI-SB6-9-9.5	YE33U	14-5473	Soil	03/24/14 11:17 03/25/14 13:15
22.	GEI-SB6-11-11.5	YE33V	14-5474	Soil	03/24/14 11:21 03/25/14 13:15
23.	GEI-SB6-13-13.5	YE33W	14-5475	Soil	03/24/14 11:22 03/25/14 13:15
24.	GEI-SB6-14.5-15	YE33X	14-5476	Soil	03/24/14 11:23 03/25/14 13:15
25.	GEI-SB7a-9-9.5	YE33Y	14-5477	Soil	03/24/14 11:58 03/25/14 13:15
26.	GEI-SB7a-11-11.5	YE33Z	14-5478	Soil	03/24/14 12:00 03/25/14 13:15
27.	GEI-SB7a-13-13.5	YE33AA	14-5479	Soil	03/24/14 12:01 03/25/14 13:15
28.	GEI-SB7a-14.5-15	YE33AB	14-5480	Soil	03/24/14 12:02 03/25/14 13:15
29.	GEI-SB8-9-9.5	YE33AC	14-5481	Soil	03/24/14 12:28 03/25/14 13:15
30.	GEI-SB8-11-11.5	YE33AD	14-5482	Soil	03/24/14 12:30 03/25/14 13:15
31.	GEI-SB8-13-13.5	YE33AE	14-5483	Soil	03/24/14 12:31 03/25/14 13:15
32.	GEI-SB8-14.5-15	YE33AF	14-5484	Soil	03/24/14 12:32 03/25/14 13:15
33.	GEI-SB9-9-9.5	YE33AG	14-5485	Soil	03/24/14 13:25 03/25/14 13:15
34.	GEI-SB9-11-11.5	YE33AH	14-5486	Soil	03/24/14 13:29 03/25/14 13:15
35.	GEI-SB9-13-13.5	YE33AI	14-5487	Soil	03/24/14 13:30 03/25/14 13:15
36.	GEI-SB9-14.5-15	YE33AJ	14-5488	Soil	03/24/14 13:31 03/25/14 13:15
37.	GEI-SB10-9-9.5	YE33AK	14-5489	Soil	03/24/14 13:49 03/25/14 13:15
38.	GEI-SB10-11-11.5	YE33AL	14-5490	Soil	03/24/14 13:51 03/25/14 13:15
39.	GEI-SB10-13-13.5	YE33AM	14-5491	Soil	03/24/14 13:52 03/25/14 13:15
40.	GEI-SB10-14.5-15	YE33AN	14-5492	Soil	03/24/14 13:54 03/25/14 13:15



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	RPD	Blank Spike / LCS %R	RPD
Met 6010C (EPA 6010C) in Solid								
Preservation: Cool <6°C								
Container: Glass WM, Clear, 4 oz			Minimum Sample Weight: 100 g			Hold Time: 180 days		
Aluminum	0.757	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Antimony	0.628	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Arsenic	0.333	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Barium	0.133	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Beryllium	0.0160	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Boron	0.739	2.00 mg/kg		20	75 - 125	20	80 - 120	20
Cadmium	0.0180	0.200 mg/kg		20	75 - 125	20	80 - 120	20
Calcium	1.13	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Chromium	0.124	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Cobalt	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Copper	0.0920	0.200 mg/kg		20	75 - 125	20	80 - 120	20
Iron	0.750	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Lead	0.155	2.00 mg/kg		20	75 - 125	20	80 - 120	20
Magnesium	0.961	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Manganese	0.0280	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Molybdenum	0.0790	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Nickel	0.386	1.00 mg/kg		20	75 - 125	20	80 - 120	20
Potassium	6.57	50.0 mg/kg		20	75 - 125	20	80 - 120	20
Selenium	0.499	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Silver	0.0430	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Sodium	1.14	50.0 mg/kg		20	75 - 125	20	80 - 120	20
Sodium-I	114	5000 mg/kg		20	75 - 125	20	80 - 120	20
Strontium	0.00900	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Thallium	0.310	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Tin	0.141	1.00 mg/kg		20	75 - 125	20	80 - 120	20
Titanium	0.211	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Vanadium	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Zinc	0.145	1.00 mg/kg		20	75 - 125	20	80 - 120	20



Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. <http://www.arilabs.com/portal/downloads/ARI-CLs.zip>

Sample Matrix:	ARI's Control Limits	
	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YE33

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB6-0.5-1	YE33A	14-5453	
GEI-SB6-0.5-1D	YE33ADUP	14-5453	
GEI-SB6-0.5-1S	YE33ASPK	14-5453	
GEI-SB6-3-3.5	YE33B	14-5454	
PBS	YE33MB1	14-5454	
LCSS	YE33MB1SPK	14-5454	
GEI-SB6-5-5.5	YE33C	14-5455	
GEI-SB6-7-7.5	YE33D	14-5456	
GEI-SB7-0.5-1	YE33E	14-5457	
GEI-SB7-3-3.5	YE33F	14-5458	
GEI-SB7a-5-5.5	YE33G	14-5459	
GEI-SB7a-7-7.5	YE33H	14-5460	
GEI-SB8-0.5-1	YE33I	14-5461	
GEI-SB8-3-3.5	YE33J	14-5462	
GEI-SB8-5-5.5	YE33K	14-5463	
GEI-SB8-7-7.5	YE33L	14-5464	
GEI-SB9-0.5-1	YE33M	14-5465	
GEI-SB9-3-3.5	YE33N	14-5466	
GEI-SB9-5-5.5	YE33O	14-5467	
GEI-SB9-7-7.5	YE33P	14-5468	
GEI-SB10-0.5-1	YE33Q	14-5469	

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn

Name: Jay Kuhn

Date: 4/4/14

Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

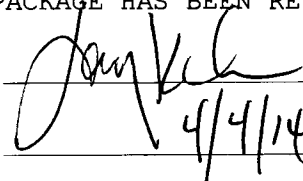
SDG: YE33

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB10-3-3.5	YE33R	14-5470	
GEI-SB10-5-5.5	YE33S	14-5471	
GEI-SB10-7-7.5	YE33T	14-5472	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn
Date: 4/4/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB6-0.5-1**
SAMPLE

Lab Sample ID: YE33A
LIMS ID: 14-5453
Matrix: Soil
Data Release Authorized:
Reported: 04/04/14



QC Report No: YE33-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 93.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	1,130	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	3,120	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	2,960	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB6-3-3.5**
SAMPLE

Lab Sample ID: YE33B

LIMS ID: 14-5454

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	153	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	96	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB6-5-5.5
SAMPLE**

Lab Sample ID: YE33C

LIMS ID: 14-5455

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 90.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.29	0.5	679	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.32	1	125	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB6-7-7.5
SAMPLE**

Lab Sample ID: YE33D

LIMS ID: 14-5456

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 89.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	556	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	102	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB7-0.5-1**
SAMPLE

Lab Sample ID: YE33E

LIMS ID: 14-5457

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 90.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	334	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	239	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	2,180	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB7-3-3.5

SAMPLE

Lab Sample ID: YE33F

LIMS ID: 14-5458

Matrix: Soil

Data Release Authorized 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	467	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	321	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	1,730	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB7a-5-5.5**
SAMPLE

Lab Sample ID: YE33G
LIMS ID: 14-5459
Matrix: Soil
Data Release Authorized
Reported: 04/04/14



QC Report No: YE33-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 92.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	543	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	5	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	159	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation




INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: GEI-SB7a-7-7.5
SAMPLE

Lab Sample ID: YE33H
LIMS ID: 14-5460
Matrix: Soil
Data Release Authorized: 
Reported: 04/04/14

QC Report No: YE33-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 88.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.31	0.6	167	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.15	2	2	U
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.34	1	149	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB8-0.5-1**
SAMPLE

Lab Sample ID: YE33I

LIMS ID: 14-5461

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	482	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	292	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	2,060	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS
Page 1 of 1

Sample ID: GEI-SB8-3-3.5
SAMPLE

Lab Sample ID: YE33J
LIMS ID: 14-5462
Matrix: Soil
Data Release Authorized:
Reported: 04/04/14



QC Report No: YE33-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 94.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	82.5	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	28	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	255	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB8-5-5.5**
SAMPLE

Lab Sample ID: YE33K

LIMS ID: 14-5463

Matrix: Soil

Data Release Authorized 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	80.1	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	4	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	163	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

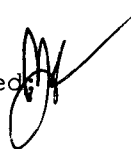
Page 1 of 1

Sample ID: **GEI-SB8-7-7.5**
SAMPLE

Lab Sample ID: YE33L

LIMS ID: 14-5464

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	99.9	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	11	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	143	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB9-0.5-1**
SAMPLE

Lab Sample ID: YE33M

LIMS ID: 14-5465

Matrix: Soil

Data Release Authorized 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/02/14	7440-47-3	Chromium	0.67	1	955	
3050B	03/31/14	6010C	04/02/14	7439-92-1	Lead	0.32	5	357	
3050B	03/31/14	6010C	04/02/14	7440-02-0	Nickel	0.75	2	1,780	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS
Page 1 of 1

Sample ID: GEI-SB9-3-3.5
SAMPLE

Lab Sample ID: YE33N
LIMS ID: 14-5466
Matrix: Soil
Data Release Authorized
Reported: 04/04/14



QC Report No: YE33-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 93.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	143	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	3	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	65	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

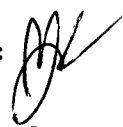
Page 1 of 1

Sample ID: **GEI-SB9-5-5.5**
SAMPLE

Lab Sample ID: YE330

LIMS ID: 14-5467

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	257	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	5	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	66	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB9-7-7.5**
SAMPLE

Lab Sample ID: YE33P

LIMS ID: 14-5468

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 86.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.30	0.6	59.7	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.15	2	2	U
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.34	1	100	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

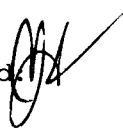
Page 1 of 1

Sample ID: GEI-SB10-0.5-1
SAMPLE

Lab Sample ID: YE33Q

LIMS ID: 14-5469

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/02/14	7440-47-3	Chromium	0.72	1	428	
3050B	03/31/14	6010C	04/02/14	7439-92-1	Lead	0.35	5	275	
3050B	03/31/14	6010C	04/02/14	7440-02-0	Nickel	0.80	3	2,190	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB10-3-3.5**
SAMPLE

Lab Sample ID: YE33R

LIMS ID: 14-5470

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	92.7	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	65	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB10-5-5.5**
SAMPLE

Lab Sample ID: YE33S

LIMS ID: 14-5471

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	107	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	3	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	62	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB10-7-7.5**
SAMPLE

Lab Sample ID: YE33T

LIMS ID: 14-5472

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 87.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.29	0.5	172	
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	5	
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.33	1	162	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB6-0.5-1
MATRIX SPIKE**

Lab Sample ID: YE33A

LIMS ID: 14-5453

Matrix: Soil

Data Release Authorized:

Reported: 04/04/14



QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	1,130	1,130	50.2	0.0%	H
Lead	6010C	3,120	3,170	201	24.9%	H
Nickel	6010C	2,960	2,600	50.2	-717%	H

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB6-0.5-1
DUPLICATE**

Lab Sample ID: YE33A

LIMS ID: 14-5453

Matrix: Soil

Data Release Authorized 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	1,130	2,030	57.0%	+/- 20%	*
Lead	6010C	3,120	6,880	75.2%	+/- 20%	*
Nickel	6010C	2,960	2,760	7.0%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

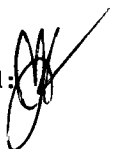
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE33LCS

LIMS ID: 14-5454

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE33-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	52.7	50.0	105%	
Lead	6010C	205	200	102%	
Nickel	6010C	53	50	106%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE33MB

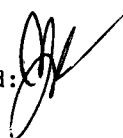
QC Report No: YE33-GeoEngineers

LIMS ID: 14-5454

Project: Aladden Plating

Matrix: Soil

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 04/04/14

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/31/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	03/31/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/31/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	1	U

Reported in mg/kg (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040171	1000.0	1055.36	105.5	1000.0	1041.67	104.2	1060.96	106.1	1041.89	104.2	1049.81	105.0	1064.49	106.4
Lead	PB	ICP	IP040171	2000.0	1989.07	99.5	2000.0	1987.64	99.4	2025.28	101.3	1987.92	99.4	1996.90	99.8	1985.53	99.3
Nickel	NI	ICP	IP040171	1000.0	1039.89	104.0	1000.0	1026.30	102.6	1049.94	105.0	1029.73	103.0	1037.39	103.7	1057.29	105.7

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	CCV7	CCV8	CCV9	CCV10	CCV11	%R	%R				
Chromium	CR	ICP	IP040171	1000.0	1069.76	107.0	1049.41	104.9	1039.41	103.9	1049.55	105.0	1066.67	106.7	1056.99	105.7
Lead	PB	ICP	IP040171	2000.0	2082.73	104.1	2050.34	102.5	1998.30	99.9	2027.19	101.4	2068.91	103.4	1984.72	99.2
Nickel	NI	ICP	IP040171	1000.0	1067.23	106.7	1048.50	104.9	1039.30	103.9	1055.13	105.5	1071.71	107.2	1066.08	106.6

Control Limits: Mercury 80-120; Other Metals 90-110



Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV12	CCV13	CCV14	CCV15	CCV16	CCV17
Chromium	CR	ICP	IP040171	1000.0	1068.18	1052.54	1071.87	1062.38		
Lead	PB	ICP	IP040171	2000.0	2064.72	2040.19	2047.61	2032.28		
Nickel	NI	ICP	IP040171	1000.0	1073.87	1058.25	1078.43	1073.37		

Control Limits: Mercury 80-120; Other Metals 90-110



Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040271	1000.0	1027.06	102.7	1000.0	1016.73	101.7	1036.47	103.6						
Lead	PB	ICP	IP040271	2000.0	2012.54	100.6	2000.0	2003.50	100.2	2105.12	105.3						
Nickel	NI	ICP	IP040271	1000.0	1021.09	102.1	1000.0	1010.60	101.1	1034.78	103.5						

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP040171	5.0		5.60	112.0	4.89	97.8								
Lead	PB	ICP	IP040171	20.0		20.16	100.8	20.53	102.7								
Nickel	NI	ICP	IP040171	10.0		10.53	105.3	9.41	94.1								
Chromium	CR	ICP	IP040271	5.0		5.86	117.2										
Lead	PB	ICP	IP040271	20.0		20.81	104.1										
Nickel	NI	ICP	IP040271	10.0		10.66	106.6										

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Chromium	CR	ICP	IP040171	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Lead	PB	ICP	IP040171	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Nickel	NI	ICP	IP040171	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

YE33 : 00046

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP040171	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP040171	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP040171	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

YE33: 00047

Calibration Blanks



ANALYTICAL
RESOURCES
INCORPORATED

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB12	CCB13	CCB14	CCB15	CCB16	CCB17	C
Chromium	CR	ICP	IP040171	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP040171	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP040171	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

YE33 : 00048

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Chromium	CR	ICP	IP040271	10.0	5.0	5.0	U	5.0	U	5.0	U						
Lead	PB	ICP	IP040271	3.0	20.0	20.0	U	20.0	U	20.0	U						
Nickel	NI	ICP	IP040271	40.0	10.0	10.0	U	10.0	U	10.0	U						

YE33 : 00049

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040171

SDG: YE33

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSB TV	ICSA1	ICSA2	ICSA3	ICSA1 %R	ICSA2	ICSA3	ICSA2 %R	ICSA3	ICSA2 %R	ICSA3	ICSA2 %R
Aluminum	200000	200000	200350.9		19845.9	19935.3	100.0	19845.9	199238.7	99.6			
Antimony	1000	1000	21.7		19.9	1007.1	100.7	19.9	1014.9	101.5			
Arsenic	1000	1000	23.4		20.4	1021.5	102.2	20.4	1031.8	103.2			
Barium	1000	1000	-1.9		-2.0	997.5	99.8	-2.0	1010.9	101.1			
Beryllium	1000	1000	0.1		0.1	984.2	98.4	0.1	991.3	99.1			
Boron			-7.4		-6.6	-5.6		-6.6					
Cadmium	1000	1000	-0.2		-0.2	1008.2	100.8	-0.2	1012.1	101.2			
Calcium	100000	100000	101106.5		101959.2	100907.9	100.9	101959.2	102708.8	102.7			
Chromium	1000	1000	-0.5		-1.4	999.7	100.0	-1.4	1015.6	101.6			
Cobalt	1000	1000	2.1		2.2	935.1	93.5	2.2	946.7	94.7			
Copper	1000	1000	0.3		0.8	1035.5	103.6	0.8	1040.3	104.0			
Iron	200000	200000	199871.8		199811.4	200486.4	100.2	199811.4	202065.4	101.0			
Lead	1000	1000	-1.3		-3.5	970.5	97.1	-3.5	975.8	97.6			
Magnesium	100000	100000	102554.1		102303.4	98843.6	98.8	102303.4	100006.5	100.0			
Manganese	1000	1000	-1.3		-1.4	973.0	97.3	-1.4	938.0	93.8			
Molybdenum			2.4		2.3	2.4		2.3	2.0				
Nickel	1000	1000	1.7		0.7	954.8	95.5	0.7	979.7	98.0			
Potassium			39.5		53.5	45.7		53.5	40.1				
Selenium	1000	1000	34.0		37.1	1027.0	102.7	37.1	1034.6	103.5			
Silicon			-3.7		13.6	-10.6		13.6	1.4				
Silver	1000	1000	-0.7		-0.6	1052.2	105.2	-0.6	1063.2	106.3			
Sodium			10.2		12.8	6.2		12.8	12.1				
Strontium			5.5		5.5	5.4		5.5	5.4				
Thallium	1000	1000	5.8		2.8	936.8	93.7	2.8	944.5	94.5			
Tin			-13.5		-16.0	-16.6		-16.0	-15.6				
Titanium			2.3		1.7	2.1		1.7	1.8				
Vanadium	1000	1000	-1.3		-1.6	971.8	97.2	-1.6	983.0	98.3			
Zinc	1000	1000	2.8		3.6	950.2	95.0	3.6	968.4	96.8			

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040271

SDG: YE33

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	202712.6	201297.0	100.6						
Antimony	1000	1000	21.6	1020.5	102.1						
Arsenic	1000	1000	21.4	1018.9	101.9						
Barium	1000	1000	-2.7	980.9	98.1						
Beryllium	1000	1000	0.0	986.9	98.7						
Boron			-9.3	-8.7							
Cadmium	1000	1000	-0.3	1014.6	101.5						
Calcium	100000	100000	101295.1	100779.9	100.8						
Chromium	1000	1000	-1.2	992.0	99.2						
Cobalt	1000	1000	1.7	938.6	93.9						
Copper	1000	1000	0.2	1053.2	105.3						
Iron	200000	200000	200247.6	199444.1	99.7						
Lead	1000	1000	-4.9	971.7	97.2						
Magnesium	100000	100000	103455.3	99067.2	99.1						
Manganese	1000	1000	-1.6	930.3	93.0						
Molybdenum			2.6	2.3							
Nickel	1000	1000	0.6	954.1	95.4						
Potassium			17.3	7.4							
Selenium	1000	1000	31.3	1015.6	101.6						
Silicon			-5.6	-12.1							
Silver	1000	1000	-0.6	1071.4	107.1						
Sodium			16.6	4.9							
Strontium			5.6	5.4							
Thallium	1000	1000	4.9	944.3	94.4						
Tin			-19.3	-17.3							
Titanium			1.9	2.3							
Vanadium	1000	1000	-3.4	973.4	97.3						
Zinc	1000	1000	3.1	942.9	94.3						

YE33 : 00051

**IDLs and ICP
Linear Ranges**



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1504760	0.000000	-1.1418810	1.4701580	0.000000	-0.0444180
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1015620
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0105370	0.000000	0.000000	0.000000	0.000000	-0.0364800
Cobalt	228.62	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.0031370	0.000000	-0.1731660	0.000000	0.000000	-0.0479580
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572290	0.000000	0.000000
Lead	220.35	-0.3197610	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	0.0487330
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.6154620	-1.2018020	0.000000	0.7453470
Manganese	257.61	0.0085510	0.000000	0.000000	0.000000	0.0051490	0.000000	0.000000	0.000000	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0154460	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.6009380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0065610	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.0801700	0.000000	5.8939530	0.4135750	0.000000	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1855780	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.1006900	0.000000	0.000000	0.1910190	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0251090
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.0126620	0.000000	0.000000	-0.2680380	0.000000	0.000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	15.7116050	0.0000000	0.0000000	0.0000000	2.0154950	0.0000000	14.6504130	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7865220	0.0000000	-3.6308690	0.0000000
Arsenic	188.98	0.0000000	0.0000000	3.3640920	0.0000000	0.0000000	0.0000000	-35.7069030	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1263190	0.0000000	0.0000000	0.0000000	0.0000000	0.2049710	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0109650	0.0000000	0.2471980	0.0000000
Boron	249.67	0.0000000	0.0000000	-1.1300970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.9924980	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0714330	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3711990	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1573840	0.1604620	0.0000000	0.0000000	1.7865010	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0084138	0.0000000	0.3207980	0.0000000	0.0000000	0.0000000	0.1968290	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.0715790	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.1183620	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-5.0356720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0068080	0.0000000	0.0000000	0.0000000	-0.2132560	0.0000000	0.0000000	0.0000000	-0.0238460	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.5233870	0.0000000	0.0000000	0.4243640	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6221340	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2593400	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	65.0683530	0.0000000	0.0000000	88.8015530
Thallium	190.80	0.0000000	0.0000000	-1.6229180	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.6063050	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0356520	-0.5555490	-0.1890930	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.9536400	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1515920	-0.5364060	0.0000000	0.0000000	0.0000000	0.5783020	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2492000	0.0000000	-0.0717780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

YE33 : 00054

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: SWC

SDG: YE33

PREPDATE: 3/31/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB6-0.5-1	YE33A	1.067	0.0	50.0
GEI-SB6-0.5-1D	YE33ADUP	1.064	0.0	50.0
GEI-SB6-0.5-1S	YE33ASPK	1.070	0.0	50.0
GEI-SB6-3-3.5	YE33B	1.093	0.0	50.0
GEI-SB6-5-5.5	YE33C	1.032	0.0	50.0
GEI-SB6-7-7.5	YE33D	1.087	0.0	50.0
GEI-SB7-0.5-1	YE33E	1.050	0.0	50.0
GEI-SB7-3-3.5	YE33F	1.084	0.0	50.0
GEI-SB7a-5-5.5	YE33G	1.070	0.0	50.0
GEI-SB7a-7-7.5	YE33H	1.005	0.0	50.0
GEI-SB8-0.5-1	YE33I	1.076	0.0	50.0
GEI-SB8-3-3.5	YE33J	1.080	0.0	50.0
GEI-SB8-5-5.5	YE33K	1.054	0.0	50.0
GEI-SB8-7-7.5	YE33L	1.056	0.0	50.0
GEI-SB9-0.5-1	YE33M	1.093	0.0	50.0
PBS	YE33MB1	1.000	0.0	50.0
LCSS	YE33MB1SPK	1.000	0.0	50.0
GEI-SB9-3-3.5	YE33N	1.076	0.0	50.0
GEI-SB9-5-5.5	YE33O	1.039	0.0	50.0
GEI-SB9-7-7.5	YE33P	1.030	0.0	50.0
GEI-SB10-0.5-1	YE33Q	1.021	0.0	50.0
GEI-SB10-3-3.5	YE33R	1.073	0.0	50.0
GEI-SB10-5-5.5	YE33S	1.069	0.0	50.0
GEI-SB10-7-7.5	YE33T	1.046	0.0	50.0

Analysis Run Log

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE33

INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040171 METHOD: ICP

START DATE: 4/1/2014
 END DATE: 4/1/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
S0	S0	1.00	0825											X																				X	
S2	S2	1.00	0829											X																				X	
S3	S3	1.00	0830											X																				X	
S4	S4	1.00	0833																																
S5	S5	1.00	0835																																
ICV	ICV	1.00	0842											X																				X	
ICB	ICB	1.00	0846											X																				X	
ZZZZZZ	ZZZZZZ	1.00	0850											X																				X	
ICSA	ICSAI	1.00	0854											X																				X	
ICSAB	ICSABI	1.00	0858											X																				X	
CCV	CCV1	1.00	0903											X																				X	
CCB	CCB1	1.00	0907											X																				X	
CRI	CRII	1.00	0912											X																				X	
ZZZZZZ	YE91I	2.00	0917																																X
ZZZZZZ	YE91J	2.00	0921																																X
ZZZZZZ	YE91K	2.00	0925																																X
ZZZZZZ	YE46E-L	5.00	0929																																X
ZZZZZZ	YE46E	1.00	0933																																X
ZZZZZZ	YE46EDUP	1.00	0937																																X
ZZZZZZ	YE46ESPK	1.00	0941																																X
ZZZZZZ	YE46MB2SPK	1.00	0945																																X
CCV	CCV2	1.00	0949											X																				X	
CCB	CCB2	1.00	0953											X																				X	
ZZZZZZ	YE46MB2	1.00	0957																																X
ZZZZZZ	YE46MB1	1.00	1001																																X
ZZZZZZ	YE46D-L	5.00	1005																																X
ZZZZZZ	YE46D	1.00	1009																																X
ZZZZZZ	YE46DDUP	1.00	1014																																X
ZZZZZZ	YE46DSPK	1.00	1018																																X
ZZZZZZ	ZZZZZZ	1.00	1022																																X
ZZZZZZ	YE46MB1SPK	1.00	1026																																X
CCV	CCV3	1.00	1030											X																				X	
CCB	CCB3	1.00	1034											X																				X	
CRI	CRI1	1.00	1038											X																				X	
ICSA	ICSA1	1.00	1042											X																				X	

YE33 : 00056

Analysis Run Log

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE33

INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040171
 METHOD: ICP

START DATE: 4/1/2014
 END DATE: 4/1/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	FG	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
ICSAB	ICSABF	1.00	1046																																		
CCV	CCV4	1.00	1051																																		
CCB	CCB4	1.00	1055																																		
ZZZZZZ	YE32MB1	2.00	1059																																		
ZZZZZZ	YE32B	2.00	1104																																		
ZZZZZZ	YE32C	2.00	1108																																		
ZZZZZZ	YE32D	2.00	1112																																		
ZZZZZZ	YE32E	2.00	1116																																		
ZZZZZZ	YE32ADUP	2.00	1121																																		
ZZZZZZ	YE32A	2.00	1125																																		
ZZZZZZ	YE32ASPK	2.00	1129																																		
ZZZZZZ	ZZZZZZ	2.00	1133																																		
ZZZZZZ	YE32MB1SPK	2.00	1137																																		
CCV	CCV5	1.00	1141																																		
CCB	CCB5	1.00	1145																																		
ZZZZZZ	YE32F	2.00	1149																																		
ZZZZZZ	YE32G	2.00	1153																																		
ZZZZZZ	YE32H	2.00	1157																																		
ZZZZZZ	YE32I	2.00	1201																																		
ZZZZZZ	YE32J	2.00	1204																																		
ZZZZZZ	YE32K	2.00	1208																																		
ZZZZZZ	YE32L	2.00	1211																																		
ZZZZZZ	YE32M	2.00	1215																																		
ZZZZZZ	YE32N	2.00	1219																																		
ZZZZZZ	YE32O	2.00	1223																																		
CCV	CCV6	1.00	1227																																		
CCB	CCB6	1.00	1231																																		
ZZZZZZ	YE32E	2.00	1235																																		
ZZZZZZ	YE32P	2.00	1239																																		
ZZZZZZ	YE32Q	2.00	1243																																		
ZZZZZZ	YE32R	2.00	1247																																		
ZZZZZZ	YE32S	2.00	1251																																		
ZZZZZZ	YE32T	2.00	1255																																		
ZZZZZZ	YE34B	2.00	1259																																		
ZZZZZZ	YE34C	2.00	1303																																		

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040171 METHOD: ICP

START DATE: 4/1/2014

END DATE: 4/1/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
ZZZZZZ	YE34D	2.00	1307																																
ZZZZZZ	YE34MB1SPK	2.00	1311																																
CCV	CCV7	1.00	1315											X																				X	
CCB	CCB7	1.00	1319											X																				X	
ZZZZZZ	YE34MB1	2.00	1323																																
ZZZZZZ	YE34E	2.00	1327																																
ZZZZZZ	YE34F	2.00	1331																																
ZZZZZZ	YE34H	2.00	1335																																
ZZZZZZ	YE34I	2.00	1339																																
ZZZZZZ	YE34J	2.00	1343																																
ZZZZZZ	YE34ADUP	2.00	1347																																
ZZZZZZ	YE34A	2.00	1351																																
ZZZZZZ	YE34ASP	2.00	1355																																
ZZZZZZ	YE34APOST	2.00	1359																																
CCV	CCV8	1.00	1403											X																				X	
CCB	CCB8	1.00	1407											X																				X	
ZZZZZZ	YE34K	2.00	1411																																
ZZZZZZ	YE34L	2.00	1415																																
ZZZZZZ	YE34M	2.00	1419																																
ZZZZZZ	YE34N	2.00	1423																																
ZZZZZZ	YE34O	2.00	1427																																
ZZZZZZ	YE34P	2.00	1431																																
ZZZZZZ	YE34G	2.00	1435																																
GEI-SB6-5-5.5	YE33C	2.00	1439																																X
ZZZZZZ	YE34ASP	2.00	1443																																X
ICSS	YE33MB1SPK	2.00	1447																																X
CCV	CCV9	1.00	1451																																X
CCB	CCB9	1.00	1455																																X
PBS	YE33MB1	2.00	1459																																X
CCV	CCV10	1.00	1504																																X
CCB	CCB10	1.00	1508																																X
S0	S0	1.00	1512																																X
CCV	CCV11	1.00	1516																																X
CCB	CCB11	1.00	1520																																X
ZZZZZZ	YE74MB	1.00	1524																																X

YE33 : 00058

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE33

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040171 METHOD: ICP

START DATE: 4/1/2014

END DATE: 4/1/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HC	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	YE74A	10.00	1528																														
ZZZZZZ	YE74MSPK	1.00	1533																														
ZZZZZZ	YE74A	50.00	1537																														
CCV	CCV12	1.00	1542																														
CCB	CCB12	1.00	1546																														
PBS	YE33MB1	2.00	1553																														
GEI-SB7-0.5-1	YE33E	2.00	1557																														
GEI-SB7-3-3.5	YE33F	2.00	1600																														
GEI-SB7a-5-5.5	YE33G	2.00	1604																														
GEI-SB7a-7-7.5	YE33H	2.00	1608																														
GEI-SB8-0.5-1	YE33I	2.00	1612																														
GEI-SB6-0.5-ID	YE33ADUP	2.00	1615																														
GEI-SB6-0.5-1	YE33A	2.00	1618																														
GEI-SB6-0.5-IS	YE33ASP	2.00	1621																														
ZZZZZZ	ZZZZZZ	2.00	1625																														
CCV	CCV13	1.00	1628																														
CCB	CCB13	1.00	1632																														
GEI-SB8-3-3.5	YE33J	2.00	1636																														
GEI-SB8-5-5.5	YE33K	2.00	1640																														
GEI-SB8-7-7.5	YE33L	2.00	1644																														
GEI-SB9-0.5-1	YE33M	2.00	1648																														
GEI-SB9-3-3.5	YE33N	2.00	1651																														
GEI-SB9-5-5.5	YE33O	2.00	1655																														
GEI-SB9-7-7.5	YE33P	2.00	1659																														
GEI-SB10-0.5-1	YE33Q	2.00	1703																														
GEI-SB10-3-3.5	YE33R	2.00	1706																														
GEI-SB10-5-5.5	YE33S	2.00	1710																														
CCV	CCV14	1.00	1714																														
CCB	CCB14	1.00	1718																														
ZZZZZZ	YE43MB	2.00	1722																														
GEI-SB10-7-7.5	YE33T	2.00	1726																														
GEI-SB6-7-7.5	YE33D	2.00	1730																														
GEI-SB6-3-3.5	YE33B	2.00	1734																														
ZZZZZZ	YE43C	2.00	1738																														
ZZZZZZ	YE43D	2.00	1742																														



Analysis Run Log

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE33

INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040171
 METHOD: ICP

START DATE: 4/1/2014
 END DATE: 4/1/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
ZZZZZZ	YE43E		2.00	1746																															
ZZZZZZ	YE43F		2.00	1750																															
ZZZZZZ	YE43G		2.00	1754																															
ZZZZZZ	YE43MBSFK		2.00	1758																															
CCV	CCV15		1.00	1802											X																			X	
CCB	CCB15		1.00	1806											X																			X	

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE33
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040271
 METHOD: ICP
 START DATE: 4/2/2014
 END DATE: 4/2/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	1020																					X									
S2	S2	1.00	1024												X									X									
S3	S3	1.00	1026												X									X									
S4	S4	1.00	1028																														
S5	S5	1.00	1030																					X									
ICV	ICV	1.00	1037												X								X										
ICB	ICB	1.00	1041												X								X										
CRI	CRII	1.00	1045												X								X										
ICSA	ICSAI	1.00	1049												X								X										
ICSAB	ICSABI	1.00	1053												X								X										
CCV	CCV1	1.00	1058												X								X										
CCB	CCB1	1.00	1102												X								X										
ZZZZZZ	YE41MB	2.00	1138																														
ZZZZZZ	NEXNEW	1.00	1143																														
ZZZZZZ	ELANNEW	1.00	1147																														
GEI-SB9-0.5-1	YE33M	5.00	1151												X									X									
GEI-SB10-0.5-1	YE33Q	5.00	1155												X								X										
ZZZZZZ	YE34L	5.00	1159																														
ZZZZZZ	YE41ADUP	2.00	1203																														
ZZZZZZ	YE41A	2.00	1207																														
ZZZZZZ	YE41ASPK	2.00	1211																														
ZZZZZZ	YE41MSPK	2.00	1215																														
CCV	CCV2	1.00	1219												X								X										
CCB	CCB2	1.00	1223												X								X										

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YE33

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'B. K.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-0.5-1
ARI ID: 14-5453 YE33A

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	8.50	934
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.17

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'M. J. ...', located to the right of the matrix and reporting information.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-3-3.5
ARI ID: 14-5454 YE33B

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.420	1.80
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.94

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'B. K.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-5-5.5
ARI ID: 14-5455 YE33C

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.441	15.5
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	90.40

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'J. J.', written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-7-7.5
ARI ID: 14-5456 YE33D

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.445	12.7
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	89.50

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'J. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7-0.5-1
ARI ID: 14-5457 YE33E

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.419	23.6
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.94

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'JW' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7-3-3.5
ARI ID: 14-5458 YE33F

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.427	15.2
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.24

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be a stylized 'A' or similar character.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7a-5-5.5
ARI ID: 14-5459 YE33G

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.424	16.3
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.70

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'JZ' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7a-7-7.5
ARI ID: 14-5460 YE33H

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.437	8.70
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	90.05

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'J. V.', is written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB8-0.5-1
ARI ID: 14-5461 YE33I

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.423	7.02
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.64

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'JH' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB8-3-3.5
ARI ID: 14-5462 YE33J

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.418	2.18
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.83

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'J. J. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB8-5-5.5
ARI ID: 14-5463 YE33K

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.439	0.439
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	90.39

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'BZ' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB8-7-7.5
ARI ID: 14-5464 YE33L

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.430	39.0
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	92.69

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'J. J. ...', is written over the 'Data Release Authorized:' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB9-0.5-1
ARI ID: 14-5465 YE33M

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.420	15.0
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	92.95

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be a stylized name or set of initials.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB9-3-3.5
ARI ID: 14-5466 YE33N

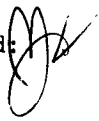
Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.423	4.10
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.64

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/07/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB9-5-5.5
ARI ID: 14-5467 YE330


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.424	11.0
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.98

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/07/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB9-7-7.5
ARI ID: 14-5468 YE33P

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.457	3.24
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	86.90

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'B. J.' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB10-0.5-1
ARI ID: 14-5469 YE33Q


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.422	15.4
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.26

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/07/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB10-3-3.5
ARI ID: 14-5470 YE33R


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.417	4.55
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.91

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/07/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB10-5-5.5
ARI ID: 14-5471 YE33S

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.412	5.19
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.49

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14

A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB10-7-7.5
ARI ID: 14-5472 YE33T


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/04/14 040414#1	SW7196A	mg/kg	0.441	4.32
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	88.86

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

MS/MSD RESULTS-CONVENTIONALS
YE33-GeoEngineers



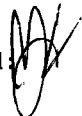
Matrix: Soil
Data Release Authorized: 
Reported: 04/07/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YE33A Client ID: GEI-SB6-0.5-1						
Hexavalent Chromium	04/04/14	mg/kg	934	2,110	1,060	111.2%
Hexavalent Chromium	04/04/14	mg/kg	934	2,310	1,140	120.4%

REPLICATE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/07/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: YE33A Client ID: GEI-SB6-0.5-1					
Hexavalent Chromium	04/04/14	mg/kg	934	703	28.2%
Total Solids	03/27/14	Percent	94.17	92.30	2.0%

METHOD BLANK RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/07/14


A handwritten signature in black ink, consisting of several loops and a final vertical stroke.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank	QC ID
Hexavalent Chromium	04/04/14	mg/kg	< 0.400 U	PREP
Total Solids	03/27/14	Percent	< 0.01 U	ICB

STANDARD REFERENCE RESULTS-CONVENTIONALS
YE33-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/07/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Soluble Hexavalent Chromium	04/04/14	mg/kg	19.3	20.0	96.5%
Insoluble Hexavalent Chromium	04/04/14	mg/kg	694	688	100.9%
Soil Hexavalent Chrome					

Total Solids

ARI Job ID: YE33

Solids Data Entry Report
Date: 04/01/14

Checked by: CB Date: 4/01/14
Data Analyst: DM

Solids Determination performed on 03/31/14 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
YE33	A	GEI-SB6-0.5-1	0.983	10.397	9.748	93.11
YE33	B	GEI-SB6-3-3.5	1.020	10.714	10.216	94.86
YE33	C	GEI-SB6-5-5.5	1.011	10.907	9.949	90.32
YE33	D	GEI-SB6-7-7.5	0.991	10.742	9.707	89.39
YE33	E	GEI-SB7-0.5-1	1.017	10.941	10.026	90.78
YE33	F	GEI-SB7-3-3.5	1.041	10.380	9.579	91.42
YE33	G	GEI-SB7a-5-5.5	1.024	10.451	9.783	92.91
YE33	H	GEI-SB7a-7-7.5	1.005	10.648	9.492	88.01
YE33	I	GEI-SB8-0.5-1	1.071	10.537	9.770	91.90
YE33	J	GEI-SB8-3-3.5	1.038	10.627	10.084	94.34
YE33	K	GEI-SB8-5-5.5	0.988	10.418	9.599	91.31
YE33	L	GEI-SB8-7-7.5	0.999	10.205	9.442	91.71
YE33	M	GEI-SB9-0.5-1	1.004	10.884	10.046	91.52
YE33	N	GEI-SB9-3-3.5	0.987	10.604	9.931	93.00
YE33	O	GEI-SB9-5-5.5	0.995	10.342	9.609	92.16
YE33	P	GEI-SB9-7-7.5	0.997	10.501	9.181	86.11
YE33	Q	GEI-SB10-0.5-1	0.985	10.705	9.938	92.11
YE33	R	GEI-SB10-3-3.5	0.998	10.556	10.155	95.80
YE33	S	GEI-SB10-5-5.5	1.020	10.947	10.433	94.82
YE33	T	GEI-SB10-7-7.5	0.983	10.486	9.320	87.73

YE33 : 00088



Total Solids Bench Sheet

Laboratory Section MD015

Oven Identification: 07 Balance ID: 06855

Samples in Oven: Date: 3-31-14 Time: 0628 Temp: 104°C Analyst: DM

Removed from Oven: Date: 4-01-14 Time: 0630 Temp: 102°C Analyst: DM

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs ¹
YE33 A	0.983	10.397	9.748	-	✓
" B	1.020	10.714	10.216	-	✓
" C	1.011	10.907	9.949	-	✓
" D	0.991	10.742	9.707	-	✓
" E	1.017	10.941	10.026	-	✓
" F	1.041	10.380	9.679	-	✓
" G	1.024	10.451	9.783	-	✓
" H	1.005	10.648	9.492	-	✓
" I	1.071	10.537	9.770	-	✓
" J	1.038	10.627	10.084	-	✓
" K	0.988	10.418	9.599	-	✓
" L	0.999	10.285	9.442	-	✓
" M	1.004	10.884	10.046	-	✓
" N	0.987	10.604	9.931	-	✓
" O	0.995	10.342	9.609	-	✓
" P	0.997	10.501	9.181	-	✓
" Q	0.985	10.705	9.938	-	✓
" R	0.998	10.556	10.155	-	✓
" S	1.020	10.947	10.433	-	✓
" T	0.983	10.486	9.320	-	✓
YE44 A	1.015	10.946	9.266	-	✓
3-31-14 DM					

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YE33



SPIKING LOG

Analyst: DM Final Volume 8 Sample ID YES3 ASX MB19K

Date: 3-31-14 Final Volume (Hg): _____

Standard No.: 0045

Prepcode	ICP Routine	ICP No GFA	GFA
Vol Added (mL):	1.0		
Ag	50		2.0
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50 ✓	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50 ✓	50	
Pb	200 ✓		10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

Element	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No

YES3 : 00091



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: DM Date: 3-31-14 Time: 0840
Matrix: Soil Block ID: #2 Block Temp: 92°C Thermometer: MP29

ARI Sample ID	Btl #	pH<2	Prep Code: <u>SWL</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YE33 A	1	—	1.067	50.0			
" ADUP	1	—	1.064				
" APPK	1	—	1.070				
" B	1	—	1.093				
" C	1	—	1.032				
" D	1	—	1.087				
" E	1	—	1.050				
" F	1	—	1.084				
" G	1	—	1.070				
" H	1	—	1.006				
" H	1	—	1.076				
" J	1	—	1.080				
" K	1	—	1.054				
" L	1	—	1.056				
" M	1	—	1.099				
" N	1	—	1.076				
" O	1	—	1.039				
" P	1	—	1.030				
" Q	1	—	1.021				
" R	1	—	1.079				
" S	1	—	1.069				
" T	1	—	1.046				
" MBI	—	—	—				
" MBSPK	—	—	—	50.0			
			3-31-14 DM				

Chemical/Reagent ID: HNO3: C1312
C0062
5061F

H2O2: B2059
Page 26049

HCL: C0083

Tube Lot #
1504271

Version 005
1/10/12

YE33 : 00092



Corrective Actions Inorganic Analyses

Criteria Flagged:	ARI Job No.:	<u>YE 33</u>
Unacceptable Blank: <input type="checkbox"/>	Date of Event:	<u>4-1-14</u>
Unacceptable Duplicate: <input checked="" type="checkbox"/>	Client ID:	<u>GeoEngineers</u>
Unacceptable Spike: <input type="checkbox"/>	Method/Element:	<u>ICP</u>
Unacceptable Reference: <input type="checkbox"/>	Prep Code:	<u>SWC</u>

Details of Problem/Recommended Corrective Action:

A/ADUP: Cr, Pb ↑ RPD (Numbers attached)

Samples Affected:

Corrective Action Taken:

Analyst Initials:

BA

Supervisor:

[Signature]

Date:

4-2-14

Date:

4-2-14

YE33

MATRIX DUPLICATE AND MATRIX SPIKE WORKSHEET (FOR SAMPLES >5 IDL)										
DUPLICATION:		SPIKE RECOVERY:		SPIKE RECOVERY:		SPIKE RECOVERY:				
VOLUME	DUP	BKGD	VOLUME	SPIKE	BKGD	ELEMENT	SPIKE	BKGD	SPK'D CONC	
SAMP WT	1.064	1.067	SAMP WT	1.07	1.067		mg/L	mg/L	mg/L	
ELEMENT	DUP	BKGD	% RPD						% RECOV	
Ag			#DIV/0!			Ag			0.5	0.0
Al			#DIV/0!			Al			2	0.0
As			#DIV/0!			As			2	0.0
B			#DIV/0!			B			0.5	0.0
Ba			#DIV/0!			Ba			2	0.0
Be			#DIV/0!			Be			0.5	0.0
Ca			#DIV/0!			Ca			10	0.0
Cd			#DIV/0!			Cd			0.5	0.0
Co			#DIV/0!			Co			0.5	0.0
Cr	20.13	11.25	56.86			Cr	11.3	11.25	0.5	3.7
Cu			#DIV/0!			Cu			0.5	0.0
Fe			#DIV/0!			Fe			2	0.0
K			#DIV/0!			K			10	0.0
Mg			#DIV/0!			Mg			10	0.0
Mn			#DIV/0!			Mn			0.5	0.0
Mo			#DIV/0!			Mo			0.5	0.0
Na			#DIV/0!			Na			10	0.0
Ni	27.34	29.41	7.01			Ni	25.89	29.41	0.5	-720.5
Pb	68.13	30.99	75.18			Pb	31.57	30.99	2	24.6
Sb			#DIV/0!			Sb			2	0.0
Se			#DIV/0!			Se			2	0.0
Si			#DIV/0!			Si			10	0.0
Sn			#DIV/0!			Sn			0.5	0.0
Sr			#DIV/0!			Sr			0.5	0.0
Ti			#DIV/0!			Ti			2	0.0
Tl			#DIV/0!			Tl			2	0.0
V			#DIV/0!			V			0.5	0.0
Zn			#DIV/0!			Zn			0.5	0.0

STL

STL

STL

TABLE 6

YE33 : 00094

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YE33

Metals Data Review Checklist

Method: (ICP) ICP-MS GFA CVA

Analysis Date: 4-1-14

I2	Analyst SA C-AA 4/2/14	Peer 4314	Comment
Logbook:			
Analyst, Date, Method info	✓	/	
Sample ID's	✓	/	
Standard/QC solution ID's recorded	✓	/	
Prep codes	✓	/	
Dilution factors	✓	/	
Crossouts/Corrections/Deletions	✓	/	
Calibration:			
Blank & Standard intensities	✓	/	
Standard deviations	✓	/	
Curve fit	✓	/	
Calibration Verification:			
ICV/CCV	✓	/	See log
ICB/CCB	✓	/	↓
Samples:			
RSD's & SD's	✓	/	See log
Internal Standards	✓	/	↓
Carry-over	✓	/	↓
Method QC:			
CRI/CRA	✓	/	
ICSA/ICSAB	✓	/	
Post Spikes/Serial Dilutions	✓	/	YE34
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	/	
Matrix Spikes	✓	/	YE34
Matrix Duplicates	✓	/	YE32, YE33
Method Blanks	✓	/	
Data Distribution:			
Requested elements/isotope identified	✓	/	
Correct samples identified for distribution	✓	/	
Raw data match distributed data	✓	/	
Data filename correct	✓	/	
Necessary Analysts Notes and CAF's	✓	/	CAF - YE32, YE33, YE34



IEC Date: 3-26-14

Analysis Date: 4-1-14

Analyst: xt

LR Date: 1-3-14

Page: 1 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SITD0			C1334
		2			C1331
		3			C1332
		4			C1333
		→ 5			C1334
		ICV			B2567
		ICB			
		ZZZZZZ			Ca A report + Rerun
		ICSA			C532
		ICAPB			C533
		CCVI			
		CCBI			
		CR1			C1357
		YE91 I	WMN	Z	
		J			
		K			
		YE46 EL	DMN	5	✓
		E			
		EDup			✓
		ESOL			✓
		→ MB23DL	→		B1845 0.08mL ICP soln B1845 0.08mL ICP soln
		CCVZ			
		CCBZ			
		YE46 MBZ	DMN		



IEC Date: Analysis Date: 4-1-14 Analyst: AA
LR Date: Page: 2 of 7

All corrections made by analyst unless otherwise noted. BA 4-1-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE46 MBI	TWL		
		D-L		5	✓
		D			
		DDio			✓
		DSpl			✓ ca 512
222		222222			
		MBISPL			✓
		CCV3			
		CCP3			
		CR1			Ca ↑
		IC3A			
		ICSAM			
		CCV4			
		CCP4			
		YE32 MBI	SWC	2	End YE46
		B			
		C			
		D			
	✓	E			messed tube
		ADup			✓ Ni, Pb ↑ RPD (CAF)
		A			
		Aspl			✓ Ni: STL
222		222222			
		MBISPL			✓



IEC Date: -

Analysis Date: 4-1-14

Analyst: AA

LR Date: -

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All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV5			
		CCB5			
		YE32 F	SJC	2	
		G			
		H			
		I			
		J			
		K			
		L			
		M			
		N			
		O			
		CCV4			
		CCB6			
		YE32 E	SJC	2	
		P			
		Q			
		R			
		S			
		T			
		YE34 B			
		C			
		D			
		MBSPK	9		✓



IEC Date:

Analysis Date: 4-1-14

Analyst: AA

LR Date:

Page: 4 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV7			
		CCV7			Cu A (NR) ^{End} YE32
		YE34 MB	SWX	Z	
		E			
		F			
Label		H			
		I			
		J			
		ADup			Cu, Ni, Pb ↑ RPD
		A			(CAF)
		Aspl			Clog?
		Apost	↓	↓	0.03 mL ICP S/L B1545 Cu OK
		CCV8			
		CCB8			Cu A
		YE34 K	SWX	Z	
		L			Al, Fe > LR
		M			
		N			
		O			
		P			
		YE33 D G			
YE33 C		YE33 H I			
		YE34 Aspl			Cu ↓ (CAF) Ni STL
		YE33 MB1 spl	↓	↓	



IEC Date:

Analysis Date: 4-1-14

Analyst: AA

LR Date:

Page: 5 of 7

All corrections made by analyst unless otherwise noted. BA 4-2-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCW9			
		CCB9			CuA ^{Final} YE34
	✓	YE33 MB1	Seoc	2	Sent to wrong position
		CCV10			
		CCB10			CuA
		STD			
		CCV11			
		CCB11			
		YE14 MB	TWC		
	✓	A		10	R2 1/50
		MB501			
		A		50	
		CCV12			B4 C.O.
		CCB12			B4 C.O.
		YE33 MB1	Seoc	2	
		E			
		F			
		G			
		H			
		I			
		Aspk			✓ Cr, Pb ↑ BPD (CAF)
		A			✓ Cr, Ni, Pb STL
222		222 Aspk			



IEC Date: Analysis Date: 4-1-14 Analyst: AA
LR Date: Page: 6 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV13			
		CCB13			
		YE33 J	SWC	2	
		K			
		L			
	✓	M			Fe > LR
		N			
		O			
	✓	P			Fe > LR
		Q			
		R			
		S			
		CCV14			
		CCB14			
		YE43 MB	SWC	2	
		YE33 T			
		D			
		B			
		YE43 C			
		D			
		E			
		F			
		G			
		MBSPK			✓



IEC Date: - -

Analysis Date: 4-1-14

Analyst: AA

LR Date: - -

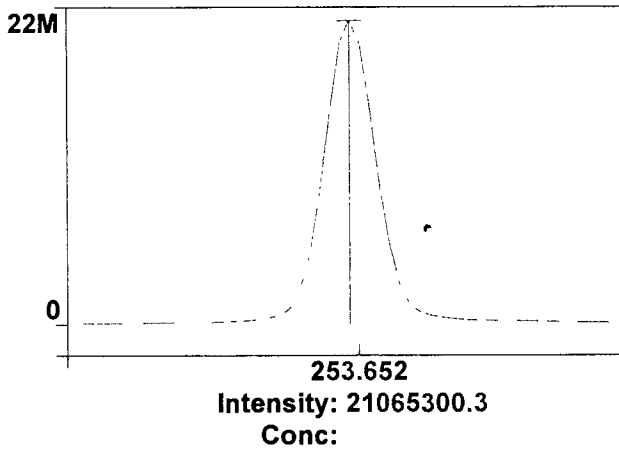
Page: 7 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV15			
		CCB15			End PKG (YE33)
"MBSPK"	✓	YE43 A MBSPK	SWC	2	Tube empty, SCT, noisy
"A"		↓ B A	↓	↓	
"YE43 B SWC"		↓ BT B	↓	↓	
		CCV16			
		CCB16			
		Rinse/DI			
BA 4/2/14					
BA 4-2-14					

Hg 253.652

Rep: 1



1

Nebulizer Parameters: Hg_ReAlign

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

4/1/2014 7:59:15 AM Hg ReAlign... Actual peak offset (nm): 0.004
Drift (nm): -0.000 Slit adjustment: -2

Analysis Begun

Start Time: 4/1/2014 8:03:00 AM Plasma On Time: 4/1/2014 7:16:53 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists various elements like Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn and their corresponding calibration and processing details.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 4/1/2014 8:03:06 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/1/2014 8:25:04 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 4/1/2014 8:25:05 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2961232.7	95154.34	3.21%	100.0 %
ScR 361.383	245743.8	1360.11	0.55%	100.0 %
Ag 328.068†	74.2	57.36	77.35%	[0.00] mg/L
Al 308.215†	111.4	3.47	3.11%	[0.00] mg/L
As 188.979†	-6.3	2.41	38.16%	[0.00] mg/L
B 249.677†	26.9	2.44	9.10%	[0.00] mg/L
Ba 233.527†	16.3	1.51	9.26%	[0.00] mg/L
Be 313.042†	675.9	8.89	1.32%	[0.00] mg/L
Ca 317.933†	-125.9	7.96	6.33%	[0.00] mg/L
Cd 228.802†	298.9	10.07	3.37%	[0.00] mg/L
Co 228.616†	-79.2	2.68	3.38%	[0.00] mg/L
Cr 267.716†	-79.3	1.74	2.20%	[0.00] mg/L
Cu 324.752†	3814.3	135.27	3.55%	[0.00] mg/L
Fe 273.955†	46.2	1.08	2.33%	[0.00] mg/L
K 766.490†	487.0	18.54	3.81%	[0.00] mg/L
Mg 279.077†	55.5	3.30	5.93%	[0.00] mg/L
Mn 257.610†	134.4	5.04	3.75%	[0.00] mg/L
Mo 202.031†	50.8	3.66	7.20%	[0.00] mg/L
Na 589.592†	-378.1	24.50	6.48%	[0.00] mg/L
Na 330.237†	-146.6	3.99	2.72%	[0.00] mg/L
Ni 231.604†	-15.3	3.31	21.59%	[0.00] mg/L
Pb 220.353†	48.2	4.56	9.47%	[0.00] mg/L
Sb 206.836†	70.7	1.51	2.14%	[0.00] mg/L
Se 196.026†	-34.1	3.61	10.59%	[0.00] mg/L
Si 288.158†	66.0	11.43	17.33%	[0.00] mg/L
Sn 189.927†	-0.8	0.06	7.22%	[0.00] mg/L
Sr 421.552†	204.2	25.16	12.32%	[0.00] mg/L
Ti 334.903†	-37.2	2.28	6.13%	[0.00] mg/L
Tl 190.801†	-35.5	5.21	14.66%	[0.00] mg/L
V 292.402†	92.8	18.38	19.80%	[0.00] mg/L
Zn 206.200†	10.3	0.68	6.58%	[0.00] mg/L

=====
Sequence No.: 2
Sample ID: STD2
Autosampler Location: 2
Date Collected: 4/1/2014 8:29:05 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: STD2
Mean Corrected
Calib

Analyte	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2816402.9	14196.03	0.50%	95.11 %
ScR 361.383	236748.9	386.11	0.16%	96.34 %
Ba 233.527†	38192.8	299.44	0.78%	[10] mg/L
Cd 228.802†	334851.2	746.21	0.22%	[10] mg/L
Co 228.616†	404165.6	1342.79	0.33%	[10] mg/L
Cr 267.716†	49980.3	100.41	0.20%	[10] mg/L
Cu 324.752†	2955840.9	4041.09	0.14%	[10] mg/L
Mn 257.610†	317933.4	530.28	0.17%	[10] mg/L
V 292.402†	1548507.0	5605.63	0.36%	[10] mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/1/2014 8:30:52 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
ScA 357.253	2790973.5	13666.71	0.49%	94.25 %	
ScR 361.383	238488.0	840.89	0.35%	97.05 %	
Ag 328.068†	203813.0	275.63	0.14%	[1.0] mg/L	
As 188.979†	17248.2	86.57	0.50%	[10] mg/L	
B 249.677†	57224.9	41.46	0.07%	[10] mg/L	
Be 313.042†	2529861.2	23064.01	0.91%	[5.0] mg/L	
Na 589.592†	666644.0	5776.05	0.87%	[50] mg/L	
Ni 231.604†	33784.6	65.59	0.19%	[10] mg/L	
Pb 220.353†	85709.0	104.09	0.12%	[10] mg/L	
Se 196.026†	13923.8	57.50	0.41%	[10] mg/L	
Sr 421.552†	4152305.0	35509.98	0.86%	[5] mg/L	
Tl 190.801†	21922.6	173.95	0.79%	[10] mg/L	
Zn 206.200†	34136.7	107.01	0.31%	[10] mg/L	

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/1/2014 8:33:09 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
ScA 357.253	2794291.9	11723.89	0.42%	94.36 %	
ScR 361.383	234014.1	1421.45	0.61%	95.23 %	
Mo 202.031†	194153.4	1657.03	0.85%	[10] mg/L	
Sb 206.836†	32088.0	257.94	0.80%	[10] mg/L	
Si 288.158†	17471.7	265.24	1.52%	[10] mg/L	
Sn 189.927†	35731.5	451.70	1.26%	[10] mg/L	
Ti 334.903†	168898.1	361.77	0.21%	[10] mg/L	

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/1/2014 8:35:23 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2644142.9	17455.70	0.66%	89.29	%
ScR 361.383	233665.1	1029.16	0.44%	95.08	%
Al 308.215†	39147.2	70.46	0.18%	[30]	mg/L
Ca 317.933†	293972.0	921.79	0.31%	[30]	mg/L
Fe 273.955†	114998.5	651.17	0.57%	[100]	mg/L
K 766.490†	227689.1	864.04	0.38%	[100]	mg/L
Mg 279.077†	33711.2	48.42	0.14%	[30]	mg/L
Na 330.237†	2146.6	11.84	0.55%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	203800	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1305	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1725	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5722	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3819	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	506000	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9799	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	33490	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40420	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4998	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	295600	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1150	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2277	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1124	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	31790	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	19420	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13330	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	21.47	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3378	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8571	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3209	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1392	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1747	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3573	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	830500	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16890	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2192	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	154900	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3414	0.00000	1.000000	

=====
Analysis Begun

Start Time: 4/1/2014 8:42:13 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/1/2014 7:16:53 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: CV

Autosampler Location: 7

Date Collected: 4/1/2014 8:42:14 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2820976.2	95.26	%	0.058			0.06%
ScR 361.383	230055.8	93.62	%	0.190			0.20%
Ag 328.068†	216288.7	1.061	mg/L	0.0073	1.061	mg/L	0.69%
Al 308.215†	2753.0	2.078	mg/L	0.0131	2.078	mg/L	0.63%
As 188.979†	3480.3	2.050	mg/L	0.0076	2.050	mg/L	0.37%
B 249.677†	5948.5	1.038	mg/L	0.0028	1.038	mg/L	0.27%
Ba 233.527†	3970.0	1.039	mg/L	0.0003	1.039	mg/L	0.03%
Be 313.042†	513290.1	1.014	mg/L	0.0057	1.014	mg/L	0.56%
Ca 317.933†	20834.3	2.126	mg/L	0.0043	2.126	mg/L	0.20%
Cd 228.802†	34924.2	1.033	mg/L	0.0039	1.033	mg/L	0.38%
Co 228.616†	40549.8	1.001	mg/L	0.0035	1.001	mg/L	0.35%
Cr 267.716†	5277.3	1.055	mg/L	0.0042	1.055	mg/L	0.39%
Cu 324.752†	299956.1	1.015	mg/L	0.0022	1.015	mg/L	0.22%
Fe 273.955†	2464.3	2.136	mg/L	0.0131	2.136	mg/L	0.61%
K 766.490†	46506.3	20.43	mg/L	0.033	20.43	mg/L	0.16%
Mg 279.077†	2292.1	2.046	mg/L	0.0048	2.046	mg/L	0.23%
Mn 257.610†	31335.5	0.9860	mg/L	0.00150	0.9860	mg/L	0.15%
Mo 202.031†	18684.8	0.9623	mg/L	0.00274	0.9623	mg/L	0.29%
Na 589.592†	691734.6	51.88	mg/L	0.117	51.88	mg/L	0.22%
Na 330.237†	1128.6	52.53	mg/L	0.182	52.53	mg/L	0.35%
Ni 231.604†	3512.5	1.040	mg/L	0.0026	1.040	mg/L	0.25%
Pb 220.353†	17038.1	1.989	mg/L	0.0051	1.989	mg/L	0.26%
Sb 206.836†	6703.8	2.087	mg/L	0.0031	2.087	mg/L	0.15%
Se 196.026†	2813.6	2.020	mg/L	0.0076	2.020	mg/L	0.38%
Si 288.158†	3526.8	2.023	mg/L	0.0360	2.023	mg/L	1.78%
Sn 189.927†	3516.8	0.9859	mg/L	0.00626	0.9859	mg/L	0.63%
Sr 421.552†	856480.6	1.031	mg/L	0.0016	1.031	mg/L	0.15%
Ti 334.903†	16849.7	0.9964	mg/L	0.00252	0.9964	mg/L	0.25%
Tl 190.801†	4554.1	2.069	mg/L	0.0100	2.069	mg/L	0.48%
V 292.402†	158321.0	1.027	mg/L	0.0083	1.027	mg/L	0.81%
Zn 206.200†	3498.1	1.025	mg/L	0.0007	1.025	mg/L	0.07%

Sequence No.: 2
 Sample ID: CB

Autosampler Location: 1
 Date Collected: 4/1/2014 8:46:18 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2818053.9	95.16	%	0.983			1.03%
ScR 361.383	240511.8	97.87	%	0.221			0.23%
Ag 328.068†	-25.3	-0.00012	mg/L	0.000181	-0.00012	0.000181	145.99%
Al 308.215†	2.5	0.00192	mg/L	0.007072	0.00192	0.007072	367.55%
As 188.979†	-2.5	-0.00144	mg/L	0.002310	-0.00144	0.002310	160.01%
B 249.677†	13.1	0.00229	mg/L	0.001021	0.00229	0.001021	44.63%
Ba 233.527†	-0.7	-0.00018	mg/L	0.000411	-0.00018	0.000411	228.66%
Be 313.042†	38.3	0.00008	mg/L	0.000012	0.00008	0.000012	16.20%
Ca 317.933†	-18.7	-0.00191	mg/L	0.000864	-0.00191	0.000864	45.18%
Cd 228.802†	9.7	0.00030	mg/L	0.000198	0.00030	0.000198	66.18%
Co 228.616†	3.9	0.00010	mg/L	0.000122	0.00010	0.000122	126.49%
Cr 267.716†	-6.3	-0.00127	mg/L	0.000180	-0.00127	0.000180	14.23%
Cu 324.752†	274.8	0.00093	mg/L	0.000280	0.00093	0.000280	30.13%
Fe 273.955†	1.5	0.00127	mg/L	0.001225	0.00127	0.001225	96.13%
K 766.490†	67.9	0.02983	mg/L	0.011503	0.02983	0.011503	38.56%
Mg 279.077†	4.7	0.00417	mg/L	0.004005	0.00417	0.004005	95.98%
Mn 257.610†	2.6	0.00008	mg/L	0.000051	0.00008	0.000051	62.22%
Mo 202.031†	29.0	0.00149	mg/L	0.000413	0.00149	0.000413	27.68%
Na 589.592†	46.8	0.00351	mg/L	0.001173	0.00351	0.001173	33.41%
Na 330.237†	-6.3	-0.2946	mg/L	0.21832	-0.2946	0.21832	74.10%
Ni 231.604†	0.5	0.00014	mg/L	0.000586	0.00014	0.000586	418.28%
Pb 220.353†	1.1	0.00012	mg/L	0.001043	0.00012	0.001043	850.86%
Sb 206.836†	29.4	0.00918	mg/L	0.001543	0.00918	0.001543	16.80%
Se 196.026†	-1.1	-0.00080	mg/L	0.003082	-0.00080	0.003082	385.10%
Si 288.158†	-2.4	-0.00140	mg/L	0.005447	-0.00140	0.005447	388.97%
Sn 189.927†	-1.9	-0.00054	mg/L	0.000736	-0.00054	0.000736	137.12%
Sr 421.552†	42.7	0.00005	mg/L	0.000015	0.00005	0.000015	29.54%
Ti 334.903†	11.4	0.00068	mg/L	0.000497	0.00068	0.000497	73.68%
Tl 190.801†	-1.2	-0.00055	mg/L	0.002816	-0.00055	0.002816	513.37%
V 292.402†	-6.3	-0.00005	mg/L	0.000045	-0.00005	0.000045	99.59%
Zn 206.200†	0.3	0.00009	mg/L	0.000089	0.00009	0.000089	96.23%

Sequence No.: 3

Sample ID: CRI-222222

Autosampler Location: 301

Date Collected: 4/1/2014 8:50:18 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2871721.4	96.98	%	0.508			0.52%
ScR 361.383	240231.2	97.76	%	0.366			0.37%
Ag 328.068†	564.7	0.00277	mg/L	0.000071	0.00277 mg/L	0.000071	2.55%
Al 308.215†	62.5	0.04779	mg/L	0.004773	0.04779 mg/L	0.004773	9.99%
As 188.979†	85.5	0.04974	mg/L	0.001612	0.04974 mg/L	0.001612	3.24%
B 249.677†	126.2	0.02206	mg/L	0.001092	0.02206 mg/L	0.001092	4.95%
Ba 233.527†	12.0	0.00313	mg/L	0.000588	0.00313 mg/L	0.000588	18.80%
Be 313.042†	530.4	0.00105	mg/L	0.000005	0.00105 mg/L	0.000005	0.45%
Ca 317.933†	834.8	0.08519	mg/L	0.001832	0.08519 mg/L	0.001832	2.15%
Cd 228.802†	91.2	0.00248	mg/L	0.000037	0.00248 mg/L	0.000037	1.48%
Co 228.616†	128.4	0.00317	mg/L	0.000221	0.00317 mg/L	0.000221	6.97%
Cr 267.716†	27.2	0.00543	mg/L	0.000533	0.00543 mg/L	0.000533	9.81%
Cu 324.752†	864.1	0.00292	mg/L	0.000369	0.00292 mg/L	0.000369	12.62%
Fe 273.955†	63.0	0.05476	mg/L	0.002095	0.05476 mg/L	0.002095	3.83%
K 766.490†	1191.8	0.5234	mg/L	0.01154	0.5234 mg/L	0.01154	2.20%
Mg 279.077†	64.0	0.05693	mg/L	0.003363	0.05693 mg/L	0.003363	5.91%
Mn 257.610†	34.4	0.00109	mg/L	0.000041	0.00109 mg/L	0.000041	3.79%
Mo 202.031†	100.4	0.00517	mg/L	0.000125	0.00517 mg/L	0.000125	2.42%
Na 589.592†	6871.1	0.5154	mg/L	0.00215	0.5154 mg/L	0.00215	0.42%
Na 330.237†	8.8	0.4064	mg/L	0.20745	0.4064 mg/L	0.20745	51.04%
Ni 231.604†	33.8	0.01002	mg/L	0.001082	0.01002 mg/L	0.001082	10.80%
Pb 220.353†	175.3	0.02047	mg/L	0.001213	0.02047 mg/L	0.001213	5.93%
Sb 206.836†	173.9	0.05421	mg/L	0.001025	0.05421 mg/L	0.001025	1.89%
Se 196.026†	72.8	0.05230	mg/L	0.001685	0.05230 mg/L	0.001685	3.22%
Si 288.158†	104.8	0.05999	mg/L	0.000574	0.05999 mg/L	0.000574	0.96%
Sn 189.927†	32.9	0.00926	mg/L	0.000975	0.00926 mg/L	0.000975	10.53%
Sr 421.552†	888.9	0.00107	mg/L	0.000030	0.00107 mg/L	0.000030	2.80%
Ti 334.903†	94.7	0.00559	mg/L	0.000531	0.00559 mg/L	0.000531	9.49%
Tl 190.801†	107.5	0.04902	mg/L	0.002644	0.04902 mg/L	0.002644	5.39%
V 292.402†	429.1	0.00279	mg/L	0.000106	0.00279 mg/L	0.000106	3.80%
Zn 206.200†	46.8	0.01371	mg/L	0.000209	0.01371 mg/L	0.000209	1.52%

Sequence No.: 4
 Sample ID: ICSA

Autosampler Location: 302
 Date Collected: 4/1/2014 8:54:19 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2743839.3	92.66 %	0.495			0.53%
ScR 361.383	234743.5	95.52 %	0.298			0.31%
Ag 328.068†	-274.0	-0.00073 mg/L	0.000293	-0.00073 mg/L	0.000293	40.09%
Al 308.215†	261439.2	200.4 mg/L	0.90	200.4 mg/L	0.90	0.45%
As 188.979†	55.1	0.02335 mg/L	0.004840	0.02335 mg/L	0.004840	20.73%
B 249.677†	-42.5	-0.00743 mg/L	0.003810	-0.00743 mg/L	0.003810	51.28%
Ba 233.527†	110.6	-0.00191 mg/L	0.000584	-0.00191 mg/L	0.000584	30.50%
Be 313.042†	37.6	0.00007 mg/L	0.000006	0.00007 mg/L	0.000006	8.61%
Ca 317.933†	990748.9	101.1 mg/L	0.45	101.1 mg/L	0.45	0.44%
Cd 228.802†	56.0	-0.00023 mg/L	0.000102	-0.00023 mg/L	0.000102	45.11%
Co 228.616†	84.1	0.00206 mg/L	0.000134	0.00206 mg/L	0.000134	6.50%
Cr 267.716†	15.8	-0.00048 mg/L	0.000276	-0.00048 mg/L	0.000276	57.53%
Cu 324.752†	-2358.0	0.00030 mg/L	0.000147	0.00030 mg/L	0.000147	48.67%
Fe 273.955†	229849.8	199.9 mg/L	0.78	199.9 mg/L	0.78	0.39%
K 766.490†	89.9	0.03947 mg/L	0.033629	0.03947 mg/L	0.033629	85.21%
Mg 279.077†	115396.2	102.6 mg/L	0.66	102.6 mg/L	0.66	0.64%
Mn 257.610†	38.5	-0.00127 mg/L	0.000077	-0.00127 mg/L	0.000077	6.06%
Mo 202.031†	77.2	0.00241 mg/L	0.000059	0.00241 mg/L	0.000059	2.44%
Na 589.592†	136.0	0.01020 mg/L	0.003707	0.01020 mg/L	0.003707	36.34%
Na 330.237†	5.8	-0.3445 mg/L	0.09771	-0.3445 mg/L	0.09771	28.36%
Ni 231.604†	5.5	0.00165 mg/L	0.000544	0.00165 mg/L	0.000544	32.93%
Pb 220.353†	-359.5	-0.00132 mg/L	0.000066	-0.00132 mg/L	0.000066	4.96%
Sb 206.836†	70.1	0.02166 mg/L	0.001448	0.02166 mg/L	0.001448	6.68%
Se 196.026†	47.3	0.03399 mg/L	0.004738	0.03399 mg/L	0.004738	13.94%
Si 288.158†	-27.7	-0.00366 mg/L	0.006947	-0.00366 mg/L	0.006947	190.03%
Sn 189.927†	-92.0	-0.01350 mg/L	0.001532	-0.01350 mg/L	0.001532	11.35%
Sr 421.552†	4570.3	0.00550 mg/L	0.000086	0.00550 mg/L	0.000086	1.56%
Ti 334.903†	160.2	0.00234 mg/L	0.000364	0.00234 mg/L	0.000364	15.56%
Tl 190.801†	-37.8	0.00576 mg/L	0.002681	0.00576 mg/L	0.002681	46.51%
V 292.402†	1540.8	-0.00131 mg/L	0.000245	-0.00131 mg/L	0.000245	18.65%
Zn 206.200†	9.7	0.00284 mg/L	0.000501	0.00284 mg/L	0.000501	17.66%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 4/1/2014 8:58:34 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2786180.8	94.09	%	0.175			0.19%
ScR 361.383	236310.2	96.16	%	0.278			0.29%
Ag 328.068†	214277.8	1.052	mg/L	0.0036	1.052 mg/L	0.0036	0.34%
Al 308.215†	260915.4	199.9	mg/L	0.41	199.9 mg/L	0.41	0.20%
As 188.979†	1777.3	1.021	mg/L	0.0038	1.021 mg/L	0.0038	0.37%
B 249.677†	-20.9	-0.00563	mg/L	0.000519	-0.00563 mg/L	0.000519	9.21%
Ba 233.527†	3928.5	0.9975	mg/L	0.00075	0.9975 mg/L	0.00075	0.08%
Be 313.042†	498121.2	0.9842	mg/L	0.00216	0.9842 mg/L	0.00216	0.22%
Ca 317.933†	988803.5	100.9	mg/L	0.08	100.9 mg/L	0.08	0.08%
Cd 228.802†	33971.9	1.008	mg/L	0.0050	1.008 mg/L	0.0050	0.49%
Co 228.616†	37803.2	0.9351	mg/L	0.00206	0.9351 mg/L	0.00206	0.22%
Cr 267.716†	5014.5	0.9997	mg/L	0.00204	0.9997 mg/L	0.00204	0.20%
Cu 324.752†	303570.5	1.036	mg/L	0.0040	1.036 mg/L	0.0040	0.39%
Fe 273.955†	230563.9	200.5	mg/L	0.27	200.5 mg/L	0.27	0.13%
K 766.490†	104.0	0.04569	mg/L	0.009132	0.04569 mg/L	0.009132	19.99%
Mg 279.077†	111224.1	98.84	mg/L	0.181	98.84 mg/L	0.181	0.18%
Mn 257.610†	31004.4	0.9730	mg/L	0.00130	0.9730 mg/L	0.00130	0.13%
Mo 202.031†	77.8	0.00244	mg/L	0.000471	0.00244 mg/L	0.000471	19.28%
Na 589.592†	82.3	0.00617	mg/L	0.003281	0.00617 mg/L	0.003281	53.14%
Na 330.237†	22.9	0.1772	mg/L	0.28769	0.1772 mg/L	0.28769	162.31%
Ni 231.604†	3225.2	0.9548	mg/L	0.00321	0.9548 mg/L	0.00321	0.34%
Pb 220.353†	7966.2	0.9705	mg/L	0.00268	0.9705 mg/L	0.00268	0.28%
Sb 206.836†	3262.8	1.007	mg/L	0.0035	1.007 mg/L	0.0035	0.35%
Se 196.026†	1431.4	1.027	mg/L	0.0034	1.027 mg/L	0.0034	0.33%
Si 288.158†	-47.0	-0.01064	mg/L	0.002279	-0.01064 mg/L	0.002279	21.41%
Sn 189.927†	-105.2	-0.01664	mg/L	0.000561	-0.01664 mg/L	0.000561	3.37%
Sr 421.552†	4503.7	0.00542	mg/L	0.000003	0.00542 mg/L	0.000003	0.05%
Ti 334.903†	159.0	0.00210	mg/L	0.000348	0.00210 mg/L	0.000348	16.61%
Tl 190.801†	2023.8	0.9368	mg/L	0.00389	0.9368 mg/L	0.00389	0.41%
V 292.402†	151565.7	0.9718	mg/L	0.00227	0.9718 mg/L	0.00227	0.23%
Zn 206.200†	3242.5	0.9502	mg/L	0.00325	0.9502 mg/L	0.00325	0.34%

Sequence No.: 6
Sample ID: CV \

Autosampler Location: 7
Date Collected: 4/1/2014 9:03:38 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2846909.9	96.14 %	0.443			0.46%
ScR 361.383	235110.0	95.67 %	0.363			0.38%
Ag 328.068†	213968.1	1.050 mg/L	0.0069	1.050 mg/L	0.0069	0.66%
Al 308.215†	2709.5	2.045 mg/L	0.0088	2.045 mg/L	0.0088	0.43%
As 188.979†	3472.1	2.044 mg/L	0.0095	2.044 mg/L	0.0095	0.46%
B 249.677†	5836.0	1.019 mg/L	0.0034	1.019 mg/L	0.0034	0.33%
Ba 233.527†	3933.2	1.029 mg/L	0.0016	1.029 mg/L	0.0016	0.16%
Be 313.042†	506571.3	1.001 mg/L	0.0040	1.001 mg/L	0.0040	0.40%
Ca 317.933†	20596.9	2.102 mg/L	0.0079	2.102 mg/L	0.0079	0.38%
Cd 228.802†	34783.3	1.029 mg/L	0.0016	1.029 mg/L	0.0016	0.16%
Co 228.616†	40372.6	0.9970 mg/L	0.00305	0.9970 mg/L	0.00305	0.31%
Cr 267.716†	5208.8	1.042 mg/L	0.0044	1.042 mg/L	0.0044	0.42%
Cu 324.752†	295849.5	1.001 mg/L	0.0020	1.001 mg/L	0.0020	0.20%
Fe 273.955†	2430.4	2.107 mg/L	0.0108	2.107 mg/L	0.0108	0.51%
K 766.490†	45749.6	20.09 mg/L	0.086	20.09 mg/L	0.086	0.43%
Mg 279.077†	2272.1	2.028 mg/L	0.0130	2.028 mg/L	0.0130	0.64%
Mn 257.610†	30765.5	0.9681 mg/L	0.00241	0.9681 mg/L	0.00241	0.25%
Mo 202.031†	18588.3	0.9574 mg/L	0.00158	0.9574 mg/L	0.00158	0.17%
Na 589.592†	680781.2	51.06 mg/L	0.150	51.06 mg/L	0.150	0.29%
Na 330.237†	1107.3	51.54 mg/L	0.134	51.54 mg/L	0.134	0.26%
Ni 231.604†	3466.6	1.026 mg/L	0.0020	1.026 mg/L	0.0020	0.19%
Pb 220.353†	17026.0	1.988 mg/L	0.0053	1.988 mg/L	0.0053	0.27%
Sb 206.836†	6681.1	2.080 mg/L	0.0106	2.080 mg/L	0.0106	0.51%
Se 196.026†	2803.5	2.012 mg/L	0.0086	2.012 mg/L	0.0086	0.43%
Si 288.158†	3443.5	1.976 mg/L	0.0215	1.976 mg/L	0.0215	1.09%
Sn 189.927†	3517.2	0.9860 mg/L	0.00527	0.9860 mg/L	0.00527	0.53%
Sr 421.552†	841266.0	1.013 mg/L	0.0009	1.013 mg/L	0.0009	0.09%
Ti 334.903†	16577.3	0.9802 mg/L	0.00057	0.9802 mg/L	0.00057	0.06%
Tl 190.801†	4516.6	2.052 mg/L	0.0137	2.052 mg/L	0.0137	0.67%
V 292.402†	157014.7	1.018 mg/L	0.0034	1.018 mg/L	0.0034	0.33%
Zn 206.200†	3473.2	1.018 mg/L	0.0041	1.018 mg/L	0.0041	0.40%

Sequence No.: 7
 Sample ID: CB7

Autosampler Location: 1
 Date Collected: 4/1/2014 9:07:43 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2842829.3	96.00	%	0.264			0.28%
ScR 361.383	243064.9	98.91	%	0.267			0.27%
Ag 328.068†	-24.9	-0.00012	mg/L	0.000162	-0.00012	0.000162	133.05%
Al 308.215†	-1.8	-0.00139	mg/L	0.001273	-0.00139	0.001273	91.34%
As 188.979†	-3.2	-0.00185	mg/L	0.000410	-0.00185	0.000410	22.19%
B 249.677†	9.2	0.00161	mg/L	0.000622	0.00161	0.000622	38.68%
Ba 233.527†	-0.2	-0.00006	mg/L	0.000815	-0.00006	0.000815	>999.9%
Be 313.042†	41.3	0.00008	mg/L	0.000025	0.00008	0.000025	30.36%
Ca 317.933†	-12.7	-0.00130	mg/L	0.001042	-0.00130	0.001042	80.30%
Cd 228.802†	12.8	0.00039	mg/L	0.000148	0.00039	0.000148	37.68%
Co 228.616†	1.7	0.00004	mg/L	0.000200	0.00004	0.000200	473.59%
Cr 267.716†	1.4	0.00028	mg/L	0.000506	0.00028	0.000506	177.61%
Cu 324.752†	273.1	0.00092	mg/L	0.000070	0.00092	0.000070	7.59%
Fe 273.955†	1.8	0.00159	mg/L	0.000905	0.00159	0.000905	57.06%
K 766.490†	57.8	0.02538	mg/L	0.008078	0.02538	0.008078	31.82%
Mg 279.077†	3.1	0.00280	mg/L	0.004082	0.00280	0.004082	145.91%
Mn 257.610†	3.1	0.00010	mg/L	0.000034	0.00010	0.000034	34.52%
Mo 202.031†	23.7	0.00122	mg/L	0.000129	0.00122	0.000129	10.55%
Na 589.592†	79.2	0.00594	mg/L	0.002281	0.00594	0.002281	38.41%
Na 330.237†	-0.0	-0.00106	mg/L	0.137976	-0.00106	0.137976	>999.9%
Ni 231.604†	-1.4	-0.00040	mg/L	0.000484	-0.00040	0.000484	121.62%
Pb 220.353†	6.7	0.00078	mg/L	0.000479	0.00078	0.000479	61.67%
Sb 206.836†	39.0	0.01214	mg/L	0.003156	0.01214	0.003156	26.01%
Se 196.026†	2.8	0.00203	mg/L	0.000673	0.00203	0.000673	33.11%
Si 288.158†	-4.6	-0.00261	mg/L	0.004212	-0.00261	0.004212	161.61%
Sn 189.927†	-1.5	-0.00041	mg/L	0.000175	-0.00041	0.000175	42.52%
Sr 421.552†	55.3	0.00007	mg/L	0.000022	0.00007	0.000022	32.69%
Ti 334.903†	9.0	0.00053	mg/L	0.000404	0.00053	0.000404	75.65%
Tl 190.801†	1.3	0.00058	mg/L	0.002003	0.00058	0.002003	344.98%
V 292.402†	1.8	0.00001	mg/L	0.000268	0.00001	0.000268	>999.9%
Zn 206.200†	2.7	0.00078	mg/L	0.000485	0.00078	0.000485	62.44%

User canceled analysis.

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Analysis Begun

Start Time: 4/1/2014 9:12:05 AM Plasma On Time: 4/1/2014 7:16:53 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 8 Autosampler Location: 304
Sample ID: CRI Date Collected: 4/1/2014 9:12:07 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932673.6	99.04 %		0.708			0.71%
ScR 361.383	248841.1	101.3 %		0.49			0.49%
Ag 328.068†	594.6	0.00292 mg/L		0.000152	0.00292 mg/L	0.000152	5.22%
Al 308.215†	59.6	0.04552 mg/L		0.003961	0.04552 mg/L	0.003961	8.70%
As 188.979†	82.6	0.04807 mg/L		0.002667	0.04807 mg/L	0.002667	5.55%
B 249.677†	114.1	0.01994 mg/L		0.000454	0.01994 mg/L	0.000454	2.28%
Ba 233.527†	8.1	0.00211 mg/L		0.000154	0.00211 mg/L	0.000154	7.31%
Be 313.042†	493.8	0.00098 mg/L		0.000013	0.00098 mg/L	0.000013	1.32%
Ca 317.933†	559.3	0.05707 mg/L		0.000778	0.05707 mg/L	0.000778	1.36%
Cd 228.802†	86.1	0.00233 mg/L		0.000179	0.00233 mg/L	0.000179	7.66%
Co 228.616†	126.4	0.00312 mg/L		0.000096	0.00312 mg/L	0.000096	3.08%
Cr 267.716f	28.0	0.00560 mg/L		0.001338	0.00560 mg/L	0.001338	23.92%
Cu 324.752†	750.6	0.00254 mg/L		0.000100	0.00254 mg/L	0.000100	3.94%
Fe 273.955†	58.5	0.05089 mg/L		0.001100	0.05089 mg/L	0.001100	2.16%
K 766.490†	1145.3	0.5030 mg/L		0.01827	0.5030 mg/L	0.01827	3.63%
Mg 279.077†	60.8	0.05410 mg/L		0.003767	0.05410 mg/L	0.003767	6.96%
Mn 257.610†	33.0	0.00104 mg/L		0.000048	0.00104 mg/L	0.000048	4.58%
Mo 202.031†	97.6	0.00503 mg/L		0.000061	0.00503 mg/L	0.000061	1.21%
Na 589.592†	6568.2	0.4926 mg/L		0.00457	0.4926 mg/L	0.00457	0.93%
Na 330.237†	13.8	0.6412 mg/L		0.24354	0.6412 mg/L	0.24354	37.98%
Ni 231.604†	35.6	0.01053 mg/L		0.001699	0.01053 mg/L	0.001699	16.14%
Pb 220.353†	172.6	0.02016 mg/L		0.000485	0.02016 mg/L	0.000485	2.41%
Sb 206.836†	164.6	0.05131 mg/L		0.001606	0.05131 mg/L	0.001606	3.13%
Se 196.026†	63.0	0.04521 mg/L		0.001563	0.04521 mg/L	0.001563	3.46%
Si 288.158†	99.9	0.05719 mg/L		0.002349	0.05719 mg/L	0.002349	4.11%
Sn 189.927†	33.5	0.00940 mg/L		0.000217	0.00940 mg/L	0.000217	2.30%
Sr 421.552†	815.3	0.00098 mg/L		0.000014	0.00098 mg/L	0.000014	1.45%
Ti 334.903†	87.7	0.00518 mg/L		0.000710	0.00518 mg/L	0.000710	13.70%
Tl 190.801†	105.3	0.04799 mg/L		0.001920	0.04799 mg/L	0.001920	4.00%
V 292.402†	429.8	0.00280 mg/L		0.000108	0.00280 mg/L	0.000108	3.86%
Zn 206.200†	37.4	0.01098 mg/L		0.000148	0.01098 mg/L	0.000148	1.35%

User canceled analysis.

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Analysis Begun

Start Time: 4/1/2014 9:17:21 AM Plasma On Time: 4/1/2014 7:16:53 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 9 Autosampler Location: 306
Sample ID: YE91 I WMN Date Collected: 4/1/2014 9:17:22 AM
Dilution: 2.000000X Data Type: Original

Nebulizer Parameters: YE91 I WMN
Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: YE91 I WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2829953.8	95.57	%	0.375			0.39%
ScR 361.383	242451.3	98.66	%	1.157			1.17%
Ag 328.068†	17449.8	0.08578	mg/L	0.000439	0.1716	mg/L	0.00088 0.51%
Al 308.215†	17896.2	13.71	mg/L	0.184	27.41	mg/L	0.367 1.34%
As 188.979†	39668.0	23.00	mg/L	0.206	46.00	mg/L	0.411 0.89%
B 249.677†	2172.8	0.3790	mg/L	0.00486	0.7580	mg/L	0.00973 1.28%
Ba 233.527†	5133.3	1.343	mg/L	0.0206	2.686	mg/L	0.0413 1.54%
Be 313.042†	50411.6	0.09951	mg/L	0.000907	0.1990	mg/L	0.00181 0.91%
Ca 317.933†	59271.6	6.049	mg/L	0.0604	12.10	mg/L	0.121 1.00%
Cd 228.802†	5663.5	0.05114	mg/L	0.001859	0.1023	mg/L	0.00372 3.64%
Co 228.616†	14294.9	0.3535	mg/L	0.00237	0.7070	mg/L	0.00473 0.67%
Cr 267.716†	537.2	0.1072	mg/L	0.00065	0.2145	mg/L	0.00130 0.61%
Cu 324.752†	24594.9	0.08356	mg/L	0.000667	0.1671	mg/L	0.00133 0.80%
Fe 273.955†	8449.0	7.343	mg/L	0.0998	14.69	mg/L	0.200 1.36%
K 766.490†	18065.6	7.934	mg/L	0.0274	15.87	mg/L	0.055 0.34%
Mg 279.077†	2817.6	2.503	mg/L	0.0422	5.006	mg/L	0.0845 1.69%
Mn 257.610†	2512.3	0.07905	mg/L	0.001051	0.1581	mg/L	0.00210 1.33%
Mo 202.031†	986.7	0.05073	mg/L	0.000395	0.1015	mg/L	0.00079 0.78%
Na 589.592†	75248.4	5.644	mg/L	0.0491	11.29	mg/L	0.098 0.87%
Na 330.237†	1174.2	54.47	mg/L	0.951	108.9	mg/L	1.90 1.75%
Ni 231.604†	1648.3	0.4878	mg/L	0.00854	0.9756	mg/L	0.01708 1.75%
Pb 220.353†	5952.9	0.6978	mg/L	0.00096	1.396	mg/L	0.0019 0.14%
Sb 206.836†	-42.1	-0.01296	mg/L	0.004173	-0.02593	mg/L	0.008346 32.19%
Se 196.026†	-3798.5	-2.729	mg/L	0.0162	-5.457	mg/L	0.0324 0.59%
Si 288.158†	454.0	0.2608	mg/L	0.00387	0.5217	mg/L	0.00773 1.48%
Sn 189.927†	-127.7	-0.03498	mg/L	0.001275	-0.06995	mg/L	0.002549 3.64%
Sr 421.552†	362216.3	0.4362	mg/L	0.00346	0.8723	mg/L	0.00691 0.79%
Ti 334.903†	69.3	0.00361	mg/L	0.000229	0.00722	mg/L	0.000459 6.36%
Tl 190.801†	348.0	0.1557	mg/L	0.00186	0.3114	mg/L	0.00372 1.20%
V 292.402†	78169.5	0.5049	mg/L	0.00620	1.010	mg/L	0.0124 1.23%
Zn 206.200†	2335.1	0.6842	mg/L	0.01125	1.368	mg/L	0.0225 1.64%

User canceled analysis.

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Analysis Begun

Start Time: 4/1/2014 9:21:07 AM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 10

Autosampler Location: 307

Sample ID: YE91 J WMN

Date Collected: 4/1/2014 9:21:08 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE91 J WMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE91 J WMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2796101.8	94.42 %	0.191			0.20%
ScR 361.383	243898.7	99.25 %	1.060			1.07%
Ag 328.068†	325.7	0.00170 mg/L	0.000171	0.00340 mg/L	0.000342	10.07%
Al 308.215†	242.4	0.1803 mg/L	0.00366	0.3606 mg/L	0.00732	2.03%
As 188.979†	39289.0	22.78 mg/L	0.131	45.56 mg/L	0.263	0.58%
B 249.677†	141.6	0.02473 mg/L	0.001843	0.04945 mg/L	0.003685	7.45%
Ba 233.527†	3.2	0.00077 mg/L	0.000111	0.00154 mg/L	0.000222	14.36%
Be 313.042†	20.1	-0.00005 mg/L	0.000016	-0.00011 mg/L	0.000033	29.92%
Ca 317.933†	5766.6	0.5885 mg/L	0.00277	1.177 mg/L	0.0055	0.47%
Cd 228.802†	24.1	-0.1165 mg/L	0.00044	-0.2330 mg/L	0.00088	0.38%
Co 228.616†	41.7	0.00104 mg/L	0.00080	0.00209 mg/L	0.000159	7.63%
Cr 267.716†	18.1	0.00348 mg/L	0.000897	0.00695 mg/L	0.001793	25.80%
Cu 324.752†	-16535.1	-0.05594 mg/L	0.000275	-0.1119 mg/L	0.00055	0.49%
Fe 273.955†	-4.0	-0.00656 mg/L	0.000707	-0.01311 mg/L	0.001415	10.79%
K 766.490†	247.9	0.1089 mg/L	0.00389	0.2178 mg/L	0.00777	3.57%
Mg 279.077†	36.5	0.03233 mg/L	0.001198	0.06467 mg/L	0.002397	3.71%
Mn 257.610†	70.1	0.00224 mg/L	0.000103	0.00448 mg/L	0.000206	4.59%
Mo 202.031†	-155.4	-0.00801 mg/L	0.000262	-0.01603 mg/L	0.000523	3.26%
Na 589.592†	14716.9	1.104 mg/L	0.0050	2.208 mg/L	0.0099	0.45%
Na 330.237†	1064.6	49.59 mg/L	0.136	99.18 mg/L	0.272	0.27%
Ni 231.604†	6.1	0.00178 mg/L	0.000830	0.00355 mg/L	0.001661	46.77%
Pb 220.353†	1215.4	0.1419 mg/L	0.00146	0.2839 mg/L	0.00292	1.03%
Sb 206.836†	-50.6	-0.01469 mg/L	0.001325	-0.02938 mg/L	0.002650	9.02%
Se 196.026†	-3953.1	-2.839 mg/L	0.0083	-5.679 mg/L	0.0167	0.29%
Si 288.158†	180.1	0.1031 mg/L	0.00376	0.2062 mg/L	0.00752	3.65%
Sn 189.927†	-120.8	-0.03373 mg/L	0.000393	-0.06747 mg/L	0.000787	1.17%
Sr 421.552†	-1947.5	-0.00235 mg/L	0.000027	-0.00469 mg/L	0.000054	1.15%
Ti 334.903†	-138.0	-0.00820 mg/L	0.000143	-0.01641 mg/L	0.000286	1.74%
Tl 190.801†	78.7	0.03448 mg/L	0.000822	0.06896 mg/L	0.001645	2.38%
V 292.402†	59218.0	0.3824 mg/L	0.00302	0.7649 mg/L	0.00604	0.79%
Zn 206.200†	28.2	0.00828 mg/L	0.000490	0.01657 mg/L	0.000981	5.92%

YE91:00118

Sequence No.: 11

Autosampler Location: 308

Sample ID: YE91 K WMN

Date Collected: 4/1/2014 9:25:08 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE91 K WMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE91 K WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2810028.1	94.89	%	0.856				0.90%
ScR 361.383	239346.9	97.40	%	0.686				0.70%
Ag 328.068†	322.0	0.00168	mg/L	0.000164	0.00336	mg/L	0.000329	9.80%
Al 308.215†	254.4	0.1896	mg/L	0.00765	0.3792	mg/L	0.01530	4.04%
As 188.979†	38234.1	22.17	mg/L	0.106	44.33	mg/L	0.213	0.48%
B 249.677†	633.3	0.1107	mg/L	0.00217	0.2213	mg/L	0.00433	1.96%
Ba 233.527†	6.2	0.00154	mg/L	0.000173	0.00309	mg/L	0.000346	11.19%
Be 313.042†	40.0	-0.00001	mg/L	0.000027	-0.00003	mg/L	0.000053	189.79%
Ca 317.933†	534.7	0.05456	mg/L	0.000664	0.1091	mg/L	0.00133	1.22%
Cd 228.802†	26.5	-0.1133	mg/L	0.00034	-0.2266	mg/L	0.00068	0.30%
Co 228.616†	36.7	0.00092	mg/L	0.000063	0.00184	mg/L	0.000127	6.89%
Cr 267.716†	15.5	0.00295	mg/L	0.000633	0.00590	mg/L	0.001266	21.46%
Cu 324.752†	-16281.7	-0.05508	mg/L	0.000434	-0.1102	mg/L	0.00087	0.79%
Fe 273.955†	1.8	-0.00146	mg/L	0.000636	-0.00293	mg/L	0.001271	43.42%
K 766.490†	257.5	0.1131	mg/L	0.00680	0.2262	mg/L	0.01360	6.01%
Mg 279.077†	36.8	0.03266	mg/L	0.005615	0.06532	mg/L	0.011230	17.19%
Mn 257.610†	73.6	0.00235	mg/L	0.000162	0.00471	mg/L	0.000325	6.90%
Mo 202.031†	-162.3	-0.00836	mg/L	0.000049	-0.01672	mg/L	0.000098	0.59%
Na 589.592†	15840.6	1.188	mg/L	0.0059	2.376	mg/L	0.0118	0.50%
Na 330.237†	1063.4	49.54	mg/L	0.565	99.07	mg/L	1.129	1.14%
Ni 231.604†	4.7	0.00136	mg/L	0.001063	0.00272	mg/L	0.002126	78.20%
Pb 220.353†	1187.6	0.1387	mg/L	0.00088	0.2774	mg/L	0.00177	0.64%
Sb 206.836†	-54.3	-0.01585	mg/L	0.000536	-0.03170	mg/L	0.001072	3.38%
Se 196.026†	-3878.4	-2.786	mg/L	0.0273	-5.571	mg/L	0.0546	0.98%
Si 288.158†	175.9	0.1007	mg/L	0.00548	0.2013	mg/L	0.01095	5.44%
Sn 189.927†	-120.5	-0.03373	mg/L	0.000444	-0.06746	mg/L	0.000888	1.32%
Sr 421.552†	-2171.1	-0.00261	mg/L	0.000023	-0.00523	mg/L	0.000045	0.87%
Ti 334.903†	-145.8	-0.00863	mg/L	0.000294	-0.01725	mg/L	0.000588	3.41%
Tl 190.801†	78.1	0.03427	mg/L	0.000834	0.06853	mg/L	0.001668	2.43%
V 292.402†	58376.3	0.3770	mg/L	0.00730	0.7540	mg/L	0.01459	1.94%
Zn 206.200†	21.6	0.00637	mg/L	0.000611	0.01274	mg/L	0.001222	9.59%

Sequence No.: 12
 Sample ID: YE46 E-L DMN

Autosampler Location: 309
 Date Collected: 4/1/2014 9:29:08 AM
 Data Type: Original

Dilution: 5.000000X

 Nebulizer Parameters: YE46 E-L DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE46 E-L DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2881803.6	97.32	%	0.616			0.63%
ScR 361.383	247403.9	100.7	%	1.01			1.00%
Ag 328.068†	-31.5	-0.00006	mg/L	0.000234	-0.00031	0.001168	375.64%
Al 308.215†	-3.1	-0.00242	mg/L	0.001771	-0.01209	0.008856	73.28%
As 188.979†	121.9	0.06940	mg/L	0.000719	0.3470	0.00360	1.04%
B 249.677†	57.2	0.01001	mg/L	0.001190	0.05004	0.005952	11.89%
Ba 233.527†	1.9	0.00049	mg/L	0.001098	0.00244	0.005488	224.66%
Be 313.042†	15.4	0.00003	mg/L	0.000029	0.00015	0.000145	96.09%
Ca 317.933†	149656.9	15.27	mg/L	0.069	76.36	0.344	0.45%
Cd 228.802†	12.4	0.00001	mg/L	0.000145	0.00004	0.000723	>999.9%
Co 228.616†	14.4	0.00035	mg/L	0.000131	0.00177	0.000657	37.16%
Cr 267.716†	-0.9	-0.00034	mg/L	0.001148	-0.00171	0.005739	335.73%
Cu 324.752†	222.9	0.00071	mg/L	0.000115	0.00355	0.000577	16.24%
Fe 273.955†	92.7	0.08058	mg/L	0.002630	0.4029	0.01315	3.26%
K 766.490†	1566.6	0.6881	mg/L	0.00308	3.440	0.0154	0.45%
Mg 279.077†	396.9	0.3512	mg/L	0.00143	1.756	0.0072	0.41%
Mn 257.610†	228.2	0.00711	mg/L	0.000068	0.03556	0.000342	0.96%
Mo 202.031†	83.7	0.00408	mg/L	0.000378	0.02038	0.001890	9.27%
Na 589.592†	32640.2	2.448	mg/L	0.0118	12.24	0.059	0.48%
Na 330.237†	54.5	2.448	mg/L	0.1170	12.24	0.585	4.78%
Ni 231.604†	3.9	0.00114	mg/L	0.000682	0.00572	0.003412	59.60%
Pb 220.353†	-3.8	-0.00045	mg/L	0.001109	-0.00223	0.005547	248.56%
Sb 206.836†	1.4	0.00038	mg/L	0.001165	0.00192	0.005825	302.73%
Se 196.026†	4.7	0.00339	mg/L	0.006259	0.01695	0.031297	184.67%
Si 288.158†	9266.2	5.304	mg/L	0.0202	26.52	0.101	0.38%
Sn 189.927†	-24.4	-0.00499	mg/L	0.001252	-0.02494	0.006259	25.09%
Sr 421.552†	48970.9	0.05897	mg/L	0.000254	0.2948	0.00127	0.43%
Ti 334.903†	29.5	0.00066	mg/L	0.000615	0.00331	0.003076	92.97%
Tl 190.801†	4.1	0.00190	mg/L	0.000679	0.00951	0.003397	35.71%
V 292.402†	88.7	0.00057	mg/L	0.000092	0.00285	0.000462	16.22%
Zn 206.200†	0.3	0.00107	mg/L	0.000382	0.00537	0.001910	35.54%

Sequence No.: 13
 Sample ID: YE46 E DMN
 Dilution: 1.000000X

Autosampler Location: 310
 Date Collected: 4/1/2014 9:33:07 AM
 Data Type: Original

Nebulizer Parameters: YE46 E DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 E DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929587.4	98.93	%	0.424			0.43%
ScR 361.383	246420.0	100.3	%	0.47			0.47%
Ag 328.068†	-90.7	-0.00002	mg/L	0.000189	-0.00002 mg/L	0.000189	930.67%
Al 308.215†	15.9	0.01190	mg/L	0.002865	0.01190 mg/L	0.002865	24.08%
As 188.979†	589.5	0.3358	mg/L	0.00184	0.3358 mg/L	0.00184	0.55%
B 249.677†	259.7	0.04539	mg/L	0.001116	0.04539 mg/L	0.001116	2.46%
Ba 233.527†	20.6	0.00534	mg/L	0.000957	0.00534 mg/L	0.000957	17.91%
Be 313.042†	21.8	0.00004	mg/L	0.000014	0.00004 mg/L	0.000014	33.52%
Ca 317.933†	688231.4	70.23	mg/L	0.312	70.23 mg/L	0.312	0.44%
Cd 228.802†	56.5	-0.00007	mg/L	0.000065	-0.00007 mg/L	0.000065	87.35%
Co 228.616†	48.9	0.00120	mg/L	0.000100	0.00120 mg/L	0.000100	8.37%
Cr 267.716†	7.8	0.00080	mg/L	0.001030	0.00080 mg/L	0.001030	128.03%
Cu 324.752†	217.7	0.00054	mg/L	0.000266	0.00054 mg/L	0.000266	49.54%
Fe 273.955†	428.8	0.3728	mg/L	0.00268	0.3728 mg/L	0.00268	0.72%
K 766.490†	7189.9	3.158	mg/L	0.0152	3.158 mg/L	0.0152	0.48%
Mg 279.077†	1828.3	1.618	mg/L	0.0110	1.618 mg/L	0.0110	0.68%
Mn 257.610†	1032.6	0.03218	mg/L	0.000126	0.03218 mg/L	0.000126	0.39%
Mo 202.031†	301.2	0.01442	mg/L	0.000098	0.01442 mg/L	0.000098	0.68%
Na 589.592†	153383.7	11.50	mg/L	0.036	11.50 mg/L	0.036	0.31%
Na 330.237†	258.2	11.60	mg/L	0.341	11.60 mg/L	0.341	2.94%
Ni 231.604†	4.1	0.00122	mg/L	0.000518	0.00122 mg/L	0.000518	42.37%
Pb 220.353†	-18.6	-0.00219	mg/L	0.001389	-0.00219 mg/L	0.001389	63.49%
Sb 206.836†	-1.9	-0.00075	mg/L	0.000688	-0.00075 mg/L	0.000688	91.69%
Se 196.026†	17.3	0.01245	mg/L	0.002126	0.01245 mg/L	0.002126	17.07%
Si 288.158†	44285.9	25.35	mg/L	0.192	25.35 mg/L	0.192	0.76%
Sn 189.927†	-71.1	-0.01139	mg/L	0.001189	-0.01139 mg/L	0.001189	10.43%
Sr 421.552†	227037.8	0.2734	mg/L	0.00038	0.2734 mg/L	0.00038	0.14%
Ti 334.903†	121.1	0.00220	mg/L	0.000106	0.00220 mg/L	0.000106	4.84%
Tl 190.801†	20.0	0.00917	mg/L	0.002302	0.00917 mg/L	0.002302	25.11%
V 292.402†	452.0	0.00291	mg/L	0.000088	0.00291 mg/L	0.000088	3.03%
Zn 206.200†	-7.7	0.00247	mg/L	0.000621	0.00247 mg/L	0.000621	25.12%

Sequence No.: 14

Sample ID: YE46 EDUP DMN

Autosampler Location: 311

Date Collected: 4/1/2014 9:37:22 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 EDUP DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 EDUP DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2872560.4	97.01	%	0.689			0.71%
ScR 361.383	244825.3	99.63	%	1.581			1.59%
Ag 328.068†	-77.5	0.00005	mg/L	0.000066	0.00005 mg/L	0.000066	122.56%
Al 308.215†	26.2	0.01975	mg/L	0.002513	0.01975 mg/L	0.002513	12.72%
As 188.979†	596.3	0.3396	mg/L	0.00372	0.3396 mg/L	0.00372	1.10%
B 249.677†	262.8	0.04594	mg/L	0.001795	0.04594 mg/L	0.001795	3.91%
Ba 233.527†	23.5	0.00611	mg/L	0.000467	0.00611 mg/L	0.000467	7.64%
Be 313.042†	43.2	0.00008	mg/L	0.000029	0.00008 mg/L	0.000029	33.93%
Ca 317.933†	703708.5	71.81	mg/L	0.467	71.81 mg/L	0.467	0.65%
Cd 228.802†	56.3	-0.00010	mg/L	0.000084	-0.00010 mg/L	0.000084	83.80%
Co 228.616†	52.4	0.00128	mg/L	0.000070	0.00128 mg/L	0.000070	5.48%
Cr 267.716†	5.4	0.00032	mg/L	0.000493	0.00032 mg/L	0.000493	156.36%
Cu 324.752†	330.9	0.00092	mg/L	0.000038	0.00092 mg/L	0.000038	4.20%
Fe 273.955†	435.3	0.3785	mg/L	0.00898	0.3785 mg/L	0.00898	2.37%
K 766.490†	7280.0	3.197	mg/L	0.0343	3.197 mg/L	0.0343	1.07%
Mg 279.077†	1856.8	1.643	mg/L	0.0277	1.643 mg/L	0.0277	1.68%
Mn 257.610†	1052.2	0.03278	mg/L	0.000604	0.03278 mg/L	0.000604	1.84%
Mo 202.031†	309.9	0.01485	mg/L	0.000299	0.01485 mg/L	0.000299	2.01%
Na 589.592†	154925.7	11.62	mg/L	0.056	11.62 mg/L	0.056	0.48%
Na 330.237†	264.0	11.86	mg/L	0.122	11.86 mg/L	0.122	1.03%
Ni 231.604†	3.9	0.00115	mg/L	0.000315	0.00115 mg/L	0.000315	27.38%
Pb 220.353†	-29.5	-0.00346	mg/L	0.000931	-0.00346 mg/L	0.000931	26.95%
Sb 206.836†	0.7	0.00006	mg/L	0.000704	0.00006 mg/L	0.000704	>999.9%
Se 196.026†	15.4	0.01106	mg/L	0.000825	0.01106 mg/L	0.000825	7.46%
Si 288.158†	45043.9	25.78	mg/L	0.147	25.78 mg/L	0.147	0.57%
Sn 189.927†	-72.3	-0.01155	mg/L	0.000886	-0.01155 mg/L	0.000886	7.67%
Sr 421.552†	230372.7	0.2774	mg/L	0.00176	0.2774 mg/L	0.00176	0.63%
Ti 334.903†	129.1	0.00256	mg/L	0.000580	0.00256 mg/L	0.000580	22.68%
Tl 190.801†	22.9	0.01052	mg/L	0.001479	0.01052 mg/L	0.001479	14.06%
V 292.402†	433.1	0.00279	mg/L	0.000185	0.00279 mg/L	0.000185	6.62%
Zn 206.200†	-6.3	0.00297	mg/L	0.000256	0.00297 mg/L	0.000256	8.63%

Sequence No.: 15

Autosampler Location: 312

Sample ID: YE46 ESPK DMN

Date Collected: 4/1/2014 9:41:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 ESPK DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 ESPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2850101.5	96.25	%	0.278			0.29%
ScR 361.383	244850.6	99.64	%	0.632			0.63%
Ag 328.068†	76108.8	0.3741	mg/L	0.01093	0.3741 mg/L	0.01093	2.92%
Al 308.215†	2750.6	2.100	mg/L	0.0181	2.100 mg/L	0.0181	0.86%
As 188.979†	4495.2	2.599	mg/L	0.0233	2.599 mg/L	0.0233	0.90%
B 249.677†	255.3	0.04353	mg/L	0.002213	0.04353 mg/L	0.002213	5.08%
Ba 233.527†	8080.6	2.115	mg/L	0.0171	2.115 mg/L	0.0171	0.81%
Be 313.042†	247890.1	0.4898	mg/L	0.00223	0.4898 mg/L	0.00223	0.45%
Ca 317.933†	804283.9	82.08	mg/L	0.089	82.08 mg/L	0.089	0.11%
Cd 228.802†	19039.3	0.5556	mg/L	0.00310	0.5556 mg/L	0.00310	0.56%
Co 228.616†	20889.9	0.5166	mg/L	0.00186	0.5166 mg/L	0.00186	0.36%
Cr 267.716†	2654.5	0.5292	mg/L	0.00398	0.5292 mg/L	0.00398	0.75%
Cu 324.752†	157444.8	0.5325	mg/L	0.00151	0.5325 mg/L	0.00151	0.28%
Fe 273.955†	2853.2	2.478	mg/L	0.0173	2.478 mg/L	0.0173	0.70%
K 766.490†	31226.0	13.71	mg/L	0.001	13.71 mg/L	0.001	0.00%
Mg 279.077†	13937.6	12.39	mg/L	0.066	12.39 mg/L	0.066	0.53%
Mn 257.610†	17333.8	0.5452	mg/L	0.00452	0.5452 mg/L	0.00452	0.83%
Mo 202.031†	322.9	0.01536	mg/L	0.000059	0.01536 mg/L	0.000059	0.39%
Na 589.592†	296224.9	22.22	mg/L	0.080	22.22 mg/L	0.080	0.36%
Na 330.237†	496.7	22.49	mg/L	0.355	22.49 mg/L	0.355	1.58%
Ni 231.604†	1754.3	0.5184	mg/L	0.00143	0.5184 mg/L	0.00143	0.28%
Pb 220.353†	17953.7	2.095	mg/L	0.0088	2.095 mg/L	0.0088	0.42%
Sb 206.836†	29.9	0.00416	mg/L	0.002005	0.00416 mg/L	0.002005	48.24%
Se 196.026†	3378.8	2.426	mg/L	0.0180	2.426 mg/L	0.0180	0.74%
Si 288.158†	45119.7	25.83	mg/L	0.152	25.83 mg/L	0.152	0.59%
Sn 189.927†	-79.2	-0.01215	mg/L	0.001220	-0.01215 mg/L	0.001220	10.04%
Sr 421.552†	659812.2	0.7945	mg/L	0.00132	0.7945 mg/L	0.00132	0.17%
Ti 334.903†	139.5	0.00235	mg/L	0.000156	0.00235 mg/L	0.000156	6.63%
Tl 190.801†	4621.5	2.103	mg/L	0.0177	2.103 mg/L	0.0177	0.84%
V 292.402†	81600.8	0.5291	mg/L	0.00512	0.5291 mg/L	0.00512	0.97%
Zn 206.200†	1794.1	0.5307	mg/L	0.00578	0.5307 mg/L	0.00578	1.09%

Sequence No.: 16

Autosampler Location: 313

Sample ID: YE46 MB2SPK DMN

Date Collected: 4/1/2014 9:45:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 MB2SPK DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 MB2SPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2869506.9	96.90	%	0.370			0.38%
ScR 361.383	244630.4	99.55	%	0.712			0.72%
Ag 328.068†	106058.8	0.5206	mg/L	0.01245	0.5206 mg/L	0.01245	2.39%
Al 308.215†	2804.7	2.142	mg/L	0.0179	2.142 mg/L	0.0179	0.84%
As 188.979†	3813.6	2.210	mg/L	0.0102	2.210 mg/L	0.0102	0.46%
B 249.677†	60.3	0.00944	mg/L	0.001294	0.00944 mg/L	0.001294	13.71%
Ba 233.527†	8105.3	2.122	mg/L	0.0138	2.122 mg/L	0.0138	0.65%
Be 313.042†	245780.2	0.4856	mg/L	0.00177	0.4856 mg/L	0.00177	0.36%
Ca 317.933†	103887.8	10.60	mg/L	0.025	10.60 mg/L	0.025	0.23%
Cd 228.802†	18822.2	0.5511	mg/L	0.00407	0.5511 mg/L	0.00407	0.74%
Co 228.616†	20958.7	0.5183	mg/L	0.00271	0.5183 mg/L	0.00271	0.52%
Cr 267.716†	2680.0	0.5350	mg/L	0.00415	0.5350 mg/L	0.00415	0.78%
Cu 324.752†	150993.8	0.5109	mg/L	0.00150	0.5109 mg/L	0.00150	0.29%
Fe 273.955†	2459.4	2.135	mg/L	0.0168	2.135 mg/L	0.0168	0.79%
K 766.490†	23941.4	10.51	mg/L	0.003	10.51 mg/L	0.003	0.03%
Mg 279.077†	12230.2	10.88	mg/L	0.068	10.88 mg/L	0.068	0.62%
Mn 257.610†	15740.3	0.4954	mg/L	0.00070	0.4954 mg/L	0.00070	0.14%
Mo 202.031†	30.7	0.00142	mg/L	0.000107	0.00142 mg/L	0.000107	7.56%
Na 589.592†	141210.1	10.59	mg/L	0.008	10.59 mg/L	0.008	0.07%
Na 330.237†	237.0	10.82	mg/L	0.248	10.82 mg/L	0.248	2.29%
Ni 231.604†	1794.2	0.5302	mg/L	0.00688	0.5302 mg/L	0.00688	1.30%
Pb 220.353†	18023.0	2.104	mg/L	0.0130	2.104 mg/L	0.0130	0.62%
Sb 206.836†	14.2	-0.00070	mg/L	0.001842	-0.00070 mg/L	0.001842	263.99%
Se 196.026†	3324.4	2.387	mg/L	0.0141	2.387 mg/L	0.0141	0.59%
Si 288.158†	-10.7	-0.00236	mg/L	0.001766	-0.00236 mg/L	0.001766	74.84%
Sn 189.927†	-22.2	-0.00486	mg/L	0.000547	-0.00486 mg/L	0.000547	11.26%
Sr 421.552†	428034.2	0.5154	mg/L	0.00137	0.5154 mg/L	0.00137	0.27%
Ti 334.903†	18.8	0.00026	mg/L	0.000784	0.00026 mg/L	0.000784	297.87%
Tl 190.801†	4629.0	2.107	mg/L	0.0044	2.107 mg/L	0.0044	0.21%
V 292.402†	80951.2	0.5249	mg/L	0.00309	0.5249 mg/L	0.00309	0.59%
Zn 206.200†	1826.0	0.5352	mg/L	0.00442	0.5352 mg/L	0.00442	0.83%

YE46:00124

Sequence No.: 17

Sample ID: CV 2

Autosampler Location: 7

Date Collected: 4/1/2014 9:49:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2810545.3	94.91	%	0.667			0.70%
ScR 361.383	236492.4	96.24	%	0.325			0.34%
Ag 328.068†	220028.1	1.080	mg/L	0.0061	1.080 mg/L	0.0061	0.56%
Al 308.215†	2742.5	2.069	mg/L	0.0048	2.069 mg/L	0.0048	0.23%
As 188.979†	3542.0	2.085	mg/L	0.0098	2.085 mg/L	0.0098	0.47%
B 249.677†	5937.0	1.036	mg/L	0.0037	1.036 mg/L	0.0037	0.36%
Ba 233.527†	4009.9	1.049	mg/L	0.0058	1.049 mg/L	0.0058	0.55%
Be 313.042†	514060.0	1.016	mg/L	0.0057	1.016 mg/L	0.0057	0.56%
Ca 317.933†	20991.3	2.142	mg/L	0.0138	2.142 mg/L	0.0138	0.65%
Cd 228.802†	35258.3	1.043	mg/L	0.0043	1.043 mg/L	0.0043	0.41%
Co 228.616†	41225.9	1.018	mg/L	0.0038	1.018 mg/L	0.0038	0.38%
Cr 267.716†	5305.3	1.061	mg/L	0.0047	1.061 mg/L	0.0047	0.44%
Cu 324.752†	300914.1	1.018	mg/L	0.0026	1.018 mg/L	0.0026	0.26%
Fe 273.955†	2457.0	2.130	mg/L	0.0167	2.130 mg/L	0.0167	0.78%
K 766.490†	46286.8	20.33	mg/L	0.033	20.33 mg/L	0.033	0.16%
Mg 279.077†	2301.5	2.054	mg/L	0.0170	2.054 mg/L	0.0170	0.83%
Mn 257.610†	31038.2	0.9767	mg/L	0.00319	0.9767 mg/L	0.00319	0.33%
Mo 202.031†	18951.1	0.9761	mg/L	0.00193	0.9761 mg/L	0.00193	0.20%
Na 589.592†	687666.5	51.58	mg/L	0.114	51.58 mg/L	0.114	0.22%
Na 330.237†	1119.6	52.11	mg/L	0.222	52.11 mg/L	0.222	0.43%
Ni 231.604†	3546.5	1.050	mg/L	0.0046	1.050 mg/L	0.0046	0.43%
Pb 220.353†	17348.4	2.025	mg/L	0.0054	2.025 mg/L	0.0054	0.27%
Sb 206.836†	6756.8	2.104	mg/L	0.0095	2.104 mg/L	0.0095	0.45%
Se 196.026†	2853.2	2.048	mg/L	0.0123	2.048 mg/L	0.0123	0.60%
Si 288.158†	3552.1	2.038	mg/L	0.0194	2.038 mg/L	0.0194	0.95%
Sn 189.927†	3565.5	0.9996	mg/L	0.00483	0.9996 mg/L	0.00483	0.48%
Sr 421.552†	852068.8	1.026	mg/L	0.0012	1.026 mg/L	0.0012	0.12%
Ti 334.903†	16751.1	0.9905	mg/L	0.00159	0.9905 mg/L	0.00159	0.16%
Tl 190.801†	4615.3	2.097	mg/L	0.0127	2.097 mg/L	0.0127	0.60%
V 292.402†	160114.3	1.038	mg/L	0.0026	1.038 mg/L	0.0026	0.25%
Zn 206.200†	3528.8	1.034	mg/L	0.0039	1.034 mg/L	0.0039	0.38%

Sequence No.: 18

Autosampler Location: 1

Sample ID: CB 2

Date Collected: 4/1/2014 9:53:41 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2837110.9	95.81	%	0.189				0.20%
ScR 361.383	239928.0	97.63	%	0.135				0.14%
Ag 328.068†	33.7	0.00017	mg/L	0.000084	0.00017	mg/L	0.000084	51.06%
Al 308.215†	3.1	0.00232	mg/L	0.008796	0.00232	mg/L	0.008796	378.47%
As 188.979†	-0.5	-0.00025	mg/L	0.001254	-0.00025	mg/L	0.001254	508.52%
B 249.677†	8.4	0.00146	mg/L	0.000427	0.00146	mg/L	0.000427	29.14%
Ba 233.527†	-4.1	-0.00109	mg/L	0.000616	-0.00109	mg/L	0.000616	56.68%
Be 313.042†	56.9	0.00011	mg/L	0.000020	0.00011	mg/L	0.000020	18.10%
Ca 317.933†	16.1	0.00165	mg/L	0.000750	0.00165	mg/L	0.000750	45.53%
Cd 228.802†	17.7	0.00053	mg/L	0.000134	0.00053	mg/L	0.000134	25.25%
Co 228.616†	-0.5	-0.00001	mg/L	0.000143	-0.00001	mg/L	0.000143	>999.9%
Cr 267.716†	-1.1	-0.00021	mg/L	0.000893	-0.00021	mg/L	0.000893	423.81%
Cu 324.752†	335.1	0.00113	mg/L	0.000101	0.00113	mg/L	0.000101	8.94%
Fe 273.955†	2.8	0.00247	mg/L	0.001047	0.00247	mg/L	0.001047	42.42%
K 766.490†	47.4	0.02080	mg/L	0.020053	0.02080	mg/L	0.020053	96.40%
Mg 279.077†	6.7	0.00600	mg/L	0.003186	0.00600	mg/L	0.003186	53.10%
Mn 257.610†	5.7	0.00018	mg/L	0.000076	0.00018	mg/L	0.000076	42.39%
Mo 202.031†	26.4	0.00136	mg/L	0.000344	0.00136	mg/L	0.000344	25.32%
Na 589.592†	138.2	0.01036	mg/L	0.002757	0.01036	mg/L	0.002757	26.60%
Na 330.237†	-5.7	-0.2671	mg/L	0.24915	-0.2671	mg/L	0.24915	93.26%
Ni 231.604†	-0.2	-0.00005	mg/L	0.000556	-0.00005	mg/L	0.000556	>999.9%
Pb 220.353†	2.3	0.00026	mg/L	0.000885	0.00026	mg/L	0.000885	336.65%
Sb 206.836†	29.7	0.00925	mg/L	0.001873	0.00925	mg/L	0.001873	20.24%
Se 196.026†	-0.5	-0.00033	mg/L	0.001752	-0.00033	mg/L	0.001752	530.00%
Si 288.158†	0.6	0.00035	mg/L	0.004114	0.00035	mg/L	0.004114	>999.9%
Sn 189.927†	-3.1	-0.00085	mg/L	0.000429	-0.00085	mg/L	0.000429	50.23%
Sr 421.552†	65.5	0.00008	mg/L	0.000053	0.00008	mg/L	0.000053	67.60%
Ti 334.903†	11.6	0.00068	mg/L	0.000334	0.00068	mg/L	0.000334	48.70%
Tl 190.801†	0.4	0.00020	mg/L	0.000787	0.00020	mg/L	0.000787	403.11%
V 292.402†	-25.7	-0.00017	mg/L	0.000155	-0.00017	mg/L	0.000155	93.00%
Zn 206.200†	2.1	0.00062	mg/L	0.000466	0.00062	mg/L	0.000466	75.48%

Sequence No.: 19
 Sample ID: YE46 MB2 DMN

Autosampler Location: 305
 Date Collected: 4/1/2014 9:57:41 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 MB2 DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

 Mean Data: YE46 MB2 DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	3001230.7	101.4	%	0.98				0.97%
ScR 361.383	255649.6	104.0	%	1.34				1.29%
Ag 328.068†	-17.8	-0.00009	mg/L	0.000192	-0.00009	mg/L	0.000192	220.81%
Al 308.215†	46.6	0.03572	mg/L	0.005182	0.03572	mg/L	0.005182	14.51%
As 188.979†	2.6	0.00151	mg/L	0.000862	0.00151	mg/L	0.000862	57.20%
B 249.677†	64.9	0.01134	mg/L	0.000762	0.01134	mg/L	0.000762	6.72%
Ba 233.527†	-2.5	-0.00065	mg/L	0.000455	-0.00065	mg/L	0.000455	69.67%
Be 313.042†	21.9	0.00004	mg/L	0.000036	0.00004	mg/L	0.000036	82.36%
Ca 317.933†	925.6	0.09446	mg/L	0.000495	0.09446	mg/L	0.000495	0.52%
Cd 228.802†	7.8	0.00023	mg/L	0.000059	0.00023	mg/L	0.000059	26.01%
Co 228.616†	19.7	0.00049	mg/L	0.000057	0.00049	mg/L	0.000057	11.70%
Cr 267.716†	4.0	0.00080	mg/L	0.000670	0.00080	mg/L	0.000670	83.64%
Cu 324.752†	219.5	0.00074	mg/L	0.000230	0.00074	mg/L	0.000230	30.98%
Fe 273.955†	-0.0	-0.00003	mg/L	0.001261	-0.00003	mg/L	0.001261	>999.9%
K 766.490†	76.3	0.03349	mg/L	0.010067	0.03349	mg/L	0.010067	30.06%
Mg 279.077†	2.8	0.00247	mg/L	0.002901	0.00247	mg/L	0.002901	117.54%
Mn 257.610†	-2.6	-0.00008	mg/L	0.000169	-0.00008	mg/L	0.000169	204.69%
Mo 202.031†	0.4	0.00002	mg/L	0.000297	0.00002	mg/L	0.000297	>999.9%
Na 589.592†	119.5	0.00897	mg/L	0.001352	0.00897	mg/L	0.001352	15.09%
Na 330.237†	-6.7	-0.3129	mg/L	0.12808	-0.3129	mg/L	0.12808	40.94%
Ni 231.604†	-0.3	-0.00010	mg/L	0.001567	-0.00010	mg/L	0.001567	>999.9%
Pb 220.353†	2.5	0.00030	mg/L	0.000715	0.00030	mg/L	0.000715	241.05%
Sb 206.836†	-0.2	-0.00009	mg/L	0.000613	-0.00009	mg/L	0.000613	682.83%
Se 196.026†	5.7	0.00406	mg/L	0.001193	0.00406	mg/L	0.001193	29.39%
Si 288.158†	-16.4	-0.00940	mg/L	0.001533	-0.00940	mg/L	0.001533	16.31%
Sn 189.927†	-7.7	-0.00214	mg/L	0.000423	-0.00214	mg/L	0.000423	19.77%
Sr 421.552†	419.5	0.00051	mg/L	0.000029	0.00051	mg/L	0.000029	5.76%
Ti 334.903†	-0.1	-0.00002	mg/L	0.000272	-0.00002	mg/L	0.000272	>999.9%
Tl 190.801†	4.5	0.00207	mg/L	0.001490	0.00207	mg/L	0.001490	71.87%
V 292.402†	-24.9	-0.00016	mg/L	0.000071	-0.00016	mg/L	0.000071	45.22%
Zn 206.200†	2.4	0.00071	mg/L	0.000635	0.00071	mg/L	0.000635	89.02%

Sequence No.: 20

Autosampler Location: 314

Sample ID: YE46 MB1 TWC

Date Collected: 4/1/2014 10:01:58 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 MB1 TWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 MB1 TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2909508.1	98.25	%	0.499			0.51%
ScR 361.383	247238.7	100.6	%	0.14			0.14%
Ag 328.068†	35.8	0.00018	mg/L	0.000090	0.00018 mg/L	0.000090	51.23%
Al 308.215†	-1.5	-0.00112	mg/L	0.001367	-0.00112 mg/L	0.001367	122.33%
As 188.979†	-0.4	-0.00019	mg/L	0.002134	-0.00019 mg/L	0.002134	>999.9%
B 249.677†	11.1	0.00193	mg/L	0.001578	0.00193 mg/L	0.001578	81.67%
Ba 233.527†	-3.1	-0.00081	mg/L	0.000610	-0.00081 mg/L	0.000610	74.89%
Be 313.042†	25.7	0.00005	mg/L	0.000016	0.00005 mg/L	0.000016	30.60%
Cd 228.802†	30.4	0.00310	mg/L	0.001923	0.00310 mg/L	0.001923	62.08%
Cd 228.802†	10.6	0.00032	mg/L	0.000066	0.00032 mg/L	0.000066	20.58%
Co 228.616†	5.2	0.00013	mg/L	0.000048	0.00013 mg/L	0.000048	37.36%
Cr 267.716†	0.5	0.00010	mg/L	0.000273	0.00010 mg/L	0.000273	277.99%
Cu 324.752†	344.7	0.00117	mg/L	0.000166	0.00117 mg/L	0.000166	14.24%
Fe 273.955†	2.5	0.00221	mg/L	0.001867	0.00221 mg/L	0.001867	84.54%
K 766.490†	40.7	0.01788	mg/L	0.011159	0.01788 mg/L	0.011159	62.42%
Mg 279.077†	0.2	0.00017	mg/L	0.001588	0.00017 mg/L	0.001588	911.74%
Mn 257.610†	1.6	0.00005	mg/L	0.000156	0.00005 mg/L	0.000156	318.67%
Mo 202.031†	5.0	0.00026	mg/L	0.000133	0.00026 mg/L	0.000133	52.02%
Na 589.592†	119.9	0.00899	mg/L	0.003039	0.00899 mg/L	0.003039	33.80%
Na 330.237†	-0.6	-0.02593	mg/L	0.154974	-0.02593 mg/L	0.154974	597.66%
Ni 231.604†	0.8	0.00025	mg/L	0.000400	0.00025 mg/L	0.000400	160.37%
Pb 220.353†	7.6	0.00088	mg/L	0.000778	0.00088 mg/L	0.000778	87.90%
Sb 206.836†	3.7	0.00114	mg/L	0.000350	0.00114 mg/L	0.000350	30.83%
Se 196.026†	4.5	0.00321	mg/L	0.001690	0.00321 mg/L	0.001690	52.68%
Si 288.158†	12.0	0.00689	mg/L	0.000565	0.00689 mg/L	0.000565	8.20%
Sn 189.927†	-2.1	-0.00059	mg/L	0.000828	-0.00059 mg/L	0.000828	141.41%
Sr 421.552†	28.1	0.00003	mg/L	0.000041	0.00003 mg/L	0.000041	121.50%
Ti 334.903†	10.4	0.00061	mg/L	0.000087	0.00061 mg/L	0.000087	14.10%
Tl 190.801†	6.1	0.00280	mg/L	0.001115	0.00280 mg/L	0.001115	39.83%
V 292.402†	-34.6	-0.00022	mg/L	0.000095	-0.00022 mg/L	0.000095	42.42%
Zn 206.200†	4.6	0.00134	mg/L	0.000450	0.00134 mg/L	0.000450	33.67%

Sequence No.: 21

Autosampler Location: 315

Sample ID: YE46 D-L TWC

Date Collected: 4/1/2014 10:05:59 AM

Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YE46 D-L TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 D-L TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2885579.4	97.45	%	0.178			0.18%
ScR 361.383	247660.7	100.8	%	0.09			0.09%
Ag 328.068†	1.8	0.00010	mg/L	0.000286	0.00050 mg/L	0.001428	283.09%
Al 308.215†	25.5	0.01949	mg/L	0.000258	0.09744 mg/L	0.001292	1.33%
As 188.979†	127.8	0.07279	mg/L	0.002632	0.3640 mg/L	0.01316	3.62%
B 249.677†	91.1	0.01592	mg/L	0.001794	0.07959 mg/L	0.008969	11.27%
Ba 233.527†	5.5	0.00142	mg/L	0.000718	0.00710 mg/L	0.003589	50.53%
Be 313.042†	16.5	0.00003	mg/L	0.000027	0.00016 mg/L	0.000137	84.59%
Ca 317.933†	149348.5	15.24	mg/L	0.072	76.21 mg/L	0.361	0.47%
Cd 228.802†	19.0	0.00018	mg/L	0.000108	0.00092 mg/L	0.000538	58.33%
Co 228.616†	15.2	0.00037	mg/L	0.000041	0.00187 mg/L	0.000206	11.01%
Cr 267.716†	0.4	-0.00008	mg/L	0.000497	-0.00042 mg/L	0.002485	591.57%
Cu 324.752†	262.9	0.00085	mg/L	0.000130	0.00423 mg/L	0.000651	15.40%
Fe 273.955†	96.9	0.08427	mg/L	0.000285	0.4214 mg/L	0.00142	0.34%
K 766.490†	1558.3	0.6844	mg/L	0.02105	3.422 mg/L	0.1053	3.08%
Mg 279.077†	394.6	0.3493	mg/L	0.00599	1.746 mg/L	0.0300	1.72%
Mn 257.610†	223.5	0.00696	mg/L	0.000046	0.03482 mg/L	0.000232	0.67%
Mo 202.031†	94.3	0.00462	mg/L	0.000029	0.02310 mg/L	0.000146	0.63%
Na 589.592†	32133.5	2.410	mg/L	0.0084	12.05 mg/L	0.042	0.35%
Na 330.237†	55.2	2.480	mg/L	0.2786	12.40 mg/L	1.393	11.23%
Ni 231.604†	0.4	0.00010	mg/L	0.000879	0.00051 mg/L	0.004396	858.38%
Pb 220.353†	-5.9	-0.00069	mg/L	0.000489	-0.00344 mg/L	0.002444	71.09%
Sb 206.836†	2.8	0.00081	mg/L	0.002319	0.00404 mg/L	0.011596	287.09%
Se 196.026†	7.4	0.00532	mg/L	0.001905	0.02662 mg/L	0.009525	35.78%
Si 288.158†	8064.3	4.616	mg/L	0.0825	23.08 mg/L	0.413	1.79%
Sn 189.927†	-26.6	-0.00561	mg/L	0.000976	-0.02806 mg/L	0.004880	17.39%
Sr 421.552†	48997.6	0.05900	mg/L	0.000128	0.2950 mg/L	0.00064	0.22%
Ti 334.903†	27.2	0.00053	mg/L	0.000673	0.00266 mg/L	0.003366	126.58%
Tl 190.801†	10.0	0.00458	mg/L	0.003581	0.02289 mg/L	0.017905	78.23%
V 292.402†	104.7	0.00067	mg/L	0.000026	0.00337 mg/L	0.000131	3.90%
Zn 206.200†	-0.1	0.00083	mg/L	0.000560	0.00414 mg/L	0.002800	67.56%

Sequence No.: 22
Sample ID: YE46 D TWC

Autosampler Location: 316
Date Collected: 4/1/2014 10:09:58 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 D TWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE46 D TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2871226.5	96.96	%	0.194			0.20%
ScR 361.383	243252.1	98.99	%	0.040			0.04%
Ag 328.068†	-74.1	0.00009	mg/L	0.000101	0.00009 mg/L	0.000101	113.44%
Al 308.215†	140.3	0.1072	mg/L	0.00444	0.1072 mg/L	0.00444	4.14%
As 188.979†	617.5	0.3517	mg/L	0.00079	0.3517 mg/L	0.00079	0.23%
B 249.677†	435.8	0.07617	mg/L	0.000842	0.07617 mg/L	0.000842	1.11%
Ba 233.527†	33.3	0.00867	mg/L	0.000435	0.00867 mg/L	0.000435	5.02%
Be 313.042†	40.5	0.00008	mg/L	0.000004	0.00008 mg/L	0.000004	4.92%
Ca 317.933†	733926.1	74.90	mg/L	0.396	74.90 mg/L	0.396	0.53%
Cd 228.802†	62.1	0.00001	mg/L	0.000077	0.00001 mg/L	0.000077	716.51%
Co 228.616†	41.8	0.00102	mg/L	0.000049	0.00102 mg/L	0.000049	4.83%
Cr 267.716†	5.4	0.00027	mg/L	0.000657	0.00027 mg/L	0.000657	243.95%
Cu 324.752†	467.1	0.00137	mg/L	0.000030	0.00137 mg/L	0.000030	2.20%
Fe 273.955†	467.0	0.4061	mg/L	0.00250	0.4061 mg/L	0.00250	0.62%
K 766.490†	7477.3	3.284	mg/L	0.0043	3.284 mg/L	0.0043	0.13%
Mg 279.077†	1926.4	1.705	mg/L	0.0088	1.705 mg/L	0.0088	0.52%
Mn 257.610†	1085.8	0.03383	mg/L	0.000510	0.03383 mg/L	0.000510	1.51%
Mo 202.031†	348.8	0.01680	mg/L	0.000208	0.01680 mg/L	0.000208	1.24%
Na 589.592†	159132.3	11.94	mg/L	0.041	11.94 mg/L	0.041	0.34%
Na 330.237†	265.9	11.93	mg/L	0.293	11.93 mg/L	0.293	2.46%
Ni 231.604†	4.6	0.00135	mg/L	0.000386	0.00135 mg/L	0.000386	28.62%
Pb 220.353†	-21.9	-0.00254	mg/L	0.000261	-0.00254 mg/L	0.000261	10.24%
Sb 206.836†	4.5	0.00125	mg/L	0.001202	0.00125 mg/L	0.001202	96.52%
Se 196.026†	7.7	0.00550	mg/L	0.004157	0.00550 mg/L	0.004157	75.54%
Si 288.158†	41214.5	23.59	mg/L	0.400	23.59 mg/L	0.400	1.69%
Sn 189.927†	-77.9	-0.01274	mg/L	0.001317	-0.01274 mg/L	0.001317	10.34%
Sr 421.552†	240285.2	0.2893	mg/L	0.00102	0.2893 mg/L	0.00102	0.35%
Ti 334.903†	143.1	0.00317	mg/L	0.000554	0.00317 mg/L	0.000554	17.50%
Tl 190.801†	18.6	0.00854	mg/L	0.002158	0.00854 mg/L	0.002158	25.26%
V 292.402†	504.4	0.00325	mg/L	0.000090	0.00325 mg/L	0.000090	2.77%
Zn 206.200†	-1.1	0.00406	mg/L	0.000564	0.00406 mg/L	0.000564	13.90%

Sequence No.: 23

Autosampler Location: 317

Sample ID: YE46 DDUP TWC

Date Collected: 4/1/2014 10:14:13 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 DDUP TWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 DDUP TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2835073.6	95.74	%	0.311			0.32%
ScR 361.383	239494.2	97.46	%	0.450			0.46%
Ag 328.068†	-52.3	0.00019	mg/L	0.000031	0.00019 mg/L	0.000031	16.53%
Al 308.215†	134.1	0.1024	mg/L	0.00223	0.1024 mg/L	0.00223	2.18%
As 188.979†	601.4	0.3424	mg/L	0.00325	0.3424 mg/L	0.00325	0.95%
B 249.677†	427.3	0.07469	mg/L	0.000291	0.07469 mg/L	0.000291	0.39%
Ba 233.527†	31.9	0.00828	mg/L	0.000451	0.00828 mg/L	0.000451	5.45%
Be 313.042†	44.9	0.00009	mg/L	0.000007	0.00009 mg/L	0.000007	8.13%
Cd 317.933†	717545.4	73.23	mg/L	0.068	73.23 mg/L	0.068	0.09%
Cd 228.802†	60.1	0.00000	mg/L	0.000159	0.00000 mg/L	0.000159	>999.9%
Co 228.616†	36.1	0.00088	mg/L	0.000103	0.00088 mg/L	0.000103	11.69%
Cr 267.716†	7.3	0.00066	mg/L	0.000861	0.00066 mg/L	0.000861	129.69%
Cu 324.752†	500.6	0.00149	mg/L	0.000039	0.00149 mg/L	0.000039	2.61%
Fe 273.955†	462.7	0.4023	mg/L	0.00317	0.4023 mg/L	0.00317	0.79%
K 766.490†	7303.3	3.208	mg/L	0.0400	3.208 mg/L	0.0400	1.25%
Mg 279.077†	1888.5	1.671	mg/L	0.0099	1.671 mg/L	0.0099	0.59%
Mn 257.610†	1072.8	0.03343	mg/L	0.000385	0.03343 mg/L	0.000385	1.15%
Mo 202.031†	334.7	0.01610	mg/L	0.000292	0.01610 mg/L	0.000292	1.81%
Na 589.592†	155151.0	11.64	mg/L	0.013	11.64 mg/L	0.013	0.11%
Na 330.237†	265.5	11.92	mg/L	0.349	11.92 mg/L	0.349	2.93%
Ni 231.604†	7.5	0.00222	mg/L	0.001093	0.00222 mg/L	0.001093	49.31%
Pb 220.353†	-20.9	-0.00243	mg/L	0.000318	-0.00243 mg/L	0.000318	13.06%
Sb 206.836†	9.3	0.00272	mg/L	0.002096	0.00272 mg/L	0.002096	76.96%
Se 196.026†	8.5	0.00610	mg/L	0.004020	0.00610 mg/L	0.004020	65.95%
Si 288.158†	42673.6	24.42	mg/L	0.192	24.42 mg/L	0.192	0.79%
Sn 189.927†	-75.3	-0.01220	mg/L	0.001071	-0.01220 mg/L	0.001071	8.78%
Sr 421.552†	235236.6	0.2833	mg/L	0.00036	0.2833 mg/L	0.00036	0.13%
Ti 334.903†	136.3	0.00289	mg/L	0.001073	0.00289 mg/L	0.001073	37.20%
Tl 190.801†	14.8	0.00682	mg/L	0.000918	0.00682 mg/L	0.000918	13.45%
V 292.402†	468.4	0.00302	mg/L	0.000121	0.00302 mg/L	0.000121	3.99%
Zn 206.200†	-1.2	0.00420	mg/L	0.000381	0.00420 mg/L	0.000381	9.07%

Sequence No.: 24

Autosampler Location: 318

Sample ID: YE46 DSPK TWC

Date Collected: 4/1/2014 10:18:28 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 DSPK TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 DSPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2838781.0	95.86 %	1.289			1.34%
ScR 361.383	242397.4	98.64 %	0.956			0.97%
Ag 328.068†	109303.9	0.5369 mg/L	0.00556	0.5369 mg/L	0.00556	1.04%
Al 308.215†	2811.9	2.147 mg/L	0.0235	2.147 mg/L	0.0235	1.10%
As 188.979†	4239.3	2.450 mg/L	0.0242	2.450 mg/L	0.0242	0.99%
B 249.677†	420.9	0.07252 mg/L	0.001829	0.07252 mg/L	0.001829	2.52%
Ba 233.527†	8089.5	2.118 mg/L	0.0150	2.118 mg/L	0.0150	0.71%
Be 313.042†	256038.9	0.5059 mg/L	0.00179	0.5059 mg/L	0.00179	0.35%
Ca 317.933†	828518.4	84.55 mg/L	0.119	84.55 mg/L	0.119	0.14%
Cd 228.802†	17789.7	0.5190 mg/L	0.00579	0.5190 mg/L	0.00579	1.12%
Co 228.616†	20248.6	0.5007 mg/L	0.00578	0.5007 mg/L	0.00578	1.15%
Cr 267.716†	2604.6	0.5192 mg/L	0.00364	0.5192 mg/L	0.00364	0.70%
Cu 324.752†	150136.3	0.5078 mg/L	0.00424	0.5078 mg/L	0.00424	0.84%
Fe 273.955†	2850.6	2.475 mg/L	0.0292	2.475 mg/L	0.0292	1.18%
K 766.490†	30930.9	13.58 mg/L	0.007	13.58 mg/L	0.007	0.05%
Mg 279.077†	13680.8	12.16 mg/L	0.117	12.16 mg/L	0.117	0.96%
Mn 257.610†	17054.5	0.5364 mg/L	0.00657	0.5364 mg/L	0.00657	1.22%
Mo 202.031†	351.1	0.01677 mg/L	0.000221	0.01677 mg/L	0.000221	1.32%
Na 589.592†	298239.1	22.37 mg/L	0.049	22.37 mg/L	0.049	0.22%
Na 330.237†	499.2	22.60 mg/L	0.132	22.60 mg/L	0.132	0.58%
Ni 231.604†	1721.4	0.5087 mg/L	0.00357	0.5087 mg/L	0.00357	0.70%
Pb 220.353†	17260.2	2.015 mg/L	0.0207	2.015 mg/L	0.0207	1.03%
Sb 206.836†	28.1	0.00366 mg/L	0.002042	0.00366 mg/L	0.002042	55.72%
Se 196.026†	2878.5	2.067 mg/L	0.0227	2.067 mg/L	0.0227	1.10%
Si 288.158†	43562.5	24.94 mg/L	0.345	24.94 mg/L	0.345	1.38%
Sn 189.927†	-81.7	-0.01256 mg/L	0.000967	-0.01256 mg/L	0.000967	7.70%
Sr 421.552†	663326.6	0.7987 mg/L	0.00025	0.7987 mg/L	0.00025	0.03%
Ti 334.903†	146.1	0.00256 mg/L	0.000278	0.00256 mg/L	0.000278	10.85%
Tl 190.801†	4489.5	2.043 mg/L	0.0173	2.043 mg/L	0.0173	0.85%
V 292.402†	79423.7	0.5150 mg/L	0.00544	0.5150 mg/L	0.00544	1.06%
Zn 206.200†	1712.5	0.5066 mg/L	0.00554	0.5066 mg/L	0.00554	1.09%

Sequence No.: 25

Sample ID: YE46 DPOST TWC ZZZZZZ

Autosampler Location: 319

Date Collected: 4/1/2014 10:22:28 AM

Data Type: Original

Dilution: 1.000000X

* 4114

Nebulizer Parameters: YE46 DPOST TWC

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: YE46 DPOST TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2816256.9	95.10 %		0.465			0.49%
ScR 361.383	238321.1	96.98 %		0.181			0.19%
Ag 328.068†	103296.4	0.5075 mg/L		0.00364	0.5075 mg/L	0.00364	0.72%
Al 308.215†	2823.1	2.156 mg/L		0.0062	2.156 mg/L	0.0062	0.29%
As 188.979†	4228.1	2.444 mg/L		0.0055	2.444 mg/L	0.0055	0.22%
B 249.677†	427.3	0.07363 mg/L		0.001445	0.07363 mg/L	0.001445	1.96%
Ba 233.527†	8002.9	2.095 mg/L		0.0036	2.095 mg/L	0.0036	0.17%
Be 313.042†	242076.2	0.4783 mg/L		0.00332	0.4783 mg/L	0.00332	0.69%
Ca 317.933†	836232.9	85.34 mg/L		0.155	85.34 mg/L	0.155	0.18%
Cd 228.802†	17751.6	0.5179 mg/L		0.00136	0.5179 mg/L	0.00136	0.26%
Co 228.616†	20100.1	0.4970 mg/L		0.00340	0.4970 mg/L	0.00340	0.68%
Cr 267.716†	2620.7	0.5224 mg/L		0.00128	0.5224 mg/L	0.00128	0.24%
Cu 324.752†	153369.5	0.5187 mg/L		0.00297	0.5187 mg/L	0.00297	0.57%
Fe 273.955†	2847.1	2.472 mg/L		0.0070	2.472 mg/L	0.0070	0.28%
K 766.490†	31161.9	13.69 mg/L		0.070	13.69 mg/L	0.070	0.51%
Mg 279.077†	13778.5	12.25 mg/L		0.024	12.25 mg/L	0.024	0.20%
Mn 257.610†	17080.5	0.5372 mg/L		0.00103	0.5372 mg/L	0.00103	0.19%
Mo 202.031†	351.2	0.01676 mg/L		0.000145	0.01676 mg/L	0.000145	0.86%
Na 589.592†	300683.9	22.55 mg/L		0.113	22.55 mg/L	0.113	0.50%
Na 330.237†	500.2	22.64 mg/L		0.209	22.64 mg/L	0.209	0.92%
Ni 231.604†	1736.9	0.5133 mg/L		0.00210	0.5133 mg/L	0.00210	0.41%
Pb 220.353†	17143.2	2.001 mg/L		0.0092	2.001 mg/L	0.0092	0.46%
Sb 206.836†	27.4	0.00341 mg/L		0.000991	0.00341 mg/L	0.000991	29.04%
Se 196.026†	2877.0	2.066 mg/L		0.0047	2.066 mg/L	0.0047	0.23%
Si 288.158†	43101.5	24.67 mg/L		0.112	24.67 mg/L	0.112	0.45%
Sn 189.927†	-81.7	-0.01246 mg/L		0.000681	-0.01246 mg/L	0.000681	5.47%
Sr 421.552†	665846.7	0.8018 mg/L		0.00213	0.8018 mg/L	0.00213	0.27%
Ti 334.903†	146.2	0.00251 mg/L		0.000399	0.00251 mg/L	0.000399	15.87%
Tl 190.801†	4458.6	2.029 mg/L		0.0024	2.029 mg/L	0.0024	0.12%
V 292.402†	79587.0	0.5161 mg/L		0.00399	0.5161 mg/L	0.00399	0.77%
Zn 206.200†	1719.2	0.5085 mg/L		0.00213	0.5085 mg/L	0.00213	0.42%

Sequence No.: 26
 Sample ID: YE46 MB1SPK TWC

Autosampler Location: 320
 Date Collected: 4/1/2014 10:26:28 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 MB1SPK TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

 Mean Data: YE46 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2874128.6	97.06	%	0.664			0.68%
ScR 361.383	244363.2	99.44	%	0.644			0.65%
Ag 328.068†	109991.6	0.5399	mg/L	0.00538	0.5399 mg/L	0.00538	1.00%
Al 308.215†	2739.8	2.092	mg/L	0.0095	2.092 mg/L	0.0095	0.45%
As 188.979†	3646.0	2.113	mg/L	0.0131	2.113 mg/L	0.0131	0.62%
B 249.677†	6.1	-0.00002	mg/L	0.000268	-0.00002 mg/L	0.000268	>999.9%
Ba 233.527†	8154.1	2.135	mg/L	0.0070	2.135 mg/L	0.0070	0.33%
Be 313.042†	258430.7	0.5106	mg/L	0.00219	0.5106 mg/L	0.00219	0.43%
Ca 317.933†	102808.7	10.49	mg/L	0.043	10.49 mg/L	0.043	0.41%
Cd 228.802†	17911.6	0.5244	mg/L	0.00419	0.5244 mg/L	0.00419	0.80%
Co 228.616†	20681.2	0.5114	mg/L	0.00717	0.5114 mg/L	0.00717	1.40%
Cr 267.716†	2683.7	0.5358	mg/L	0.00116	0.5358 mg/L	0.00116	0.22%
Cu 324.752†	150137.0	0.5080	mg/L	0.00577	0.5080 mg/L	0.00577	1.14%
Fe 273.955†	2475.7	2.149	mg/L	0.0050	2.149 mg/L	0.0050	0.23%
K 766.490†	23679.0	10.40	mg/L	0.054	10.40 mg/L	0.054	0.52%
Mg 279.077†	12121.6	10.79	mg/L	0.024	10.79 mg/L	0.024	0.22%
Mn 257.610†	15755.2	0.4959	mg/L	0.00194	0.4959 mg/L	0.00194	0.39%
Mo 202.031†	30.4	0.00140	mg/L	0.000255	0.00140 mg/L	0.000255	18.21%
Na 589.592†	140454.7	10.53	mg/L	0.057	10.53 mg/L	0.057	0.54%
Na 330.237†	231.6	10.58	mg/L	0.061	10.58 mg/L	0.061	0.58%
Ni 231.604†	1776.5	0.5250	mg/L	0.00362	0.5250 mg/L	0.00362	0.69%
Pb 220.353†	17665.3	2.062	mg/L	0.0218	2.062 mg/L	0.0218	1.06%
Sb 206.836†	20.6	0.00127	mg/L	0.001985	0.00127 mg/L	0.001985	156.46%
Se 196.026†	2898.1	2.081	mg/L	0.0109	2.081 mg/L	0.0109	0.52%
Si 288.158†	168.9	0.1003	mg/L	0.03942	0.1003 mg/L	0.03942	39.28%
Sn 189.927†	-24.9	-0.00562	mg/L	0.001055	-0.00562 mg/L	0.001055	18.79%
Sr 421.552†	426936.9	0.5141	mg/L	0.00297	0.5141 mg/L	0.00297	0.58%
Ti 334.903†	22.4	0.00048	mg/L	0.000620	0.00048 mg/L	0.000620	128.94%
Tl 190.801†	4544.5	2.068	mg/L	0.0156	2.068 mg/L	0.0156	0.75%
V 292.402†	80025.1	0.5190	mg/L	0.00414	0.5190 mg/L	0.00414	0.80%
Zn 206.200†	1761.1	0.5162	mg/L	0.00293	0.5162 mg/L	0.00293	0.57%

Sequence No.: 27

Sample ID: CV 3

Autosampler Location: 7

Date Collected: 4/1/2014 10:30:28 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2851247.7	96.29 %	0.529			0.55%
ScR 361.383	239337.7	97.39 %	0.270			0.28%
Ag 328.068†	215914.9	1.060 mg/L	0.0049	1.060 mg/L	0.0049	0.46%
Al 308.215†	2680.6	2.022 mg/L	0.0043	2.022 mg/L	0.0043	0.21%
As 188.979†	3465.5	2.040 mg/L	0.0128	2.040 mg/L	0.0128	0.63%
B 249.677†	5818.3	1.016 mg/L	0.0012	1.016 mg/L	0.0012	0.12%
Ba 233.527†	3934.7	1.030 mg/L	0.0063	1.030 mg/L	0.0063	0.61%
Be 313.042†	506061.4	0.9999 mg/L	0.00387	0.9999 mg/L	0.00387	0.39%
Ca 317.933†	20612.0	2.103 mg/L	0.0053	2.103 mg/L	0.0053	0.25%
Cd 228.802†	34577.9	1.023 mg/L	0.0026	1.023 mg/L	0.0026	0.25%
Co 228.616†	40588.5	1.002 mg/L	0.0039	1.002 mg/L	0.0039	0.39%
Cr 267.716†	5209.9	1.042 mg/L	0.0003	1.042 mg/L	0.0003	0.02%
Cu 324.752†	296188.7	1.002 mg/L	0.0012	1.002 mg/L	0.0012	0.12%
Fe 273.955†	2401.3	2.081 mg/L	0.0053	2.081 mg/L	0.0053	0.25%
K 766.490†	45795.9	20.11 mg/L	0.055	20.11 mg/L	0.055	0.27%
Mg 279.077†	2258.2	2.016 mg/L	0.0015	2.016 mg/L	0.0015	0.08%
Mn 257.610†	30467.1	0.9587 mg/L	0.00397	0.9587 mg/L	0.00397	0.41%
Mo 202.031†	18593.5	0.9576 mg/L	0.00531	0.9576 mg/L	0.00531	0.55%
Na 589.592†	678655.7	50.90 mg/L	0.017	50.90 mg/L	0.017	0.03%
Na 330.237†	1106.8	51.51 mg/L	0.250	51.51 mg/L	0.250	0.48%
Ni 231.604†	3478.2	1.030 mg/L	0.0017	1.030 mg/L	0.0017	0.17%
Pb 220.353†	17028.4	1.988 mg/L	0.0100	1.988 mg/L	0.0100	0.50%
Sb 206.836†	6636.5	2.066 mg/L	0.0126	2.066 mg/L	0.0126	0.61%
Se 196.026†	2793.2	2.005 mg/L	0.0150	2.005 mg/L	0.0150	0.75%
Si 288.158†	3507.5	2.012 mg/L	0.0356	2.012 mg/L	0.0356	1.77%
Sn 189.927†	3480.5	0.9757 mg/L	0.00616	0.9757 mg/L	0.00616	0.63%
Sr 421.552†	837946.5	1.009 mg/L	0.0004	1.009 mg/L	0.0004	0.03%
Ti 334.903†	16485.5	0.9748 mg/L	0.00089	0.9748 mg/L	0.00089	0.09%
Tl 190.801†	4544.7	2.065 mg/L	0.0132	2.065 mg/L	0.0132	0.64%
V 292.402†	158035.5	1.025 mg/L	0.0049	1.025 mg/L	0.0049	0.48%
Zn 206.200†	3460.7	1.014 mg/L	0.0014	1.014 mg/L	0.0014	0.14%

Sequence No.: 28

Sample ID: CB-3

Autosampler Location: 1

Date Collected: 4/1/2014 10:34:33 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2877701.4	97.18	%	0.670			0.69%
ScR 361.383	245708.8	99.99	%	0.117			0.12%
Ag 328.068†	16.7	0.00008	mg/L	0.000376	0.00008 mg/L	0.000376	458.48%
Al 308.215†	-5.8	-0.00449	mg/L	0.001319	-0.00449 mg/L	0.001319	29.36%
As 188.979†	-1.5	-0.00084	mg/L	0.000236	-0.00084 mg/L	0.000236	28.02%
B 249.677†	10.2	0.00178	mg/L	0.000283	0.00178 mg/L	0.000283	15.87%
Ba 233.527†	-2.2	-0.00056	mg/L	0.000840	-0.00056 mg/L	0.000840	149.09%
Be 313.042†	41.4	0.00008	mg/L	0.000002	0.00008 mg/L	0.000002	2.81%
Ca 317.933†	15.6	0.00159	mg/L	0.000989	0.00159 mg/L	0.000989	62.30%
Cd 228.802†	8.8	0.00027	mg/L	0.000085	0.00027 mg/L	0.000085	31.92%
Co 228.616†	4.3	0.00010	mg/L	0.000118	0.00010 mg/L	0.000118	113.05%
Cr 267.716†	-1.7	-0.00034	mg/L	0.000558	-0.00034 mg/L	0.000558	165.99%
Cu 324.752†	322.1	0.00109	mg/L	0.000106	0.00109 mg/L	0.000106	9.77%
Fe 273.955†	1.4	0.00122	mg/L	0.002381	0.00122 mg/L	0.002381	195.40%
K 766.490†	81.7	0.03589	mg/L	0.005234	0.03589 mg/L	0.005234	14.58%
Mg 279.077†	3.8	0.00338	mg/L	0.002834	0.00338 mg/L	0.002834	83.93%
Mn 257.610†	2.8	0.00009	mg/L	0.000181	0.00009 mg/L	0.000181	208.40%
Mo 202.031†	20.4	0.00105	mg/L	0.000273	0.00105 mg/L	0.000273	26.04%
Na 589.592†	70.9	0.00532	mg/L	0.002165	0.00532 mg/L	0.002165	40.72%
Na 330.237†	-5.4	-0.2527	mg/L	0.25569	-0.2527 mg/L	0.25569	101.18%
Ni 231.604†	0.9	0.00027	mg/L	0.000359	0.00027 mg/L	0.000359	133.68%
Pb 220.353†	5.6	0.00065	mg/L	0.001180	0.00065 mg/L	0.001180	180.36%
Sb 206.836†	28.8	0.00897	mg/L	0.001083	0.00897 mg/L	0.001083	12.08%
Se 196.026†	1.0	0.00069	mg/L	0.002091	0.00069 mg/L	0.002091	304.41%
Si 288.158†	41.2	0.02359	mg/L	0.011361	0.02359 mg/L	0.011361	48.16%
Sn 189.927†	-2.6	-0.00073	mg/L	0.000126	-0.00073 mg/L	0.000126	17.25%
Sr 421.552†	37.1	0.00004	mg/L	0.000043	0.00004 mg/L	0.000043	95.79%
Ti 334.903†	10.3	0.00061	mg/L	0.000228	0.00061 mg/L	0.000228	37.31%
Tl 190.801†	2.0	0.00089	mg/L	0.001693	0.00089 mg/L	0.001693	189.80%
V 292.402†	-17.9	-0.00012	mg/L	0.000086	-0.00012 mg/L	0.000086	73.43%
Zn 206.200†	1.0	0.00029	mg/L	0.000376	0.00029 mg/L	0.000376	127.93%

Sequence No.: 29

Autosampler Location: 301

Sample ID: CRI

Date Collected: 4/1/2014 10:38:34 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2891967.3	97.66	%	0.242			0.25%
ScR 361.383	245924.3	100.1	%	0.35			0.35%
Ag 328.068†	579.4	0.00284	mg/L	0.000284	0.00284 mg/L	0.000284	9.98%
Al 308.215†	63.7	0.04868	mg/L	0.003317	0.04868 mg/L	0.003317	6.82%
As 188.979†	82.5	0.04800	mg/L	0.000618	0.04800 mg/L	0.000618	1.29%
B 249.677†	121.5	0.02124	mg/L	0.000640	0.02124 mg/L	0.000640	3.01%
Ba 233.527†	10.9	0.00283	mg/L	0.000923	0.00283 mg/L	0.000923	32.61%
Be 313.042†	520.1	0.00103	mg/L	0.000007	0.00103 mg/L	0.000007	0.66%
Ca 317.933†	556.7	0.05681	mg/L	0.000281	0.05681 mg/L	0.000281	0.49%
Cd 228.802†	90.1	0.00245	mg/L	0.000285	0.00245 mg/L	0.000285	11.63%
Co 228.616†	130.4	0.00322	mg/L	0.000185	0.00322 mg/L	0.000185	5.76%
Cr 267.716†	24.5	0.00489	mg/L	0.001257	0.00489 mg/L	0.001257	25.69%
Cu 324.752†	933.8	0.00316	mg/L	0.000111	0.00316 mg/L	0.000111	3.51%
Fe 273.955†	62.5	0.05434	mg/L	0.002073	0.05434 mg/L	0.002073	3.82%
K 766.490†	1176.0	0.5165	mg/L	0.00376	0.5165 mg/L	0.00376	0.73%
Mg 279.077†	55.1	0.04907	mg/L	0.004256	0.04907 mg/L	0.004256	8.67%
Mn 257.610†	34.7	0.00109	mg/L	0.000038	0.00109 mg/L	0.000038	3.43%
Mo 202.031†	102.7	0.00529	mg/L	0.000155	0.00529 mg/L	0.000155	2.94%
Na 589.592†	6797.8	0.5099	mg/L	0.00267	0.5099 mg/L	0.00267	0.52%
Na 330.237†	11.0	0.5090	mg/L	0.25046	0.5090 mg/L	0.25046	49.21%
Ni 231.604†	31.8	0.00941	mg/L	0.000692	0.00941 mg/L	0.000692	7.35%
Pb 220.353†	175.8	0.02053	mg/L	0.000918	0.02053 mg/L	0.000918	4.47%
Sb 206.836†	164.6	0.05131	mg/L	0.001649	0.05131 mg/L	0.001649	3.21%
Se 196.026†	74.5	0.05347	mg/L	0.001523	0.05347 mg/L	0.001523	2.85%
Si 288.158†	127.5	0.07301	mg/L	0.010101	0.07301 mg/L	0.010101	13.83%
Sn 189.927†	32.6	0.00915	mg/L	0.001344	0.00915 mg/L	0.001344	14.69%
Sr 421.552†	838.3	0.00101	mg/L	0.000046	0.00101 mg/L	0.000046	4.54%
Ti 334.903†	84.7	0.00501	mg/L	0.000688	0.00501 mg/L	0.000688	13.74%
Tl 190.801†	104.3	0.04754	mg/L	0.000958	0.04754 mg/L	0.000958	2.02%
V 292.402†	437.2	0.00284	mg/L	0.000120	0.00284 mg/L	0.000120	4.21%
Zn 206.200†	38.6	0.01131	mg/L	0.000852	0.01131 mg/L	0.000852	7.53%

Sequence No.: 30

Autosampler Location: 302

Sample ID: ICSA

Date Collected: 4/1/2014 10:42:35 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2766812.4	93.43	%	0.186			0.20%
ScR 361.383	240041.0	97.68	%	0.460			0.47%
Ag 328.068†	-253.4	-0.00063	mg/L	0.000015	-0.00063 mg/L	0.000015	2.42%
Al 308.215†	258953.4	198.4	mg/L	0.75	198.4 mg/L	0.75	0.38%
As 188.979†	50.1	0.02037	mg/L	0.001335	0.02037 mg/L	0.001335	6.55%
B 249.677†	-37.6	-0.00656	mg/L	0.001637	-0.00656 mg/L	0.001637	24.93%
Ba 233.527†	110.1	-0.00202	mg/L	0.000764	-0.00202 mg/L	0.000764	37.75%
Be 313.042†	48.2	0.00009	mg/L	0.000012	0.00009 mg/L	0.000012	12.70%
Ca 317.933†	999104.8	102.0	mg/L	0.67	102.0 mg/L	0.67	0.66%
Cd 228.802†	55.4	-0.00023	mg/L	0.000176	-0.00023 mg/L	0.000176	75.94%
Co 228.616†	89.1	0.00219	mg/L	0.000017	0.00219 mg/L	0.000017	0.76%
Cr 267.716†	11.0	-0.00143	mg/L	0.000668	-0.00143 mg/L	0.000668	46.79%
Cu 324.752†	-2223.5	0.00075	mg/L	0.000075	0.00075 mg/L	0.000075	9.92%
Fe 273.955†	229780.3	199.8	mg/L	1.12	199.8 mg/L	1.12	0.56%
K 766.490†	121.8	0.05351	mg/L	0.011552	0.05351 mg/L	0.011552	21.59%
Mg 279.077†	115114.7	102.3	mg/L	0.36	102.3 mg/L	0.36	0.35%
Mn 257.610†	35.3	-0.00135	mg/L	0.000270	-0.00135 mg/L	0.000270	19.97%
Mo 202.031†	75.4	0.00230	mg/L	0.000323	0.00230 mg/L	0.000323	14.05%
Na 589.592†	170.4	0.01278	mg/L	0.003202	0.01278 mg/L	0.003202	25.06%
Na 330.237†	7.6	-0.2683	mg/L	0.21896	-0.2683 mg/L	0.21896	81.61%
Ni 231.604†	2.3	0.00071	mg/L	0.001286	0.00071 mg/L	0.001286	182.16%
Pb 220.353†	-373.9	-0.00347	mg/L	0.000643	-0.00347 mg/L	0.000643	18.53%
Sb 206.836†	64.6	0.01994	mg/L	0.002344	0.01994 mg/L	0.002344	11.75%
Se 196.026†	51.7	0.03709	mg/L	0.005024	0.03709 mg/L	0.005024	13.55%
Si 288.158†	2.5	0.01358	mg/L	0.012567	0.01358 mg/L	0.012567	92.56%
Sn 189.927†	-101.3	-0.01601	mg/L	0.001255	-0.01601 mg/L	0.001255	7.84%
Sr 421.552†	4549.2	0.00548	mg/L	0.000013	0.00548 mg/L	0.000013	0.23%
Ti 334.903†	150.9	0.00173	mg/L	0.000419	0.00173 mg/L	0.000419	24.23%
Tl 190.801†	-44.3	0.00276	mg/L	0.001634	0.00276 mg/L	0.001634	59.14%
V 292.402†	1498.8	-0.00159	mg/L	0.000251	-0.00159 mg/L	0.000251	15.82%
Zn 206.200†	12.2	0.00356	mg/L	0.000315	0.00356 mg/L	0.000315	8.86%

Sequence No.: 31
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 4/1/2014 10:46:50 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2779060.5	93.85 %	0.301			0.32%
ScR 361.383	239145.1	97.31 %	0.306			0.31%
Ag 328.068†	216521.5	1.063 mg/L	0.0040	1.063 mg/L	0.0040	0.37%
Al 308.215†	260006.7	199.2 mg/L	0.48	199.2 mg/L	0.48	0.24%
As 188.979†	1795.4	1.032 mg/L	0.0049	1.032 mg/L	0.0049	0.48%
B 249.677†	-25.7	-0.00649 mg/L	0.000493	-0.00649 mg/L	0.000493	7.59%
Ba 233.527†	3980.6	1.011 mg/L	0.0036	1.011 mg/L	0.0036	0.36%
Be 313.042†	501672.4	0.9913 mg/L	0.00290	0.9913 mg/L	0.00290	0.29%
Ca 317.933†	1006450.3	102.7 mg/L	0.30	102.7 mg/L	0.30	0.30%
Cd 228.802†	34102.6	1.012 mg/L	0.0018	1.012 mg/L	0.0018	0.18%
Co 228.616†	38273.6	0.9467 mg/L	0.00419	0.9467 mg/L	0.00419	0.44%
Cr 267.716†	5094.7	1.016 mg/L	0.0025	1.016 mg/L	0.0025	0.24%
Cu 324.752†	304956.5	1.040 mg/L	0.0044	1.040 mg/L	0.0044	0.42%
Fe 273.955†	232379.9	202.1 mg/L	1.21	202.1 mg/L	1.21	0.60%
K 766.490†	91.2	0.04005 mg/L	0.008580	0.04005 mg/L	0.008580	21.42%
Mg 279.077†	112532.3	100.0 mg/L	0.27	100.0 mg/L	0.27	0.27%
Mn 257.610†	29893.2	0.9380 mg/L	0.00321	0.9380 mg/L	0.00321	0.34%
Mo 202.031†	69.9	0.00201 mg/L	0.000059	0.00201 mg/L	0.000059	2.96%
Na 589.592†	161.7	0.01213 mg/L	0.001158	0.01213 mg/L	0.001158	9.55%
Na 330.237†	16.0	-0.1586 mg/L	0.22727	-0.1586 mg/L	0.22727	143.32%
Ni 231.604†	3309.3	0.9797 mg/L	0.00358	0.9797 mg/L	0.00358	0.37%
Pb 220.353†	8012.9	0.9758 mg/L	0.00312	0.9758 mg/L	0.00312	0.32%
Sb 206.836†	3288.2	1.015 mg/L	0.0100	1.015 mg/L	0.0100	0.99%
Se 196.026†	1442.0	1.035 mg/L	0.0048	1.035 mg/L	0.0048	0.46%
Si 288.158†	-26.3	0.00138 mg/L	0.006569	0.00138 mg/L	0.006569	476.39%
Sn 189.927†	-102.2	-0.01558 mg/L	0.002168	-0.01558 mg/L	0.002168	13.92%
Sr 421.552†	4504.3	0.00542 mg/L	0.000018	0.00542 mg/L	0.000018	0.34%
Ti 334.903†	155.6	0.00177 mg/L	0.000664	0.00177 mg/L	0.000664	37.59%
Tl 190.801†	2040.6	0.9445 mg/L	0.00290	0.9445 mg/L	0.00290	0.31%
V 292.402†	153307.1	0.9830 mg/L	0.00401	0.9830 mg/L	0.00401	0.41%
Zn 206.200†	3304.6	0.9684 mg/L	0.00179	0.9684 mg/L	0.00179	0.19%

Sequence No.: 32

Autosampler Location: 7

Sample ID: CV

Date Collected: 4/1/2014 10:51:54 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2860316.4	96.59 %	0.138			0.14%
ScR 361.383	239922.8	97.63 %	0.523			0.54%
Ag 328.068†	214717.9	1.054 mg/L	0.0090	1.054 mg/L	0.0090	0.85%
Al 308.215†	2688.1	2.028 mg/L	0.0079	2.028 mg/L	0.0079	0.39%
As 188.979†	3500.5	2.061 mg/L	0.0055	2.061 mg/L	0.0055	0.27%
B 249.677†	5842.5	1.020 mg/L	0.0014	1.020 mg/L	0.0014	0.14%
Ba 233.527†	3929.8	1.028 mg/L	0.0084	1.028 mg/L	0.0084	0.82%
Be 313.042†	510206.4	1.008 mg/L	0.0068	1.008 mg/L	0.0068	0.67%
Ca 317.933†	20819.7	2.125 mg/L	0.0041	2.125 mg/L	0.0041	0.20%
Cd 228.802†	34755.3	1.028 mg/L	0.0056	1.028 mg/L	0.0056	0.55%
Co 228.616†	40622.4	1.003 mg/L	0.0069	1.003 mg/L	0.0069	0.68%
Cr 267.716†	5249.5	1.050 mg/L	0.0015	1.050 mg/L	0.0015	0.14%
Cu 324.752†	296579.2	1.003 mg/L	0.0031	1.003 mg/L	0.0031	0.30%
Fe 273.955†	2445.7	2.120 mg/L	0.0006	2.120 mg/L	0.0006	0.03%
K 766.490†	45820.4	20.12 mg/L	0.101	20.12 mg/L	0.101	0.50%
Mg 279.077†	2278.8	2.034 mg/L	0.0089	2.034 mg/L	0.0089	0.44%
Mn 257.610†	30721.0	0.9667 mg/L	0.00338	0.9667 mg/L	0.00338	0.35%
Mo 202.031†	18638.3	0.9599 mg/L	0.00591	0.9599 mg/L	0.00591	0.62%
Na 589.592†	680355.7	51.03 mg/L	0.213	51.03 mg/L	0.213	0.42%
Na 330.237†	1103.0	51.34 mg/L	0.189	51.34 mg/L	0.189	0.37%
Ni 231.604†	3504.1	1.037 mg/L	0.0037	1.037 mg/L	0.0037	0.36%
Pb 220.353†	17105.3	1.997 mg/L	0.0170	1.997 mg/L	0.0170	0.85%
Sb 206.836†	6701.0	2.087 mg/L	0.0083	2.087 mg/L	0.0083	0.40%
Se 196.026†	2819.3	2.024 mg/L	0.0023	2.024 mg/L	0.0023	0.11%
Si 288.158†	3465.8	1.989 mg/L	0.0258	1.989 mg/L	0.0258	1.30%
Sn 189.927†	3507.7	0.9834 mg/L	0.00122	0.9834 mg/L	0.00122	0.12%
Sr 421.552†	842008.9	1.014 mg/L	0.0035	1.014 mg/L	0.0035	0.35%
Ti 334.903†	16563.6	0.9794 mg/L	0.00274	0.9794 mg/L	0.00274	0.28%
Tl 190.801†	4547.9	2.066 mg/L	0.0092	2.066 mg/L	0.0092	0.44%
V 292.402†	157823.7	1.024 mg/L	0.0108	1.024 mg/L	0.0108	1.06%
Zn 206.200†	3510.7	1.029 mg/L	0.0058	1.029 mg/L	0.0058	0.57%

Sequence No.: 33

Sample ID: CB

Autosampler Location: 1

Date Collected: 4/1/2014 10:55:59 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2874989.5	97.09 %	0.122			0.13%
ScR 361.383	245029.6	99.71 %	0.958			0.96%
Ag 328.068†	4.3	0.00002 mg/L	0.000063	0.00002 mg/L	0.000063	300.26%
Al 308.215†	3.3	0.00253 mg/L	0.004240	0.00253 mg/L	0.004240	167.91%
As 188.979†	0.3	0.00020 mg/L	0.001970	0.00020 mg/L	0.001970	992.35%
B 249.677†	8.9	0.00155 mg/L	0.000142	0.00155 mg/L	0.000142	9.15%
Ba 233.527†	-2.6	-0.00068 mg/L	0.000451	-0.00068 mg/L	0.000451	66.06%
Be 313.042†	49.0	0.00010 mg/L	0.000037	0.00010 mg/L	0.000037	37.75%
Ca 317.933†	16.3	0.00166 mg/L	0.000469	0.00166 mg/L	0.000469	28.19%
Cd 228.802†	12.1	0.00036 mg/L	0.000162	0.00036 mg/L	0.000162	44.96%
Co 228.616†	4.2	0.00010 mg/L	0.000169	0.00010 mg/L	0.000169	163.75%
Cr 267.716†	-5.1	-0.00102 mg/L	0.000452	-0.00102 mg/L	0.000452	44.16%
Cu 324.752†	274.6	0.00093 mg/L	0.000187	0.00093 mg/L	0.000187	20.17%
Fe 273.955†	2.5	0.00217 mg/L	0.001605	0.00217 mg/L	0.001605	73.96%
K 766.490†	73.1	0.03209 mg/L	0.023201	0.03209 mg/L	0.023201	72.29%
Mg 279.077†	6.7	0.00599 mg/L	0.005011	0.00599 mg/L	0.005011	83.68%
Mn 257.610†	7.0	0.00022 mg/L	0.000171	0.00022 mg/L	0.000171	77.94%
Mo 202.031†	19.0	0.00098 mg/L	0.000154	0.00098 mg/L	0.000154	15.76%
Na 589.592†	88.3	0.00662 mg/L	0.000481	0.00662 mg/L	0.000481	7.27%
Na 330.237†	-2.9	-0.1363 mg/L	0.09861	-0.1363 mg/L	0.09861	72.35%
Ni 231.604†	1.6	0.00049 mg/L	0.000832	0.00049 mg/L	0.000832	170.29%
Pb 220.353†	7.0	0.00081 mg/L	0.001067	0.00081 mg/L	0.001067	131.35%
Sb 206.836†	37.6	0.01174 mg/L	0.003695	0.01174 mg/L	0.003695	31.48%
Se 196.026†	-1.4	-0.00100 mg/L	0.003115	-0.00100 mg/L	0.003115	312.40%
Si 288.158†	10.2	0.00583 mg/L	0.007705	0.00583 mg/L	0.007705	132.22%
Sn 189.927†	-3.5	-0.00097 mg/L	0.000440	-0.00097 mg/L	0.000440	45.13%
Sr 421.552†	44.9	0.00005 mg/L	0.000005	0.00005 mg/L	0.000005	9.79%
Ti 334.903†	11.4	0.00067 mg/L	0.000192	0.00067 mg/L	0.000192	28.61%
Tl 190.801†	3.0	0.00139 mg/L	0.002063	0.00139 mg/L	0.002063	148.55%
V 292.402†	-41.3	-0.00027 mg/L	0.000160	-0.00027 mg/L	0.000160	59.03%
Zn 206.200†	1.1	0.00032 mg/L	0.000808	0.00032 mg/L	0.000808	254.80%

Sequence No.: 34
Sample ID: YE32 MBl SWC

Autosampler Location: 321
Date Collected: 4/1/2014 10:59:59 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 MBl SWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE32 MBl SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921203.9	98.65	%	0.635			0.64%
ScR 361.383	245973.3	100.1	%	0.23			0.23%
Ag 328.068†	-12.1	-0.00006	mg/L	0.000075	-0.00012 mg/L	0.000150	127.05%
Al 308.215†	8.5	0.00654	mg/L	0.001182	0.01307 mg/L	0.002364	18.08%
As 188.979†	-2.6	-0.00150	mg/L	0.001943	-0.00300 mg/L	0.003887	129.77%
B 249.677†	5.2	0.00091	mg/L	0.000206	0.00182 mg/L	0.000412	22.66%
Ba 233.527†	-0.5	-0.00013	mg/L	0.000646	-0.00027 mg/L	0.001291	483.60%
Be 313.042†	48.5	0.00010	mg/L	0.000015	0.00019 mg/L	0.000030	15.77%
Ca 317.933†	177.9	0.01816	mg/L	0.001243	0.03631 mg/L	0.002486	6.85%
Cd 228.802†	7.6	0.00024	mg/L	0.000116	0.00047 mg/L	0.000233	49.25%
Co 228.616†	3.4	0.00008	mg/L	0.000112	0.00017 mg/L	0.000224	135.89%
Cr 267.716†	1.4	0.00029	mg/L	0.000594	0.00058 mg/L	0.001188	205.88%
Cu 324.752†	317.0	0.00107	mg/L	0.000188	0.00214 mg/L	0.000376	17.55%
Fe 273.955†	3.2	0.00278	mg/L	0.001298	0.00556 mg/L	0.002596	46.69%
K 766.490†	60.9	0.02676	mg/L	0.007683	0.05352 mg/L	0.015365	28.71%
Mg 279.077†	2.1	0.00182	mg/L	0.006473	0.00365 mg/L	0.012945	354.78%
Mn 257.610†	3.1	0.00010	mg/L	0.000037	0.00020 mg/L	0.000073	37.21%
Mo 202.031†	7.0	0.00036	mg/L	0.000202	0.00072 mg/L	0.000404	56.16%
Na 589.592†	248.9	0.01867	mg/L	0.000581	0.03733 mg/L	0.001163	3.12%
Na 330.237†	-2.0	-0.09445	mg/L	0.238231	-0.1889 mg/L	0.47646	252.22%
Ni 231.604†	0.4	0.00013	mg/L	0.001026	0.00026 mg/L	0.002051	785.24%
Pb 220.353†	6.5	0.00075	mg/L	0.000572	0.00151 mg/L	0.001144	75.85%
Sb 206.836†	14.2	0.00443	mg/L	0.000795	0.00886 mg/L	0.001590	17.94%
Se 196.026†	1.3	0.00094	mg/L	0.001700	0.00188 mg/L	0.003401	180.65%
Si 288.158†	3.2	0.00185	mg/L	0.003478	0.00370 mg/L	0.006956	188.25%
Sn 189.927†	-1.7	-0.00048	mg/L	0.000166	-0.00095 mg/L	0.000331	34.72%
Sr 421.552†	37.6	0.00005	mg/L	0.000006	0.00009 mg/L	0.000013	13.80%
Ti 334.903†	10.8	0.00064	mg/L	0.000384	0.00127 mg/L	0.000768	60.29%
Tl 190.801†	2.5	0.00115	mg/L	0.001812	0.00229 mg/L	0.003624	158.06%
V 292.402†	-40.2	-0.00026	mg/L	0.000114	-0.00052 mg/L	0.000228	44.10%
Zn 206.200†	6.3	0.00183	mg/L	0.000710	0.00367 mg/L	0.001419	38.71%

Sequence No.: 35
 Sample ID: YE32 B SWC

Autosampler Location: 322
 Date Collected: 4/1/2014 11:04:00 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 B SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE32 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2888526.7	97.54 %	0.544			0.56%
ScR 361.383	249667.9	101.6 %	1.15			1.13%
Ag 328.068†	-264.1	-0.00101 mg/L	0.000074	-0.00202 mg/L	0.000148	7.33%
Al 308.215†	175477.0	134.5 mg/L	0.52	268.9 mg/L	1.04	0.39%
As 188.979†	-262.8	0.06626 mg/L	0.002471	0.1325 mg/L	0.00494	3.73%
B 249.677†	70.7	0.01221 mg/L	0.000658	0.02442 mg/L	0.001317	5.39%
Ba 233.527†	2192.7	0.5503 mg/L	0.00767	1.101 mg/L	0.0153	1.39%
Be 313.042†	984.3	0.00179 mg/L	0.000049	0.00358 mg/L	0.000099	2.76%
Ca 317.933†	316848.1	32.33 mg/L	0.107	64.67 mg/L	0.213	0.33%
Cd 228.802†	53.3	0.00131 mg/L	0.000040	0.00262 mg/L	0.000080	3.05%
Co 228.616†	2898.5	0.06052 mg/L	0.000535	0.1210 mg/L	0.00107	0.88%
Cr 267.716†	1077.5	0.2156 mg/L	0.00314	0.4311 mg/L	0.00629	1.46%
Cu 324.752†	35877.8	0.1268 mg/L	0.00164	0.2537 mg/L	0.00329	1.30%
Fe 273.955†	176800.7	153.7 mg/L	1.17	307.5 mg/L	2.34	0.76%
K 766.490†	13563.5	5.957 mg/L	0.0337	11.91 mg/L	0.067	0.57%
Mg 279.077†	57049.1	50.67 mg/L	0.198	101.3 mg/L	0.40	0.39%
Mn 257.610†	73451.1	2.309 mg/L	0.0161	4.618 mg/L	0.0323	0.70%
Mo 202.031†	58.5	0.00251 mg/L	0.000226	0.00502 mg/L	0.000453	9.01%
Na 589.592†	15866.3	1.190 mg/L	0.0023	2.380 mg/L	0.0046	0.19%
Na 330.237†	-9.1	0.9455 mg/L	0.13165	1.891 mg/L	0.2633	13.92%
Ni 231.604†	1006.2	0.2978 mg/L	0.00368	0.5957 mg/L	0.00737	1.24%
Pb 220.353†	-90.3	0.01609 mg/L	0.000356	0.03219 mg/L	0.000712	2.21%
Sb 206.836†	42.8	0.01656 mg/L	0.002747	0.03312 mg/L	0.005494	16.59%
Se 196.026†	35.8	0.02544 mg/L	0.006821	0.05087 mg/L	0.013642	26.82%
Si 288.158†	4061.4	2.331 mg/L	0.0418	4.661 mg/L	0.0836	1.79%
Sn 189.927†	-56.9	-0.01084 mg/L	0.000795	-0.02169 mg/L	0.001589	7.33%
Sr 421.552†	107200.5	0.1291 mg/L	0.00068	0.2582 mg/L	0.00136	0.53%
Ti 334.903†	104859.9	6.206 mg/L	0.0326	12.41 mg/L	0.065	0.53%
Tl 190.801†	-28.4	0.00302 mg/L	0.003640	0.00604 mg/L	0.007279	120.47%
V 292.402†	53521.6	0.3346 mg/L	0.00474	0.6692 mg/L	0.00949	1.42%
Zn 206.200†	929.8	0.2729 mg/L	0.00517	0.5457 mg/L	0.01035	1.90%

Sequence No.: 36
 Sample ID: YE32 C SWC

Autosampler Location: 323
 Date Collected: 4/1/2014 11:08:00 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 C SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE32 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904303.4	98.08	%	0.385			0.39%
ScR 361.383	248137.8	101.0	%	0.38			0.37%
Ag 328.068†	-292.9	-0.00111	mg/L	0.000124	-0.00222 mg/L	0.000248	11.16%
Al 308.215†	181036.6	138.7	mg/L	0.45	277.4 mg/L	0.91	0.33%
As 188.979†	-336.7	0.08126	mg/L	0.006319	0.1625 mg/L	0.01264	7.78%
B 249.677†	78.5	0.01356	mg/L	0.000478	0.02711 mg/L	0.000957	3.53%
Ba 233.527†	2286.8	0.5711	mg/L	0.00249	1.142 mg/L	0.0050	0.44%
Be 313.042†	1070.2	0.00193	mg/L	0.000007	0.00386 mg/L	0.000013	0.35%
Ca 317.933†	361246.5	36.87	mg/L	0.188	73.73 mg/L	0.376	0.51%
Cd 228.802†	55.3	0.00142	mg/L	0.000158	0.00283 mg/L	0.000315	11.12%
Co 228.616†	3411.1	0.07028	mg/L	0.000482	0.1406 mg/L	0.00096	0.69%
Cr 267.716†	1394.8	0.2781	mg/L	0.00122	0.5563 mg/L	0.00244	0.44%
Cu 324.752†	45524.0	0.1602	mg/L	0.00112	0.3203 mg/L	0.00223	0.70%
Fe 273.955†	204712.2	178.0	mg/L	1.73	356.0 mg/L	3.46	0.97%
K 766.490†	14386.1	6.318	mg/L	0.0238	12.64 mg/L	0.048	0.38%
Mg 279.077†	77683.3	69.02	mg/L	0.384	138.0 mg/L	0.77	0.56%
Mn 257.610†	87101.1	2.738	mg/L	0.0196	5.476 mg/L	0.0393	0.72%
Mo 202.031†	272.1	0.01344	mg/L	0.000387	0.02689 mg/L	0.000774	2.88%
Na 589.592†	23244.5	1.743	mg/L	0.0047	3.487 mg/L	0.0094	0.27%
Na 330.237†	-6.4	1.468	mg/L	0.1571	2.935 mg/L	0.3141	10.70%
Ni 231.604†	1162.3	0.3440	mg/L	0.00078	0.6881 mg/L	0.00156	0.23%
Pb 220.353†	-66.5	0.01890	mg/L	0.000298	0.03781 mg/L	0.000595	1.57%
Sb 206.836†	38.7	0.01593	mg/L	0.001516	0.03186 mg/L	0.003031	9.51%
Se 196.026†	32.1	0.02276	mg/L	0.003188	0.04553 mg/L	0.006375	14.00%
Si 288.158†	5342.0	3.066	mg/L	0.0133	6.132 mg/L	0.0266	0.43%
Sn 189.927†	-65.0	-0.01223	mg/L	0.001444	-0.02446 mg/L	0.002887	11.80%
Sr 421.552†	148844.2	0.1792	mg/L	0.00054	0.3585 mg/L	0.00109	0.30%
Ti 334.903†	132470.0	7.841	mg/L	0.0277	15.68 mg/L	0.055	0.35%
Tl 190.801†	-27.2	0.00606	mg/L	0.003749	0.01211 mg/L	0.007498	61.91%
V 292.402†	62201.0	0.3887	mg/L	0.00234	0.7774 mg/L	0.00469	0.60%
Zn 206.200†	1063.4	0.3122	mg/L	0.00191	0.6243 mg/L	0.00382	0.61%

Sequence No.: 37
Sample ID: YE32 D SWC

Autosampler Location: 324
Date Collected: 4/1/2014 11:12:00 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 D SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 D SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2873282.7	97.03	%	0.473				0.49%
ScR 361.383	250368.4	101.9	%	0.68				0.67%
Ag 328.068†	-199.9	-0.00076	mg/L	0.000100	-0.00153	mg/L	0.000200	13.10%
Al 308.215†	202753.9	155.4	mg/L	0.40	310.7	mg/L	0.81	0.26%
As 188.979†	-283.2	0.06709	mg/L	0.001742	0.1342	mg/L	0.00348	2.60%
B 249.677†	54.1	0.00929	mg/L	0.001521	0.01859	mg/L	0.003041	16.36%
Ba 233.527†	2457.9	0.6211	mg/L	0.00438	1.242	mg/L	0.0088	0.71%
Be 313.042†	1073.9	0.00197	mg/L	0.000020	0.00395	mg/L	0.000040	1.01%
Ca 317.933†	220051.5	22.46	mg/L	0.086	44.91	mg/L	0.173	0.38%
Cd 228.802†	52.1	0.00143	mg/L	0.000179	0.00285	mg/L	0.000358	12.58%
Co 228.616†	3020.4	0.06294	mg/L	0.000733	0.1259	mg/L	0.00147	1.16%
Cr 267.716†	1048.5	0.2103	mg/L	0.00119	0.4206	mg/L	0.00237	0.56%
Cu 324.752†	35266.0	0.1244	mg/L	0.00072	0.2487	mg/L	0.00144	0.58%
Fe 273.955†	166231.7	144.5	mg/L	0.78	289.1	mg/L	1.56	0.54%
K 766.490†	12987.9	5.704	mg/L	0.0080	11.41	mg/L	0.016	0.14%
Mg 279.077†	47501.8	42.18	mg/L	0.121	84.36	mg/L	0.242	0.29%
Mn 257.610†	87239.7	2.743	mg/L	0.0151	5.485	mg/L	0.0302	0.55%
Mo 202.031†	47.8	0.00211	mg/L	0.000091	0.00423	mg/L	0.000182	4.31%
Na 589.592†	15828.1	1.187	mg/L	0.0064	2.374	mg/L	0.0129	0.54%
Na 330.237†	-14.0	0.8713	mg/L	0.11762	1.743	mg/L	0.2352	13.50%
Ni 231.604†	1053.6	0.3119	mg/L	0.00308	0.6237	mg/L	0.00615	0.99%
Pb 220.353†	-111.8	0.01919	mg/L	0.000361	0.03838	mg/L	0.000721	1.88%
Sb 206.836†	37.0	0.01499	mg/L	0.002546	0.02998	mg/L	0.005091	16.98%
Se 196.026†	34.3	0.02437	mg/L	0.005854	0.04874	mg/L	0.011707	24.02%
Si 288.158†	9497.4	5.441	mg/L	0.0103	10.88	mg/L	0.021	0.19%
Sn 189.927†	-51.3	-0.01039	mg/L	0.000824	-0.02078	mg/L	0.001648	7.93%
Sr 421.552†	181819.3	0.2189	mg/L	0.00075	0.4379	mg/L	0.00150	0.34%
Ti 334.903†	110442.4	6.537	mg/L	0.0275	13.07	mg/L	0.055	0.42%
Tl 190.801†	-25.0	0.00361	mg/L	0.001811	0.00722	mg/L	0.003622	50.15%
V 292.402†	48652.2	0.3035	mg/L	0.00135	0.6071	mg/L	0.00271	0.45%
Zn 206.200†	872.1	0.2565	mg/L	0.00101	0.5131	mg/L	0.00203	0.39%

Sequence No.: 38
Sample ID: YE32 E SWC

Autosampler Location: 325
Date Collected: 4/1/2014 11:16:00 AM
Data Type: Original

Dilution: 2.000000X

DAZ
Missed tubes

Nebulizer Parameters: YE32 E SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	7749716.5	261.7 %		5.42			2.07%
ScR 361.383	727323.7	296.0 %		4.28			1.45%
Ag 328.068†	-51.6	-0.00025 mg/L		0.000013	-0.00050 mg/L	0.000026	5.23%
Al 308.215†	293.1	0.2244 mg/L		0.48900	0.4489 mg/L	0.97800	217.88%
Saturated within auto integration window (code 4)							
As 188.979†	-14.3	-0.00780 mg/L		0.001047	-0.01560 mg/L	0.002094	13.42%
B 249.677†	-16.2	-0.00284 mg/L		0.000541	-0.00568 mg/L	0.001083	19.05%
Ba 233.527†	-4.8	-0.00130 mg/L		0.002881	-0.00260 mg/L	0.005761	221.97%
Be 313.042†	-469.1	-0.00093 mg/L		0.000016	-0.00186 mg/L	0.000033	1.75%
Ca 317.933†	99.1	0.01012 mg/L		0.000552	0.02024 mg/L	0.001103	5.45%
Cd 228.802†	-43.3	-0.00125 mg/L		0.000131	-0.00250 mg/L	0.000262	10.47%
Co 228.616†	231.1	0.00569 mg/L		0.000442	0.01139 mg/L	0.000885	7.77%
Cr 267.716†	56.7	0.01133 mg/L		0.000844	0.02267 mg/L	0.001687	7.44%
Cu 324.752†	-1075.8	-0.00363 mg/L		0.001588	-0.00726 mg/L	0.003177	43.75%
Fe 273.955†	275.9	0.2398 mg/L		0.45440	0.4797 mg/L	0.90879	189.46%
Saturated within auto integration window (code 4)							
K 766.490†	-285.7	-0.1255 mg/L		0.00243	-0.2509 mg/L	0.00486	1.94%
Mg 279.077†	89.0	0.07905 mg/L		0.192803	0.1581 mg/L	0.38561	243.91%
Mn 257.610†	140.8	0.00443 mg/L		0.012451	0.00885 mg/L	0.024902	281.34%
Mo 202.031†	-24.7	-0.00127 mg/L		0.000060	-0.00254 mg/L	0.000121	4.76%
Na 589.592†	264.6	0.01985 mg/L		0.000976	0.03970 mg/L	0.001953	4.92%
Na 330.237†	100.2	4.673 mg/L		0.0606	9.346 mg/L	0.1213	1.30%
Ni 231.604†	13.2	0.00390 mg/L		0.001379	0.00780 mg/L	0.002759	35.37%
Pb 220.353†	-35.7	-0.00409 mg/L		0.000188	-0.00818 mg/L	0.000377	4.60%
Sb 206.836†	-39.9	-0.01252 mg/L		0.000372	-0.02505 mg/L	0.000743	2.97%
Se 196.026†	22.4	0.01608 mg/L		0.001139	0.03217 mg/L	0.002278	7.08%
Si 288.158†	-12.9	-0.00740 mg/L		0.027703	-0.01479 mg/L	0.055406	374.55%
Sn 189.927†	-2.8	-0.00078 mg/L		0.000445	-0.00156 mg/L	0.000889	56.99%
Sr 421.552†	-142.9	-0.00017 mg/L		0.000010	-0.00034 mg/L	0.000020	5.75%
Ti 334.903†	223.1	0.01321 mg/L		0.019221	0.02641 mg/L	0.038443	145.56%
Saturated within auto integration window (code 4)							
Tl 190.801†	19.8	0.00896 mg/L		0.000731	0.01793 mg/L	0.001462	8.16%
V 292.402†	2123.8	0.01374 mg/L		0.004395	0.02748 mg/L	0.008790	31.98%
Zn 206.200†	-4.7	-0.00139 mg/L		0.000972	-0.00278 mg/L	0.001944	69.98%

Sequence No.: 39
 Sample ID: YE32 ADUP SWC

Autosampler Location: 326
 Date Collected: 4/1/2014 11:21:01 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 ADUP SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE32 ADUP SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2854993.5	96.41	%	0.707			0.73%
ScR 361.383	246621.9	100.4	%	0.44			0.44%
Ag 328.068†	-307.7	-0.00108	mg/L	0.000196	-0.00216 mg/L	0.000391	18.10%
Al 308.215†	206978.0	158.6	mg/L	0.24	317.2 mg/L	0.47	0.15%
As 188.979†	-357.3	0.09189	mg/L	0.003833	0.1838 mg/L	0.00767	4.17%
B 249.677†	235.1	0.04086	mg/L	0.001261	0.08172 mg/L	0.002523	3.09%
Ba 233.527†	2316.2	0.5735	mg/L	0.00430	1.147 mg/L	0.0086	0.75%
Be 313.042†	1242.2	0.00225	mg/L	0.000006	0.00449 mg/L	0.000012	0.27%
Ca 317.933†	499398.5	50.96	mg/L	0.123	101.9 mg/L	0.25	0.24%
Cd 228.802†	30.4	0.00300	mg/L	0.000129	0.00599 mg/L	0.000259	4.32%
Co 228.616†	4405.9	0.09326	mg/L	0.000976	0.1865 mg/L	0.00195	1.05%
Cr 267.716†	3367.5	0.6741	mg/L	0.00229	1.348 mg/L	0.0046	0.34%
Cu 324.752†	210231.2	0.7187	mg/L	0.00776	1.437 mg/L	0.0155	1.08%
Fe 273.955†	242378.4	210.8	mg/L	1.92	421.5 mg/L	3.83	0.91%
K 766.490†	13014.6	5.716	mg/L	0.0086	11.43 mg/L	0.017	0.15%
Mg 279.077†	73213.1	65.02	mg/L	0.114	130.0 mg/L	0.23	0.18%
Mn 257.610†	101640.0	3.195	mg/L	0.0236	6.391 mg/L	0.0473	0.74%
Mo 202.031†	214.9	0.01028	mg/L	0.000310	0.02055 mg/L	0.000620	3.02%
Na 589.592†	24851.5	1.864	mg/L	0.0046	3.728 mg/L	0.0092	0.25%
Na 330.237†	-1.1	1.749	mg/L	0.1738	3.498 mg/L	0.3476	9.94%
Ni 231.604†	9851.4	2.916	mg/L	0.0095	5.832 mg/L	0.0190	0.33%
Pb 220.353†	3387.7	0.4256	mg/L	0.00321	0.8513 mg/L	0.00642	0.75%
Sb 206.836†	64.6	0.01969	mg/L	0.001666	0.03937 mg/L	0.003333	8.46%
Se 196.026†	41.9	0.02975	mg/L	0.003604	0.05951 mg/L	0.007208	12.11%
Si 288.158†	2332.7	1.343	mg/L	0.0049	2.687 mg/L	0.0098	0.37%
Sn 189.927†	-45.8	-0.00502	mg/L	0.001897	-0.01004 mg/L	0.003795	37.80%
Sr 421.552†	140539.6	0.1692	mg/L	0.00036	0.3385 mg/L	0.00073	0.22%
Ti 334.903†	144010.2	8.523	mg/L	0.0263	17.05 mg/L	0.053	0.31%
Tl 190.801†	-36.4	0.00511	mg/L	0.002992	0.01021 mg/L	0.005984	58.58%
V 292.402†	72405.0	0.4540	mg/L	0.00553	0.9081 mg/L	0.01106	1.22%
Zn 206.200†	1736.6	0.5092	mg/L	0.00081	1.018 mg/L	0.0016	0.16%

Sequence No.: 40
 Sample ID: YE32 A SWC

Autosampler Location: 327
 Date Collected: 4/1/2014 11:25:01 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 A SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE32 A SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2861254.0	96.62	%	0.208			0.21%
ScR 361.383	247829.1	100.8	%	0.74			0.74%
Ag 328.068†	-352.1	-0.00135	mg/L	0.000170	-0.00270	0.000340	12.60%
Al 308.215†	188608.2	144.5	mg/L	0.39	289.0	0.77	0.27%
As 188.979†	-316.3	0.08492	mg/L	0.001243	0.1698	0.00249	1.46%
B 249.677†	90.1	0.01556	mg/L	0.001013	0.03113	0.002025	6.51%
Ba 233.527†	2116.6	0.5237	mg/L	0.00086	1.047	0.0017	0.16%
Be 313.042†	1123.9	0.00203	mg/L	0.000043	0.00406	0.000086	2.11%
Ca 317.933†	429396.3	43.82	mg/L	0.137	87.64	0.274	0.31%
Cd 228.802†	26.4	0.00229	mg/L	0.000148	0.00457	0.000296	6.48%
Co 228.616†	3824.0	0.08054	mg/L	0.000083	0.1611	0.00017	0.10%
Cr 267.716†	3038.3	0.6074	mg/L	0.00297	1.215	0.0059	0.49%
Cu 324.752†	198260.6	0.6777	mg/L	0.00328	1.355	0.0066	0.48%
Fe 273.955†	224709.8	195.4	mg/L	0.22	390.8	0.44	0.11%
K 766.490†	14578.1	6.403	mg/L	0.0195	12.81	0.039	0.30%
Mg 279.077†	78645.9	69.86	mg/L	0.180	139.7	0.36	0.26%
Mn 257.610†	86643.6	2.724	mg/L	0.0038	5.447	0.0075	0.14%
Mo 202.031†	237.5	0.01155	mg/L	0.000294	0.02311	0.000588	2.54%
Na 589.592†	25918.6	1.944	mg/L	0.0040	3.888	0.0080	0.21%
Na 330.237†	0.1	1.634	mg/L	0.2757	3.268	0.5515	16.87%
Ni 231.604†	7791.1	2.306	mg/L	0.0207	4.612	0.0414	0.90%
Pb 220.353†	2682.9	0.3405	mg/L	0.00117	0.6810	0.00233	0.34%
Sb 206.836†	60.5	0.01843	mg/L	0.001712	0.03687	0.003424	9.29%
Se 196.026†	38.9	0.02765	mg/L	0.003818	0.05530	0.007637	13.81%
Si 288.158†	2608.1	1.501	mg/L	0.0011	3.003	0.0022	0.07%
Sn 189.927†	-50.3	-0.00732	mg/L	0.001165	-0.01464	0.002329	15.91%
Sr 421.552†	117517.3	0.1415	mg/L	0.00010	0.2830	0.00019	0.07%
Ti 334.903†	129126.7	7.642	mg/L	0.0121	15.28	0.024	0.16%
Tl 190.801†	-38.4	0.00265	mg/L	0.000698	0.00530	0.001395	26.31%
V 292.402†	67459.7	0.4231	mg/L	0.00146	0.8463	0.00291	0.34%
Zn 206.200†	1528.5	0.4482	mg/L	0.00420	0.8965	0.00840	0.94%

Sequence No.: 41
 Sample ID: YE32 ASPK SWC

Autosampler Location: 328
 Date Collected: 4/1/2014 11:29:01 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 ASPK SWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

 Mean Data: YE32 ASPK SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2886037.6	97.46	%	0.294			0.30%
ScR 361.383	245537.5	99.92	%	0.585			0.59%
Ag 328.068†	106934.0	0.5253	mg/L	0.00313	1.051 mg/L	0.0063	0.60%
Al 308.215†	201182.5	154.1	mg/L	0.84	308.3 mg/L	1.69	0.55%
As 188.979†	3183.5	2.114	mg/L	0.0073	4.229 mg/L	0.0145	0.34%
B 249.677†	100.8	0.01635	mg/L	0.000849	0.03269 mg/L	0.001698	5.19%
Ba 233.527†	10299.9	2.663	mg/L	0.0191	5.325 mg/L	0.0381	0.72%
Be 313.042†	255620.4	0.5049	mg/L	0.00231	1.010 mg/L	0.0046	0.46%
Ca 317.933†	567202.5	57.88	mg/L	0.141	115.8 mg/L	0.28	0.24%
Cd 228.802†	18233.5	0.5371	mg/L	0.00095	1.074 mg/L	0.0019	0.18%
Co 228.616†	24489.1	0.5913	mg/L	0.00113	1.183 mg/L	0.0023	0.19%
Cr 267.716†	6102.4	1.220	mg/L	0.0062	2.440 mg/L	0.0124	0.51%
Cu 324.752†	392342.0	1.335	mg/L	0.0074	2.671 mg/L	0.0147	0.55%
Fe 273.955†	250581.1	217.9	mg/L	1.39	435.8 mg/L	2.78	0.64%
K 766.490†	35702.1	15.68	mg/L	0.083	31.36 mg/L	0.166	0.53%
Mg 279.077†	88096.3	78.26	mg/L	0.310	156.5 mg/L	0.62	0.40%
Mn 257.610†	108033.8	3.397	mg/L	0.0162	6.793 mg/L	0.0324	0.48%
Mo 202.031†	229.4	0.01092	mg/L	0.000267	0.02184 mg/L	0.000533	2.44%
Na 589.592†	163267.2	12.25	mg/L	0.047	24.49 mg/L	0.094	0.38%
Na 330.237†	225.5	11.90	mg/L	0.120	23.80 mg/L	0.240	1.01%
Ni 231.604†	13837.8	4.095	mg/L	0.0199	8.190 mg/L	0.0397	0.48%
Pb 220.353†	21209.8	2.504	mg/L	0.0044	5.008 mg/L	0.0089	0.18%
Sb 206.836†	88.2	0.02108	mg/L	0.003239	0.04217 mg/L	0.006479	15.36%
Se 196.026†	2840.5	2.039	mg/L	0.0038	4.078 mg/L	0.0075	0.18%
Si 288.158†	2851.8	1.644	mg/L	0.0159	3.289 mg/L	0.0319	0.97%
Sn 189.927†	-61.2	-0.00858	mg/L	0.001774	-0.01715 mg/L	0.003547	20.68%
Sr 421.552†	566576.4	0.6822	mg/L	0.00371	1.364 mg/L	0.0074	0.54%
Ti 334.903†	130005.1	7.693	mg/L	0.0308	15.39 mg/L	0.062	0.40%
Tl 190.801†	4259.8	1.961	mg/L	0.0057	3.921 mg/L	0.0114	0.29%
V 292.402†	150910.2	0.9634	mg/L	0.00576	1.927 mg/L	0.0115	0.60%
Zn 206.200†	3460.2	1.014	mg/L	0.0066	2.029 mg/L	0.0131	0.65%

Sequence No.: 42

Autosampler Location: 329

Sample ID: ~~YE32 APOST SWC~~ 222222

Date Collected: 4/1/2014 11:33:02 AM

Dilution: 2.000000X

BA 4/2/14

Data Type: Original

Nebulizer Parameters: YE32 APOST SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 APOST SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2877915.6	97.19	%	0.522			0.54%
ScR 361.383	248330.5	101.1	%	1.28			1.26%
Ag 328.068†	101507.0	0.4986	mg/L	0.00844	0.9972 mg/L	0.01688	1.69%
Al 308.215†	187551.4	143.7	mg/L	0.79	287.4 mg/L	1.58	0.55%
As 188.979†	3250.5	2.147	mg/L	0.0145	4.295 mg/L	0.0289	0.67%
B 249.677†	99.3	0.01613	mg/L	0.000927	0.03226 mg/L	0.001854	5.75%
Ba 233.527†	9897.1	2.561	mg/L	0.0416	5.122 mg/L	0.0831	1.62%
Be 313.042†	241842.8	0.4777	mg/L	0.00413	0.9553 mg/L	0.00827	0.87%
Ca 317.933†	525527.4	53.63	mg/L	0.253	107.3 mg/L	0.51	0.47%
Cd 228.802†	18078.8	0.5311	mg/L	0.00338	1.062 mg/L	0.0068	0.64%
Co 228.616†	23715.7	0.5726	mg/L	0.00379	1.145 mg/L	0.0076	0.66%
Cr 267.716†	5573.2	1.113	mg/L	0.0142	2.227 mg/L	0.0284	1.28%
Cu 324.752†	351099.2	1.195	mg/L	0.0168	2.390 mg/L	0.0335	1.40%
Fe 273.955†	224767.6	195.4	mg/L	1.95	390.9 mg/L	3.91	1.00%
K 766.490†	37992.1	16.69	mg/L	0.134	33.37 mg/L	0.268	0.80%
Mg 279.077†	89015.2	79.09	mg/L	0.468	158.2 mg/L	0.94	0.59%
Mn 257.610†	100980.1	3.175	mg/L	0.0328	6.350 mg/L	0.0656	1.03%
Mo 202.031†	235.1	0.01128	mg/L	0.000595	0.02256 mg/L	0.001189	5.27%
Na 589.592†	164294.1	12.32	mg/L	0.075	24.64 mg/L	0.150	0.61%
Na 330.237†	230.0	12.11	mg/L	0.201	24.23 mg/L	0.401	1.66%
Ni 231.604†	9346.0	2.766	mg/L	0.0384	5.531 mg/L	0.0767	1.39%
Pb 220.353†	19777.4	2.335	mg/L	0.0161	4.670 mg/L	0.0323	0.69%
Sb 206.836†	73.7	0.01764	mg/L	0.003825	0.03528 mg/L	0.007650	21.69%
Se 196.026†	2943.9	2.113	mg/L	0.0237	4.227 mg/L	0.0474	1.12%
Si 288.158†	2563.6	1.479	mg/L	0.0210	2.959 mg/L	0.0420	1.42%
Sn 189.927†	-65.6	-0.01036	mg/L	0.000894	-0.02072 mg/L	0.001788	8.63%
Sr 421.552†	535176.8	0.6444	mg/L	0.00400	1.289 mg/L	0.0080	0.62%
Ti 334.903†	127096.2	7.521	mg/L	0.0485	15.04 mg/L	0.097	0.64%
Tl 190.801†	4194.4	1.929	mg/L	0.0125	3.857 mg/L	0.0250	0.65%
V 292.402†	144489.3	0.9228	mg/L	0.01465	1.846 mg/L	0.0293	1.59%
Zn 206.200†	3196.0	0.9370	mg/L	0.01226	1.874 mg/L	0.0245	1.31%

Sequence No.: 43
 Sample ID: YE32 MB1SPK SWN

Autosampler Location: 330
 Date Collected: 4/1/2014 11:37:03 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 MB1SPK SWN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE32 MB1SPK SWN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921919.4	98.67	%	0.368			0.37%
ScR 361.383	247916.4	100.9	%	1.24			1.23%
Ag 328.068†	112514.6	0.5522	mg/L	0.00746	1.104 mg/L	0.0149	1.35%
Al 308.215†	2789.3	2.130	mg/L	0.0217	4.259 mg/L	0.0434	1.02%
As 188.979†	3749.2	2.173	mg/L	0.0184	4.346 mg/L	0.0369	0.85%
B 249.677†	11.2	0.00084	mg/L	0.000432	0.00169 mg/L	0.000864	51.26%
Ba 233.527†	8308.6	2.175	mg/L	0.0166	4.350 mg/L	0.0332	0.76%
Be 313.042†	262607.0	0.5189	mg/L	0.00060	1.038 mg/L	0.0012	0.11%
Ca 317.933†	104522.2	10.67	mg/L	0.023	21.33 mg/L	0.045	0.21%
Cd 228.802†	18365.7	0.5377	mg/L	0.00476	1.075 mg/L	0.0095	0.88%
Co 228.616†	21245.0	0.5253	mg/L	0.00429	1.051 mg/L	0.0086	0.82%
Cr 267.716†	2745.7	0.5482	mg/L	0.00494	1.096 mg/L	0.0099	0.90%
Cu 324.752†	152584.3	0.5163	mg/L	0.00571	1.033 mg/L	0.0114	1.11%
Fe 273.955†	2548.4	2.213	mg/L	0.0255	4.425 mg/L	0.0510	1.15%
K 766.490†	24063.3	10.57	mg/L	0.071	21.14 mg/L	0.142	0.67%
Mg 279.077†	12423.8	11.05	mg/L	0.109	22.11 mg/L	0.218	0.98%
Mn 257.610†	15991.2	0.5033	mg/L	0.00283	1.007 mg/L	0.0057	0.56%
Mo 202.031†	31.2	0.00144	mg/L	0.000157	0.00288 mg/L	0.000313	10.86%
Na 589.592†	142181.1	10.66	mg/L	0.050	21.33 mg/L	0.100	0.47%
Na 330.237†	238.0	10.87	mg/L	0.348	21.74 mg/L	0.695	3.20%
Ni 231.604†	1831.0	0.5411	mg/L	0.00619	1.082 mg/L	0.0124	1.14%
Pb 220.353†	18143.2	2.118	mg/L	0.0181	4.235 mg/L	0.0362	0.86%
Sb 206.836†	21.8	0.00153	mg/L	0.001141	0.00306 mg/L	0.002282	74.53%
Se 196.026†	3014.6	2.164	mg/L	0.0200	4.329 mg/L	0.0400	0.92%
Si 288.158†	-3.0	0.00206	mg/L	0.003570	0.00411 mg/L	0.007141	173.57%
Sn 189.927†	-23.1	-0.00510	mg/L	0.000332	-0.01021 mg/L	0.000665	6.51%
Sr 421.552†	430540.9	0.5184	mg/L	0.00241	1.037 mg/L	0.0048	0.46%
Ti 334.903†	134.7	0.00712	mg/L	0.000396	0.01424 mg/L	0.000791	5.56%
Tl 190.801†	4659.2	2.120	mg/L	0.0118	4.241 mg/L	0.0236	0.56%
V 292.402†	81679.6	0.5297	mg/L	0.00737	1.059 mg/L	0.0147	1.39%
Zn 206.200†	1815.3	0.5321	mg/L	0.00567	1.064 mg/L	0.0113	1.07%

Sequence No.: 44
Sample ID: CV

Autosampler Location: 7
Date Collected: 4/1/2014 11:41:03 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2875993.0	97.12 %	0.534			0.55%
ScR 361.383	239569.7	97.49 %	0.191			0.20%
Ag 328.068†	215041.1	1.055 mg/L	0.0049	1.055 mg/L	0.0049	0.46%
Al 308.215†	2722.4	2.054 mg/L	0.0173	2.054 mg/L	0.0173	0.84%
As 188.979†	3485.2	2.052 mg/L	0.0088	2.052 mg/L	0.0088	0.43%
B 249.677†	5904.0	1.031 mg/L	0.0026	1.031 mg/L	0.0026	0.25%
Ba 233.527†	3992.7	1.045 mg/L	0.0035	1.045 mg/L	0.0035	0.33%
Be 313.042†	511414.4	1.010 mg/L	0.0036	1.010 mg/L	0.0036	0.35%
Ca 317.933†	21012.6	2.144 mg/L	0.0099	2.144 mg/L	0.0099	0.46%
Cd 228.802†	34496.0	1.021 mg/L	0.0049	1.021 mg/L	0.0049	0.48%
Co 228.616†	40522.1	1.001 mg/L	0.0079	1.001 mg/L	0.0079	0.79%
Cr 267.716†	5322.9	1.064 mg/L	0.0032	1.064 mg/L	0.0032	0.30%
Cu 324.752†	296730.1	1.004 mg/L	0.0027	1.004 mg/L	0.0027	0.26%
Fe 273.955†	2457.4	2.130 mg/L	0.0111	2.130 mg/L	0.0111	0.52%
K 766.490†	46152.0	20.27 mg/L	0.147	20.27 mg/L	0.147	0.72%
Mg 279.077†	2308.0	2.060 mg/L	0.0102	2.060 mg/L	0.0102	0.49%
Mn 257.610†	31004.1	0.9756 mg/L	0.00527	0.9756 mg/L	0.00527	0.54%
Mo 202.031†	18516.6	0.9537 mg/L	0.00516	0.9537 mg/L	0.00516	0.54%
Na 589.592†	687512.2	51.57 mg/L	0.188	51.57 mg/L	0.188	0.36%
Na 330.237†	1112.6	51.78 mg/L	0.221	51.78 mg/L	0.221	0.43%
Ni 231.604†	3571.3	1.057 mg/L	0.0029	1.057 mg/L	0.0029	0.27%
Pb 220.353†	17007.5	1.986 mg/L	0.0096	1.986 mg/L	0.0096	0.49%
Sb 206.836†	6636.9	2.066 mg/L	0.0122	2.066 mg/L	0.0122	0.59%
Se 196.026†	2808.0	2.016 mg/L	0.0137	2.016 mg/L	0.0137	0.68%
Si 288.158†	3481.7	1.998 mg/L	0.0149	1.998 mg/L	0.0149	0.75%
Sn 189.927†	3479.5	0.9755 mg/L	0.00435	0.9755 mg/L	0.00435	0.45%
Sr 421.552†	847282.9	1.020 mg/L	0.0021	1.020 mg/L	0.0021	0.20%
Ti 334.903†	16716.3	0.9885 mg/L	0.00165	0.9885 mg/L	0.00165	0.17%
Tl 190.801†	4546.2	2.066 mg/L	0.0128	2.066 mg/L	0.0128	0.62%
V 292.402†	157692.3	1.023 mg/L	0.0059	1.023 mg/L	0.0059	0.58%
Zn 206.200†	3559.5	1.043 mg/L	0.0023	1.043 mg/L	0.0023	0.22%

Sequence No.: 45

Sample ID: CB *4-174*

Autosampler Location: 1

Date Collected: 4/1/2014 11:45:07 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2938546.3	99.23	%	0.129			0.13%
ScR 361.383	250329.1	101.9	%	1.11			1.09%
Ag 328.068†	14.7	0.00007	mg/L	0.000172	0.00007 mg/L	0.000172	238.80%
Al 308.215†	-3.3	-0.00258	mg/L	0.003054	-0.00258 mg/L	0.003054	118.46%
As 188.979†	-1.2	-0.00067	mg/L	0.001612	-0.00067 mg/L	0.001612	240.82%
B 249.677†	15.2	0.00266	mg/L	0.000011	0.00266 mg/L	0.000011	0.41%
Ba 233.527†	-0.0	-0.00001	mg/L	0.000108	-0.00001 mg/L	0.000108	967.34%
Be 313.042†	35.7	0.00007	mg/L	0.000021	0.00007 mg/L	0.000021	29.85%
Ca 317.933†	12.2	0.00125	mg/L	0.000224	0.00125 mg/L	0.000224	17.93%
Cd 228.802†	10.2	0.00031	mg/L	0.000038	0.00031 mg/L	0.000038	12.18%
Co 228.616†	9.6	0.00023	mg/L	0.000090	0.00023 mg/L	0.000090	38.48%
Cr 267.716†	-1.8	-0.00037	mg/L	0.000835	-0.00037 mg/L	0.000835	227.77%
Cu 324.752†	255.3	0.00086	mg/L	0.000085	0.00086 mg/L	0.000085	9.80%
Fe 273.955†	2.6	0.00230	mg/L	0.001373	0.00230 mg/L	0.001373	59.78%
K 766.490†	41.0	0.01800	mg/L	0.007558	0.01800 mg/L	0.007558	42.00%
Mg 279.077†	7.6	0.00674	mg/L	0.006729	0.00674 mg/L	0.006729	99.85%
Mn 257.610†	3.9	0.00012	mg/L	0.000216	0.00012 mg/L	0.000216	177.04%
Mo 202.031†	23.8	0.00123	mg/L	0.000359	0.00123 mg/L	0.000359	29.23%
Na 589.592†	59.8	0.00449	mg/L	0.002681	0.00449 mg/L	0.002681	59.73%
Na 330.237†	0.1	0.00388	mg/L	0.192409	0.00388 mg/L	0.192409	>999.9%
Ni 231.604†	-2.6	-0.00076	mg/L	0.000817	-0.00076 mg/L	0.000817	107.33%
Pb 220.353†	2.9	0.00034	mg/L	0.000208	0.00034 mg/L	0.000208	61.96%
Sb 206.836†	28.0	0.00873	mg/L	0.001977	0.00873 mg/L	0.001977	22.66%
Se 196.026†	3.4	0.00247	mg/L	0.005763	0.00247 mg/L	0.005763	233.65%
Si 288.158†	9.3	0.00531	mg/L	0.002124	0.00531 mg/L	0.002124	39.98%
Sn 189.927†	-0.7	-0.00019	mg/L	0.001142	-0.00019 mg/L	0.001142	591.35%
Sr 421.552†	46.0	0.00006	mg/L	0.000029	0.00006 mg/L	0.000029	52.15%
Ti 334.903†	20.0	0.00118	mg/L	0.000503	0.00118 mg/L	0.000503	42.57%
Tl 190.801†	1.7	0.00077	mg/L	0.002301	0.00077 mg/L	0.002301	298.53%
V 292.402†	-3.7	-0.00003	mg/L	0.000052	-0.00003 mg/L	0.000052	203.46%
Zn 206.200†	-1.2	-0.00034	mg/L	0.000344	-0.00034 mg/L	0.000344	100.40%

Sequence No.: 46
Sample ID: YE32 F SWC

Autosampler Location: 331
Date Collected: 4/1/2014 11:49:07 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 F SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 F SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2883353.1	97.37	%	0.271			0.28%
ScR 361.383	248153.6	101.0	%	0.65			0.65%
Ag 328.068†	-325.2	-0.00123	mg/L	0.000285	-0.00246 mg/L	0.000569	23.14%
Al 308.215†	201608.8	154.5	mg/L	0.39	309.0 mg/L	0.78	0.25%
As 188.979†	-359.9	0.07603	mg/L	0.003985	0.1521 mg/L	0.00797	5.24%
B 249.677†	72.4	0.01247	mg/L	0.000408	0.02493 mg/L	0.000815	3.27%
Ba 233.527†	2264.1	0.5666	mg/L	0.00318	1.133 mg/L	0.0064	0.56%
Be 313.042†	1198.4	0.00217	mg/L	0.000013	0.00435 mg/L	0.000026	0.59%
Ca 317.933†	414314.9	42.28	mg/L	0.015	84.56 mg/L	0.029	0.03%
Cd 228.802†	43.2	0.00193	mg/L	0.000125	0.00386 mg/L	0.000251	6.49%
Co 228.616†	3588.5	0.07411	mg/L	0.000258	0.1482 mg/L	0.00052	0.35%
Cr 267.716†	1938.6	0.3883	mg/L	0.00295	0.7765 mg/L	0.00589	0.76%
Cu 324.752†	80758.1	0.2790	mg/L	0.00080	0.5579 mg/L	0.00161	0.29%
Fe 273.955†	193312.3	168.1	mg/L	0.54	336.2 mg/L	1.08	0.32%
K 766.490†	14073.8	6.181	mg/L	0.0228	12.36 mg/L	0.046	0.37%
Mg 279.077†	56212.6	49.91	mg/L	0.116	99.83 mg/L	0.233	0.23%
Mn 257.610†	74647.2	2.346	mg/L	0.0046	4.693 mg/L	0.0092	0.20%
Mo 202.031†	90.5	0.00400	mg/L	0.000186	0.00801 mg/L	0.000372	4.64%
Na 589.592†	28659.3	2.150	mg/L	0.0065	4.299 mg/L	0.0130	0.30%
Na 330.237†	3.4	1.938	mg/L	0.1896	3.877 mg/L	0.3791	9.78%
Ni 231.604†	3613.3	1.070	mg/L	0.0048	2.139 mg/L	0.0097	0.45%
Pb 220.353†	599.8	0.1011	mg/L	0.00044	0.2023 mg/L	0.00088	0.43%
Sb 206.836†	49.7	0.01822	mg/L	0.001145	0.03645 mg/L	0.002290	6.28%
Se 196.026†	37.0	0.02629	mg/L	0.003048	0.05259 mg/L	0.006097	11.59%
Si 288.158†	5073.2	2.910	mg/L	0.0148	5.820 mg/L	0.0295	0.51%
Sn 189.927†	-60.3	-0.01022	mg/L	0.000718	-0.02045 mg/L	0.001436	7.03%
Sr 421.552†	164404.7	0.1980	mg/L	0.00044	0.3959 mg/L	0.00089	0.22%
Ti 334.903†	136660.0	8.088	mg/L	0.0188	16.18 mg/L	0.038	0.23%
Tl 190.801†	-30.5	0.00327	mg/L	0.001130	0.00653 mg/L	0.002259	34.60%
V 292.402†	66049.4	0.4143	mg/L	0.00131	0.8287 mg/L	0.00263	0.32%
Zn 206.200†	1272.1	0.3733	mg/L	0.00235	0.7466 mg/L	0.00469	0.63%

Sequence No.: 47
Sample ID: YE32 G SWC

Autosampler Location: 332
Date Collected: 4/1/2014 11:53:09 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 G SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 G SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2928618.3	98.90 %		0.363			0.37%
ScR 361.383	252992.1	102.9 %		0.91			0.89%
Ag 328.068†	-268.1	-0.00096 mg/L		0.000241	-0.00193 mg/L	0.000482	25.00%
Al 308.215†	186967.0	143.3 mg/L		0.40	286.5 mg/L	0.80	0.28%
As 188.979†	-331.5	0.08271 mg/L		0.007915	0.1654 mg/L	0.01583	9.57%
B 249.677†	69.4	0.01195 mg/L		0.001387	0.02389 mg/L	0.002774	11.61%
Ba 233.527†	2221.9	0.5553 mg/L		0.00415	1.111 mg/L	0.0083	0.75%
Be 313.042†	1089.0	0.00197 mg/L		0.000032	0.00394 mg/L	0.000063	1.60%
Ca 317.933†	407974.8	41.63 mg/L		0.059	83.27 mg/L	0.117	0.14%
Cd 228.802†	56.1	0.00163 mg/L		0.000104	0.00327 mg/L	0.000208	6.38%
Co 228.616†	3435.9	0.07092 mg/L		0.000281	0.1418 mg/L	0.00056	0.40%
Cr 267.716†	1573.8	0.3144 mg/L		0.00240	0.6289 mg/L	0.00481	0.76%
Cu 324.752†	45658.8	0.1603 mg/L		0.00126	0.3206 mg/L	0.00253	0.79%
Fe 273.955†	196123.2	170.5 mg/L		0.33	341.1 mg/L	0.66	0.19%
K 766.490†	13914.2	6.111 mg/L		0.0054	12.22 mg/L	0.011	0.09%
Mg 279.077†	68152.7	60.54 mg/L		0.054	121.1 mg/L	0.11	0.09%
Mn 257.610†	88790.5	2.791 mg/L		0.0062	5.582 mg/L	0.0123	0.22%
Mo 202.031†	70.2	0.00297 mg/L		0.000045	0.00594 mg/L	0.000090	1.52%
Na 589.592†	19843.8	1.488 mg/L		0.0037	2.977 mg/L	0.0074	0.25%
Na 330.237†	-8.4	1.323 mg/L		0.3503	2.646 mg/L	0.7006	26.48%
Ni 231.604†	1653.9	0.4896 mg/L		0.00091	0.9791 mg/L	0.00183	0.19%
Pb 220.353†	-36.6	0.02395 mg/L		0.001286	0.04789 mg/L	0.002573	5.37%
Sb 206.836†	46.6	0.01781 mg/L		0.002117	0.03563 mg/L	0.004234	11.88%
Se 196.026†	42.6	0.03034 mg/L		0.001288	0.06068 mg/L	0.002576	4.25%
Si 288.158†	4849.9	2.783 mg/L		0.0134	5.566 mg/L	0.0269	0.48%
Sn 189.927†	-67.5	-0.01237 mg/L		0.000323	-0.02475 mg/L	0.000646	2.61%
Sr 421.552†	234281.7	0.2821 mg/L		0.00105	0.5642 mg/L	0.00211	0.37%
Ti 334.903†	131939.9	7.809 mg/L		0.0217	15.62 mg/L	0.043	0.28%
Tl 190.801†	-28.3	0.00471 mg/L		0.004605	0.00943 mg/L	0.009209	97.70%
V 292.402†	59546.4	0.3721 mg/L		0.00248	0.7443 mg/L	0.00496	0.67%
Zn 206.200†	1215.6	0.3567 mg/L		0.00244	0.7134 mg/L	0.00488	0.68%

Sequence No.: 48

Autosampler Location: 333

Sample ID: YE32 H SWC

Date Collected: 4/1/2014 11:57:09 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 H SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE32 H SWC

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2927000.3	98.84 %	0.556			0.56%
ScR 361.383	247176.4	100.6 %	0.18			0.17%
Ag 328.068†	-329.2	-0.00117 mg/L	0.000167	-0.00235 mg/L	0.000333	14.20%
Al 308.215†	196004.3	150.2 mg/L	0.44	300.4 mg/L	0.89	0.30%
As 188.979†	-407.8	0.08296 mg/L	0.005124	0.1659 mg/L	0.01025	6.18%
B 249.677†	82.3	0.01420 mg/L	0.002032	0.02839 mg/L	0.004064	14.31%
Ba 233.527†	2220.3	0.5550 mg/L	0.00163	1.110 mg/L	0.0033	0.29%
Be 313.042†	1300.2	0.00237 mg/L	0.000022	0.00473 mg/L	0.000044	0.93%
Ca 317.933†	542212.5	55.33 mg/L	0.133	110.7 mg/L	0.27	0.24%
Cd 228.802†	54.8	0.00195 mg/L	0.000305	0.00390 mg/L	0.000610	15.64%
Co 228.616†	3719.7	0.07564 mg/L	0.000953	0.1513 mg/L	0.00191	1.26%
Cr 267.716†	1713.5	0.3425 mg/L	0.00136	0.6850 mg/L	0.00273	0.40%
Cu 324.752†	39284.8	0.1384 mg/L	0.00121	0.2769 mg/L	0.00242	0.87%
Fe 273.955†	194933.2	169.5 mg/L	0.33	339.0 mg/L	0.66	0.19%
K 766.490†	14126.9	6.204 mg/L	0.0357	12.41 mg/L	0.071	0.57%
Mg 279.077†	64273.0	57.08 mg/L	0.049	114.2 mg/L	0.10	0.09%
Mn 257.610†	90391.2	2.841 mg/L	0.0030	5.683 mg/L	0.0059	0.10%
Mo 202.031†	74.9	0.00300 mg/L	0.000313	0.00600 mg/L	0.000626	10.43%
Na 589.592†	22183.0	1.664 mg/L	0.0026	3.328 mg/L	0.0052	0.16%
Na 330.237†	-14.9	1.284 mg/L	0.4767	2.569 mg/L	0.9534	37.12%
Ni 231.604†	2066.7	0.6117 mg/L	0.00101	1.223 mg/L	0.0020	0.16%
Pb 220.353†	-113.8	0.01680 mg/L	0.000191	0.03361 mg/L	0.000383	1.14%
Sb 206.836†	41.7	0.01704 mg/L	0.003509	0.03408 mg/L	0.007018	20.60%
Se 196.026†	36.1	0.02565 mg/L	0.006068	0.05129 mg/L	0.012136	23.66%
Si 288.158†	7531.0	4.317 mg/L	0.0037	8.635 mg/L	0.0075	0.09%
Sn 189.927†	-78.5	-0.01354 mg/L	0.000204	-0.02708 mg/L	0.000409	1.51%
Sr 421.552†	175060.3	0.2108 mg/L	0.00046	0.4216 mg/L	0.00092	0.22%
Ti 334.903†	153568.5	9.088 mg/L	0.0189	18.18 mg/L	0.038	0.21%
Tl 190.801†	-32.9	0.00236 mg/L	0.002058	0.00471 mg/L	0.004115	87.31%
V 292.402†	64842.5	0.4058 mg/L	0.00292	0.8115 mg/L	0.00585	0.72%
Zn 206.200†	1081.6	0.3178 mg/L	0.00155	0.6355 mg/L	0.00310	0.49%

Sequence No.: 49
Sample ID: YE32 I SWC

Autosampler Location: 334
Date Collected: 4/1/2014 12:01:10 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 I SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 I SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905810.9	98.13 %		0.457			0.47%
ScR 361.383	249155.9	101.4 %		0.19			0.19%
Ag 328.068†	-90.6	0.00007 mg/L		0.000062	0.00015 mg/L	0.000125	84.23%
Al 308.215†	187599.9	143.7 mg/L		0.40	287.5 mg/L	0.81	0.28%
As 188.979†	-286.9	0.1026 mg/L		0.00279	0.2053 mg/L	0.00558	2.72%
B 249.677†	249.0	0.04326 mg/L		0.002547	0.08653 mg/L	0.005094	5.89%
Ba 233.527†	3168.6	0.7959 mg/L		0.00746	1.592 mg/L	0.0149	0.94%
Be 313.042†	1149.0	0.00208 mg/L		0.000057	0.00416 mg/L	0.000114	2.73%
Ca 317.933†	668152.2	68.19 mg/L		0.364	136.4 mg/L	0.73	0.53%
Cd 228.802†	-181.5	0.00805 mg/L		0.000100	0.01610 mg/L	0.000199	1.24%
Co 228.616†	4854.1	0.1036 mg/L		0.00060	0.2072 mg/L	0.00119	0.58%
Cr 267.716†	22601.3	4.523 mg/L		0.0327	9.045 mg/L	0.0654	0.72%
Cu 324.752†	1025524.7	3.477 mg/L		0.0070	6.954 mg/L	0.0140	0.20%
Fe 273.955†	237310.6	206.4 mg/L		1.12	412.7 mg/L	2.24	0.54%
K 766.490†	13812.6	6.066 mg/L		0.0352	12.13 mg/L	0.070	0.58%
Mg 279.077†	65217.6	57.91 mg/L		0.450	115.8 mg/L	0.90	0.78%
Mn 257.610†	96661.3	3.040 mg/L		0.0133	6.080 mg/L	0.0266	0.44%
Mo 202.031†	229.5	0.01076 mg/L		0.000158	0.02152 mg/L	0.000315	1.46%
Na 589.592†	27223.8	2.042 mg/L		0.0088	4.084 mg/L	0.0176	0.43%
Na 330.237†	7.8	1.752 mg/L		0.5877	3.504 mg/L	1.1755	33.55%
Ni 231.604†	49174.3	14.56 mg/L		0.110	29.11 mg/L	0.219	0.75%
Pb 220.353†	61648.2	7.225 mg/L		0.0670	14.45 mg/L	0.134	0.93%
Sb 206.836†	694.0	0.1652 mg/L		0.00427	0.3305 mg/L	0.00854	2.58%
Se 196.026†	33.7	0.02392 mg/L		0.000799	0.04783 mg/L	0.001598	3.34%
Si 288.158†	4484.3	2.576 mg/L		0.0050	5.152 mg/L	0.0100	0.19%
Sn 189.927†	15.9	0.01456 mg/L		0.001011	0.02912 mg/L	0.002023	6.95%
Sr 421.552†	202516.2	0.2439 mg/L		0.00051	0.4877 mg/L	0.00101	0.21%
Ti 334.903†	133158.1	7.878 mg/L		0.0311	15.76 mg/L	0.062	0.40%
Tl 190.801†	-26.4	0.00768 mg/L		0.002182	0.01537 mg/L	0.004363	28.39%
V 292.402†	63880.5	0.4155 mg/L		0.00411	0.8309 mg/L	0.00823	0.99%
Zn 206.200†	3379.8	0.9923 mg/L		0.01097	1.985 mg/L	0.0219	1.11%

Sequence No.: 50
 Sample ID: YE32 J SWC
 Dilution: 2.000000X

Autosampler Location: 335
 Date Collected: 4/1/2014 12:04:27 PM
 Data Type: Original

Nebulizer Parameters: YE32 J SWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE32 J SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921236.0	98.65	%	1.077			1.09%
ScR 361.383	252569.4	102.8	%	0.57			0.55%
Ag 328.068†	-287.9	-0.00105	mg/L	0.000120	-0.00210 mg/L	0.000240	11.44%
Al 308.215†	166539.8	127.6	mg/L	0.32	255.2 mg/L	0.63	0.25%
As 188.979†	-328.7	0.07742	mg/L	0.004494	0.1548 mg/L	0.00899	5.80%
B 249.677†	277.6	0.04835	mg/L	0.000814	0.09669 mg/L	0.001627	1.68%
Ba 233.527†	1991.1	0.4972	mg/L	0.00196	0.9944 mg/L	0.00392	0.39%
Be 313.042†	1094.9	0.00199	mg/L	0.000026	0.00398 mg/L	0.000053	1.32%
Ca 317.933†	438311.9	44.73	mg/L	0.101	89.46 mg/L	0.203	0.23%
Cd 228.802†	56.3	0.00248	mg/L	0.000101	0.00495 mg/L	0.000203	4.10%
Co 228.616†	3320.7	0.06828	mg/L	0.000830	0.1366 mg/L	0.00166	1.22%
Cr 267.716†	2245.0	0.4488	mg/L	0.00175	0.8975 mg/L	0.00350	0.39%
Cu 324.752†	80674.0	0.2781	mg/L	0.00110	0.5562 mg/L	0.00220	0.40%
Fe 273.955†	178173.7	154.9	mg/L	0.80	309.9 mg/L	1.59	0.51%
K 766.490†	13964.2	6.133	mg/L	0.0203	12.27 mg/L	0.041	0.33%
Mg 279.077†	61124.3	54.29	mg/L	0.162	108.6 mg/L	0.32	0.30%
Mn 257.610†	85221.6	2.679	mg/L	0.0076	5.358 mg/L	0.0152	0.28%
Mo 202.031†	88.4	0.00386	mg/L	0.000539	0.00772 mg/L	0.001079	13.98%
Na 589.592†	24953.2	1.872	mg/L	0.0037	3.743 mg/L	0.0075	0.20%
Na 330.237†	3.5	1.804	mg/L	0.1252	3.607 mg/L	0.2504	6.94%
Ni 231.604†	4061.3	1.202	mg/L	0.0073	2.404 mg/L	0.0146	0.61%
Pb 220.353†	-91.3	0.01457	mg/L	0.000321	0.02915 mg/L	0.000642	2.20%
Sb 206.836†	50.3	0.01701	mg/L	0.001287	0.03401 mg/L	0.002575	7.57%
Se 196.026†	36.9	0.02627	mg/L	0.006330	0.05253 mg/L	0.012659	24.10%
Si 288.158†	3859.8	2.216	mg/L	0.0135	4.432 mg/L	0.0270	0.61%
Sn 189.927†	-69.0	-0.01243	mg/L	0.000951	-0.02487 mg/L	0.001901	7.64%
Sr 421.552†	176875.3	0.2130	mg/L	0.00021	0.4260 mg/L	0.00043	0.10%
Ti 334.903†	128912.5	7.629	mg/L	0.0108	15.26 mg/L	0.022	0.14%
Tl 190.801†	-18.9	0.00728	mg/L	0.003355	0.01456 mg/L	0.006710	46.08%
V 292.402†	56278.2	0.3525	mg/L	0.00098	0.7051 mg/L	0.00196	0.28%
Zn 206.200†	1261.4	0.3700	mg/L	0.00143	0.7401 mg/L	0.00285	0.39%

Sequence No.: 51
 Sample ID: YE32 K SWC

Autosampler Location: 336
 Date Collected: 4/1/2014 12:08:27 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 K SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE32 K SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2913184.6		98.38 %	0.548				0.56%
ScR 361.383	252759.4		102.9 %	0.71				0.69%
Ag 328.068†	-280.1	-0.00113	mg/L	0.000293	-0.00226	mg/L	0.000587	26.00%
Al 308.215†	198261.1	151.9	mg/L	0.58	303.8	mg/L	1.17	0.38%
As 188.979†	-319.9	0.07286	mg/L	0.001528	0.1457	mg/L	0.00306	2.10%
B 249.677†	167.5	0.02911	mg/L	0.000831	0.05823	mg/L	0.001661	2.85%
Ba 233.527†	2634.7	0.6648	mg/L	0.00570	1.330	mg/L	0.0114	0.86%
Be 313.042†	954.1	0.00172	mg/L	0.000030	0.00344	mg/L	0.000061	1.77%
Ca 317.933†	251770.2	25.69	mg/L	0.021	51.39	mg/L	0.041	0.08%
Cd 228.802†	76.8	0.00295	mg/L	0.000280	0.00591	mg/L	0.000559	9.47%
Co 228.616†	3164.5	0.06486	mg/L	0.000378	0.1297	mg/L	0.00076	0.58%
Cr 267.716†	10564.6	2.114	mg/L	0.0099	4.228	mg/L	0.0198	0.47%
Cu 324.752†	208689.2	0.7116	mg/L	0.00132	1.423	mg/L	0.0026	0.19%
Fe 273.955†	184992.0	160.9	mg/L	0.30	321.7	mg/L	0.60	0.19%
K 766.490†	15172.2	6.664	mg/L	0.0248	13.33	mg/L	0.050	0.37%
Mg 279.077†	60208.6	53.48	mg/L	0.266	107.0	mg/L	0.53	0.50%
Mn 257.610†	79580.9	2.502	mg/L	0.0042	5.003	mg/L	0.0084	0.17%
Mo 202.031†	123.0	0.00594	mg/L	0.000272	0.01187	mg/L	0.000543	4.58%
Na 589.592†	17459.5	1.310	mg/L	0.0059	2.619	mg/L	0.0117	0.45%
Na 330.237†	-7.7	1.322	mg/L	0.5645	2.643	mg/L	1.1291	42.72%
Ni 231.604†	3862.5	1.143	mg/L	0.0106	2.287	mg/L	0.0212	0.93%
Pb 220.353†	-118.3	0.01974	mg/L	0.001637	0.03949	mg/L	0.003274	8.29%
Sb 206.836†	110.3	0.01387	mg/L	0.002248	0.02773	mg/L	0.004496	16.21%
Se 196.026†	38.0	0.02704	mg/L	0.001981	0.05407	mg/L	0.003962	7.33%
Si 288.158†	6684.1	3.833	mg/L	0.0280	7.667	mg/L	0.0560	0.73%
Sn 189.927†	-54.8	-0.01081	mg/L	0.000834	-0.02162	mg/L	0.001667	7.71%
Sr 421.552†	118977.9	0.1433	mg/L	0.00033	0.2865	mg/L	0.00065	0.23%
Ti 334.903†	124703.5	7.381	mg/L	0.0218	14.76	mg/L	0.044	0.30%
Tl 190.801†	-32.3	0.00123	mg/L	0.001992	0.00245	mg/L	0.003985	162.39%
V 292.402†	54178.0	0.3456	mg/L	0.00153	0.6913	mg/L	0.00305	0.44%
Zn 206.200†	1418.8	0.4169	mg/L	0.00440	0.8338	mg/L	0.00881	1.06%

Sequence No.: 52
Sample ID: YE32 L SWC
Dilution: 2.000000X

Autosampler Location: 337
Date Collected: 4/1/2014 12:11:42 PM
Data Type: Original

Nebulizer Parameters: YE32 L SWC
Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 L SWC

Table with 8 columns: Analyte, Mean Corrected Intensity, Calib. Conc. Units, Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective intensity and concentration values.

Sequence No.: 53
 Sample ID: YE32 M SWC

Autosampler Location: 338
 Date Collected: 4/1/2014 12:15:42 PM
 Data Type: Original

Dilution: 2.000000X

YE32
44-14

Nebulizer Parameters: YE32 M SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE32 M SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2904685.9	98.09	%	0.733				0.75%
ScR 361.383	251005.8	102.1	%	0.29				0.28%
Ag 328.068†	332.7	0.00199	mg/L	0.000076	0.00398	mg/L	0.000152	3.81%
Al 308.215†	183876.3	140.9	mg/L	0.63	281.8	mg/L	1.25	0.45%
As 188.979†	-332.5	0.09810	mg/L	0.004976	0.1962	mg/L	0.00995	5.07%
B 249.677†	327.2	0.05676	mg/L	0.001348	0.1135	mg/L	0.00270	2.38%
Ba 233.527†	4960.5	1.255	mg/L	0.0004	2.510	mg/L	0.0009	0.04%
Be 313.042†	1199.5	0.00218	mg/L	0.000021	0.00437	mg/L	0.000041	0.95%
Ca 317.933†	417656.0	42.62	mg/L	0.255	85.24	mg/L	0.510	0.60%
Cd 228.802†	-771.7	0.01602	mg/L	0.000343	0.03204	mg/L	0.000686	2.14%
Co 228.616†	8404.4	0.1862	mg/L	0.00150	0.3725	mg/L	0.00299	0.80%
Cr 267.716†	23255.4	4.656	mg/L	0.0160	9.311	mg/L	0.0320	0.34%
Cu 324.752†	2929661.5	9.921	mg/L	0.0325	19.84	mg/L	0.065	0.33%
Fe 273.955†	288095.4	250.5	mg/L	0.82	501.0	mg/L	1.63	0.33%
K 766.490†	13410.5	5.890	mg/L	0.0425	11.78	mg/L	0.085	0.72%
Mg 279.077†	60273.0	53.48	mg/L	0.252	107.0	mg/L	0.50	0.47%
Mn 257.610†	101940.1	3.206	mg/L	0.0102	6.412	mg/L	0.0203	0.32%
Mo 202.031†	347.0	0.01721	mg/L	0.000357	0.03442	mg/L	0.000713	2.07%
Na 589.592†	21890.7	1.642	mg/L	0.0111	3.284	mg/L	0.0221	0.67%
Na 330.237†	4.4	1.586	mg/L	0.3834	3.172	mg/L	0.7668	24.17%
Ni 231.604†	137195.4	40.61	mg/L	0.205	81.22	mg/L	0.411	0.51%
Pb 220.353†	43411.1	5.089	mg/L	0.0241	10.18	mg/L	0.048	0.47%
Sb 206.836†	349.5	0.05671	mg/L	0.002400	0.1134	mg/L	0.00480	4.23%
Se 196.026†	25.9	0.01825	mg/L	0.005294	0.03650	mg/L	0.010587	29.00%
Si 288.158†	2062.9	1.190	mg/L	0.0101	2.380	mg/L	0.0202	0.85%
Sn 189.927†	125.1	0.04202	mg/L	0.002848	0.08403	mg/L	0.005696	6.78%
Sr 421.552†	150669.6	0.1814	mg/L	0.00080	0.3629	mg/L	0.00161	0.44%
Ti 334.903†	142524.4	8.435	mg/L	0.0361	16.87	mg/L	0.072	0.43%
Tl 190.801†	-47.0	0.00292	mg/L	0.002418	0.00584	mg/L	0.004837	82.80%
V 292.402†	59402.1	0.3843	mg/L	0.00127	0.7686	mg/L	0.00255	0.33%
Zn 206.200†	7050.0	2.067	mg/L	0.0068	4.134	mg/L	0.0136	0.33%

Sequence No.: 54
 Sample ID: YE32 N SWC

Autosampler Location: 339
 Date Collected: 4/1/2014 12:19:43 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 N SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE32 N SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2933512.9	99.06	%	0.497			0.50%
ScR 361.383	252234.8	102.6	%	0.63			0.61%
Ag 328.068†	-293.0	-0.00107	mg/L	0.000144	-0.00214 mg/L	0.000288	13.48%
Al 308.215†	167908.8	128.7	mg/L	0.54	257.3 mg/L	1.08	0.42%
As 188.979†	-352.0	0.07707	mg/L	0.002321	0.1541 mg/L	0.00464	3.01%
B 249.677†	298.1	0.05191	mg/L	0.001101	0.1038 mg/L	0.00220	2.12%
Ba 233.527†	2314.2	0.5809	mg/L	0.00251	1.162 mg/L	0.0050	0.43%
Be 313.042†	1142.5	0.00207	mg/L	0.000030	0.00414 mg/L	0.000061	1.47%
Ca 317.933†	427272.7	43.60	mg/L	0.134	87.21 mg/L	0.269	0.31%
Cd 228.802†	18.5	0.00262	mg/L	0.000305	0.00524 mg/L	0.000609	11.62%
Co 228.616†	3697.5	0.07675	mg/L	0.000234	0.1535 mg/L	0.00047	0.30%
Cr 267.716†	1730.4	0.3457	mg/L	0.00097	0.6914 mg/L	0.00193	0.28%
Cu 324.752†	63649.4	0.2207	mg/L	0.00172	0.4413 mg/L	0.00345	0.78%
Fe 273.955†	183704.9	159.7	mg/L	0.86	319.5 mg/L	1.72	0.54%
K 766.490†	16914.3	7.429	mg/L	0.0231	14.86 mg/L	0.046	0.31%
Mg 279.077†	64579.7	57.36	mg/L	0.205	114.7 mg/L	0.41	0.36%
Mn 257.610†	84982.7	2.672	mg/L	0.0128	5.343 mg/L	0.0256	0.48%
Mo 202.031†	138.2	0.00644	mg/L	0.000183	0.01289 mg/L	0.000367	2.85%
Na 589.592†	26240.3	1.968	mg/L	0.0124	3.936 mg/L	0.0248	0.63%
Na 330.237†	-0.2	1.730	mg/L	0.1257	3.460 mg/L	0.2513	7.26%
Ni 231.604†	8319.7	2.463	mg/L	0.0085	4.925 mg/L	0.0169	0.34%
Pb 220.353†	-69.6	0.01718	mg/L	0.001407	0.03435 mg/L	0.002815	8.19%
Sb 206.836†	29.1	0.01218	mg/L	0.003772	0.02435 mg/L	0.007545	30.98%
Se 196.026†	35.0	0.02487	mg/L	0.003835	0.04974 mg/L	0.007671	15.42%
Si 288.158†	3218.4	1.849	mg/L	0.0170	3.698 mg/L	0.0340	0.92%
Sn 189.927†	-72.2	-0.01342	mg/L	0.000819	-0.02684 mg/L	0.001638	6.10%
Sr 421.552†	204808.2	0.2466	mg/L	0.00125	0.4932 mg/L	0.00250	0.51%
Ti 334.903†	135007.1	7.990	mg/L	0.0328	15.98 mg/L	0.066	0.41%
Tl 190.801†	-30.7	0.00226	mg/L	0.001833	0.00453 mg/L	0.003667	80.95%
V 292.402†	63016.2	0.3952	mg/L	0.00454	0.7903 mg/L	0.00907	1.15%
Zn 206.200†	1322.2	0.3877	mg/L	0.00305	0.7755 mg/L	0.00610	0.79%

Sequence No.: 55
 Sample ID: YE32 O SWC
 Dilution: 2.000000X

Autosampler Location: 340
 Date Collected: 4/1/2014 12:23:43 PM
 Data Type: Original

Nebulizer Parameters: YE32 O SWC
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE32 O SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2895970.9	97.80	%	0.301			0.31%
ScR 361.383	250293.4	101.9	%	0.07			0.07%
Ag 328.068†	-291.2	-0.00103	mg/L	0.000222	-0.00206 mg/L	0.000445	21.57%
Al 308.215†	177042.4	135.7	mg/L	0.41	271.3 mg/L	0.82	0.30%
As 188.979†	-349.2	0.08152	mg/L	0.002427	0.1630 mg/L	0.00485	2.98%
B 249.677†	341.5	0.05949	mg/L	0.001276	0.1190 mg/L	0.00255	2.14%
Ba 233.527†	2134.5	0.5322	mg/L	0.00164	1.064 mg/L	0.0033	0.31%
Be 313.042†	1050.2	0.00188	mg/L	0.000017	0.00376 mg/L	0.000033	0.89%
Ca 317.933†	465243.3	47.48	mg/L	0.185	94.96 mg/L	0.369	0.39%
Cd 228.802†	18.1	0.00265	mg/L	0.000096	0.00529 mg/L	0.000192	3.63%
Co 228.616†	3852.8	0.08041	mg/L	0.000149	0.1608 mg/L	0.00030	0.19%
Cr 267.716†	2040.0	0.4079	mg/L	0.00284	0.8157 mg/L	0.00567	0.70%
Cu 324.752†	57120.2	0.1990	mg/L	0.00132	0.3981 mg/L	0.00265	0.67%
Fe 273.955†	196058.8	170.5	mg/L	1.27	341.0 mg/L	2.54	0.75%
K 766.490†	19550.0	8.586	mg/L	0.0090	17.17 mg/L	0.018	0.11%
Mg 279.077†	65084.2	57.81	mg/L	0.186	115.6 mg/L	0.37	0.32%
Mn 257.610†	85251.9	2.680	mg/L	0.0237	5.360 mg/L	0.0473	0.88%
Mo 202.031†	225.8	0.01089	mg/L	0.000045	0.02178 mg/L	0.000090	0.41%
Na 589.592†	33922.6	2.544	mg/L	0.0060	5.089 mg/L	0.0119	0.23%
Na 330.237†	16.3	2.498	mg/L	0.2704	4.996 mg/L	0.5408	10.82%
Ni 231.604†	8787.2	2.601	mg/L	0.0129	5.202 mg/L	0.0258	0.50%
Pb 220.353†	-70.3	0.01851	mg/L	0.001147	0.03702 mg/L	0.002294	6.20%
Sb 206.836†	39.5	0.01477	mg/L	0.000983	0.02953 mg/L	0.001967	6.66%
Se 196.026†	40.3	0.02866	mg/L	0.007065	0.05731 mg/L	0.014129	24.65%
Si 288.158†	3873.0	2.224	mg/L	0.0187	4.448 mg/L	0.0375	0.84%
Sn 189.927†	-68.6	-0.01191	mg/L	0.000811	-0.02381 mg/L	0.001621	6.81%
Sr 421.552†	151126.1	0.1820	mg/L	0.00085	0.3640 mg/L	0.00170	0.47%
Ti 334.903†	136554.8	8.082	mg/L	0.0488	16.16 mg/L	0.098	0.60%
Tl 190.801†	-31.3	0.00311	mg/L	0.001727	0.00622 mg/L	0.003454	55.55%
V 292.402†	66357.4	0.4163	mg/L	0.00311	0.8327 mg/L	0.00621	0.75%
Zn 206.200†	1354.7	0.3974	mg/L	0.00289	0.7948 mg/L	0.00578	0.73%

Sequence No.: 56

Sample ID: CV 0

Autosampler Location: 7

Date Collected: 4/1/2014 12:27:43 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2889362.1	97.57	%	0.397			0.41%
ScR 361.383	243923.8	99.26	%	0.589			0.59%
Ag 328.068†	215404.5	1.057	mg/L	0.0040	1.057 mg/L	0.0040	0.38%
Al 308.215†	2724.1	2.055	mg/L	0.0120	2.055 mg/L	0.0120	0.58%
As 188.979†	3655.7	2.151	mg/L	0.0049	2.151 mg/L	0.0049	0.23%
B 249.677†	5896.5	1.029	mg/L	0.0030	1.029 mg/L	0.0030	0.29%
Ba 233.527†	4054.5	1.061	mg/L	0.0071	1.061 mg/L	0.0071	0.67%
Be 313.042†	512051.8	1.012	mg/L	0.0033	1.012 mg/L	0.0033	0.33%
Ca 317.933†	21136.6	2.157	mg/L	0.0098	2.157 mg/L	0.0098	0.45%
Cd 228.802†	35163.1	1.040	mg/L	0.0018	1.040 mg/L	0.0018	0.17%
Co 228.616†	41361.7	1.021	mg/L	0.0037	1.021 mg/L	0.0037	0.36%
Cr 267.716†	5349.3	1.070	mg/L	0.0033	1.070 mg/L	0.0033	0.31%
Cu 324.752†	308796.7	1.044	mg/L	0.0040	1.044 mg/L	0.0040	0.38%
Fe 273.955†	2481.2	2.151	mg/L	0.0070	2.151 mg/L	0.0070	0.33%
K 766.490†	45743.3	20.09	mg/L	0.092	20.09 mg/L	0.092	0.46%
Mg 279.077†	2327.7	2.078	mg/L	0.0080	2.078 mg/L	0.0080	0.39%
Mn 257.610†	31201.1	0.9818	mg/L	0.00515	0.9818 mg/L	0.00515	0.52%
Mo 202.031†	19159.1	0.9868	mg/L	0.00116	0.9868 mg/L	0.00116	0.12%
Na 589.592†	686390.4	51.48	mg/L	0.174	51.48 mg/L	0.174	0.34%
Na 330.237†	1109.1	51.61	mg/L	0.099	51.61 mg/L	0.099	0.19%
Ni 231.604†	3604.8	1.067	mg/L	0.0058	1.067 mg/L	0.0058	0.55%
Pb 220.353†	17841.0	2.083	mg/L	0.0044	2.083 mg/L	0.0044	0.21%
Sb 206.836†	6823.3	2.125	mg/L	0.0029	2.125 mg/L	0.0029	0.14%
Se 196.026†	2952.7	2.119	mg/L	0.0026	2.119 mg/L	0.0026	0.12%
Si 288.158†	3488.5	2.002	mg/L	0.0252	2.002 mg/L	0.0252	1.26%
Sn 189.927†	3545.7	0.9940	mg/L	0.00364	0.9940 mg/L	0.00364	0.37%
Sr 421.552†	846366.6	1.019	mg/L	0.0020	1.019 mg/L	0.0020	0.19%
Ti 334.903†	16845.5	0.9961	mg/L	0.00178	0.9961 mg/L	0.00178	0.18%
Tl 190.801†	4593.4	2.087	mg/L	0.0127	2.087 mg/L	0.0127	0.61%
V 292.402†	160001.8	1.038	mg/L	0.0041	1.038 mg/L	0.0041	0.40%
Zn 206.200†	3634.0	1.065	mg/L	0.0039	1.065 mg/L	0.0039	0.36%

Sequence No.: 57

Sample ID: CB *Q*

Autosampler Location: 1

Date Collected: 4/1/2014 12:31:46 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2936672.7	99.17	%	0.264			0.27%
ScR 361.383	249399.1	101.5	%	0.57			0.57%
Ag 328.068†	-11.9	-0.00006	mg/L	0.000112	-0.00006 mg/L	0.000112	190.62%
Al 308.215†	7.7	0.00585	mg/L	0.003232	0.00585 mg/L	0.003232	55.27%
As 188.979†	-2.4	-0.00135	mg/L	0.001040	-0.00135 mg/L	0.001040	77.03%
B 249.677†	12.3	0.00216	mg/L	0.000821	0.00216 mg/L	0.000821	38.09%
Ba 233.527†	-2.7	-0.00070	mg/L	0.000315	-0.00070 mg/L	0.000315	45.16%
Be 313.042†	-7.2	-0.00001	mg/L	0.000038	-0.00001 mg/L	0.000038	265.00%
Ca 317.933†	-4.0	-0.00041	mg/L	0.000895	-0.00041 mg/L	0.000895	218.39%
Cd 228.802†	18.1	0.00055	mg/L	0.000116	0.00055 mg/L	0.000116	21.15%
Co 228.616†	0.5	0.00001	mg/L	0.000163	0.00001 mg/L	0.000163	>999.9%
Cr 267.716†	-4.1	-0.00082	mg/L	0.000751	-0.00082 mg/L	0.000751	91.15%
Cu 324.752†	827.4	0.00280	mg/L	0.000220	0.00280 mg/L	0.000220	7.85%
Fe 273.955†	3.6	0.00312	mg/L	0.000695	0.00312 mg/L	0.000695	22.28%
K 766.490†	56.7	0.02492	mg/L	0.017705	0.02492 mg/L	0.017705	71.05%
Mg 279.077†	-2.7	-0.00243	mg/L	0.009718	-0.00243 mg/L	0.009718	400.56%
Mn 257.610†	5.2	0.00016	mg/L	0.000128	0.00016 mg/L	0.000128	78.23%
Mo 202.031†	22.3	0.00115	mg/L	0.000208	0.00115 mg/L	0.000208	18.11%
Na 589.592†	42.8	0.00321	mg/L	0.003428	0.00321 mg/L	0.003428	106.72%
Na 330.237†	-7.3	-0.3416	mg/L	0.19521	-0.3416 mg/L	0.19521	57.15%
Ni 231.604†	-1.7	-0.00049	mg/L	0.000559	-0.00049 mg/L	0.000559	115.16%
Pb 220.353†	4.3	0.00049	mg/L	0.000550	0.00049 mg/L	0.000550	111.62%
Sb 206.836†	38.7	0.01208	mg/L	0.001245	0.01208 mg/L	0.001245	10.31%
Se 196.026†	-3.1	-0.00225	mg/L	0.003192	-0.00225 mg/L	0.003192	141.77%
Si 288.158†	12.2	0.00698	mg/L	0.005379	0.00698 mg/L	0.005379	77.08%
Sn 189.927†	-1.4	-0.00039	mg/L	0.001240	-0.00039 mg/L	0.001240	314.77%
Sr 421.552†	50.4	0.00006	mg/L	0.000023	0.00006 mg/L	0.000023	37.65%
Ti 334.903†	22.8	0.00135	mg/L	0.000182	0.00135 mg/L	0.000182	13.48%
Tl 190.801†	-4.4	-0.00199	mg/L	0.001565	-0.00199 mg/L	0.001565	78.83%
V 292.402†	-21.2	-0.00014	mg/L	0.000205	-0.00014 mg/L	0.000205	145.68%
Zn 206.200†	2.1	0.00060	mg/L	0.000740	0.00060 mg/L	0.000740	122.78%

Sequence No.: 58
 Sample ID: YE32 E SWC

Autosampler Location: 341
 Date Collected: 4/1/2014 12:35:46 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 E SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE32 E SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2943640.6	99.41	%	0.710				0.71%
ScR 361.383	255082.6	103.8	%	0.44				0.43%
Ag 328.068†	-155.9	-0.00039	mg/L	0.000187	-0.00078	mg/L	0.000373	47.70%
Al 308.215†	192337.1	147.4	mg/L	0.25	294.7	mg/L	0.50	0.17%
As 188.979†	-343.5	0.08510	mg/L	0.000819	0.1702	mg/L	0.00164	0.96%
B 249.677†	130.9	0.02264	mg/L	0.000800	0.04527	mg/L	0.001600	3.53%
Ba 233.527†	2635.7	0.6579	mg/L	0.00549	1.316	mg/L	0.0110	0.84%
Be 313.042†	1080.4	0.00194	mg/L	0.000031	0.00388	mg/L	0.000062	1.60%
Ca 317.933†	425817.8	43.45	mg/L	0.151	86.91	mg/L	0.303	0.35%
Cd 228.802†	-176.9	0.00404	mg/L	0.000042	0.00808	mg/L	0.000083	1.03%
Co 228.616†	4835.5	0.1035	mg/L	0.00089	0.2069	mg/L	0.00177	0.86%
Cr 267.716†	5956.9	1.193	mg/L	0.0076	2.385	mg/L	0.0152	0.64%
Cu 324.752†	765732.9	2.598	mg/L	0.0106	5.195	mg/L	0.0211	0.41%
Fe 273.955†	230151.5	200.1	mg/L	0.30	400.3	mg/L	0.61	0.15%
K 766.490†	13836.6	6.077	mg/L	0.0203	12.15	mg/L	0.041	0.33%
Mg 279.077†	65330.9	58.01	mg/L	0.119	116.0	mg/L	0.24	0.20%
Mn 257.610†	89621.1	2.817	mg/L	0.0026	5.635	mg/L	0.0053	0.09%
Mo 202.031†	237.9	0.01158	mg/L	0.000341	0.02315	mg/L	0.000682	2.95%
Na 589.592†	20775.7	1.558	mg/L	0.0029	3.116	mg/L	0.0058	0.19%
Na 330.237†	-7.6	1.334	mg/L	0.2726	2.667	mg/L	0.5452	20.44%
Ni 231.604†	34308.1	10.15	mg/L	0.047	20.31	mg/L	0.094	0.46%
Pb 220.353†	4849.3	0.5931	mg/L	0.00515	1.186	mg/L	0.0103	0.87%
Sb 206.836†	104.9	0.02508	mg/L	0.002299	0.05016	mg/L	0.004598	9.17%
Se 196.026†	39.6	0.02815	mg/L	0.003472	0.05630	mg/L	0.006945	12.34%
Si 288.158†	4470.1	2.566	mg/L	0.0326	5.132	mg/L	0.0653	1.27%
Sn 189.927†	-27.8	-0.00094	mg/L	0.000771	-0.00189	mg/L	0.001542	81.67%
Sr 421.552†	177045.6	0.2132	mg/L	0.00029	0.4264	mg/L	0.00057	0.13%
Ti 334.903†	137056.4	8.111	mg/L	0.0116	16.22	mg/L	0.023	0.14%
Tl 190.801†	-41.1	0.00157	mg/L	0.003466	0.00314	mg/L	0.006931	220.72%
V 292.402†	66733.4	0.4203	mg/L	0.00199	0.8406	mg/L	0.00398	0.47%
Zn 206.200†	2323.4	0.6815	mg/L	0.00291	1.363	mg/L	0.0058	0.43%

Sequence No.: 59
Sample ID: YE32 P SWC

Autosampler Location: 342
Date Collected: 4/1/2014 12:39:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 P SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 P SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2943046.4	99.39 %	0.370			0.37%
ScR 361.383	251787.4	102.5 %	0.71			0.69%
Ag 328.068†	-270.7	-0.00108 mg/L	0.000079	-0.00217 mg/L	0.000157	7.24%
Al 308.215†	175757.1	134.7 mg/L	0.46	269.3 mg/L	0.92	0.34%
As 188.979†	-288.0	0.06247 mg/L	0.001426	0.1249 mg/L	0.00285	2.28%
B 249.677†	127.0	0.02201 mg/L	0.001305	0.04402 mg/L	0.002609	5.93%
Ba 233.527†	1993.3	0.4987 mg/L	0.00734	0.9974 mg/L	0.01468	1.47%
Be 313.042†	916.1	0.00166 mg/L	0.000028	0.00331 mg/L	0.000055	1.67%
Ca 317.933†	252011.1	25.72 mg/L	0.033	51.44 mg/L	0.066	0.13%
Cd 228.802†	1.4	0.00288 mg/L	0.000054	0.00575 mg/L	0.000108	1.87%
Co 228.616†	3608.6	0.07709 mg/L	0.000334	0.1542 mg/L	0.00067	0.43%
Cr 267.716†	1801.0	0.3604 mg/L	0.00195	0.7208 mg/L	0.00390	0.54%
Cu 324.752†	86568.4	0.2980 mg/L	0.00069	0.5961 mg/L	0.00138	0.23%
Fe 273.955†	169415.0	147.3 mg/L	0.48	294.6 mg/L	0.96	0.33%
K 766.490†	12619.5	5.542 mg/L	0.0067	11.08 mg/L	0.013	0.12%
Mg 279.077†	54435.4	48.35 mg/L	0.155	96.69 mg/L	0.310	0.32%
Mn 257.610†	67555.3	2.123 mg/L	0.0056	4.247 mg/L	0.0113	0.27%
Mo 202.031†	62.5	0.00282 mg/L	0.000029	0.00564 mg/L	0.000059	1.04%
Na 589.592†	19661.1	1.475 mg/L	0.0048	2.949 mg/L	0.0096	0.33%
Na 330.237†	-3.4	1.269 mg/L	0.2996	2.538 mg/L	0.5993	23.61%
Ni 231.604†	11195.3	3.314 mg/L	0.0176	6.627 mg/L	0.0351	0.53%
Pb 220.353†	-113.4	0.01414 mg/L	0.000453	0.02829 mg/L	0.000907	3.21%
Sb 206.836†	46.2	0.01594 mg/L	0.001304	0.03189 mg/L	0.002609	8.18%
Se 196.026†	25.2	0.01784 mg/L	0.005451	0.03569 mg/L	0.010901	30.55%
Si 288.158†	5033.8	2.887 mg/L	0.0267	5.774 mg/L	0.0533	0.92%
Sn 189.927†	-53.6	-0.01066 mg/L	0.000972	-0.02131 mg/L	0.001943	9.12%
Sr 421.552†	128307.2	0.1545 mg/L	0.00042	0.3090 mg/L	0.00084	0.27%
Ti 334.903†	109800.5	6.499 mg/L	0.0151	13.00 mg/L	0.030	0.23%
Tl 190.801†	-30.7	0.00108 mg/L	0.002700	0.00216 mg/L	0.005401	250.42%
V 292.402†	52676.0	0.3299 mg/L	0.00117	0.6598 mg/L	0.00234	0.35%
Zn 206.200†	1657.2	0.4861 mg/L	0.00174	0.9722 mg/L	0.00349	0.36%

Sequence No.: 60
 Sample ID: YE32 Q SWC

Autosampler Location: 343
 Date Collected: 4/1/2014 12:43:48 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 Q SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YE32 Q SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2923204.6	98.72	%	0.492			0.50%
ScR 361.383	253390.2	103.1	%	0.03			0.03%
Ag 328.068†	-300.1	-0.00110	mg/L	0.000167	-0.00220 mg/L	0.000334	15.22%
Al 308.215†	195519.0	149.8	mg/L	0.72	299.6 mg/L	1.44	0.48%
As 188.979†	-379.3	0.08616	mg/L	0.002829	0.1723 mg/L	0.00566	3.28%
B 249.677†	599.1	0.1044	mg/L	0.00043	0.2089 mg/L	0.00085	0.41%
Ba 233.527†	2592.3	0.6484	mg/L	0.00184	1.297 mg/L	0.0037	0.28%
Be 313.042†	1149.3	0.00206	mg/L	0.000010	0.00413 mg/L	0.000020	0.49%
Ca 317.933†	414635.7	42.31	mg/L	0.102	84.63 mg/L	0.204	0.24%
Cd 228.802†	-87.6	0.00322	mg/L	0.000023	0.00643 mg/L	0.000047	0.73%
Co 228.616†	4779.8	0.1016	mg/L	0.00063	0.2033 mg/L	0.00125	0.62%
Cr 267.716†	2643.5	0.5285	mg/L	0.00162	1.057 mg/L	0.0032	0.31%
Cu 324.752†	175004.5	0.5986	mg/L	0.00545	1.197 mg/L	0.0109	0.91%
Fe 273.955†	219193.1	190.6	mg/L	0.54	381.2 mg/L	1.07	0.28%
K 766.490†	16214.7	7.121	mg/L	0.0256	14.24 mg/L	0.051	0.36%
Mg 279.077†	75348.7	66.93	mg/L	0.240	133.9 mg/L	0.48	0.36%
Mn 257.610†	79116.8	2.487	mg/L	0.0056	4.974 mg/L	0.0111	0.22%
Mo 202.031†	71.5	0.00303	mg/L	0.000188	0.00606 mg/L	0.000376	6.21%
Na 589.592†	26179.9	1.964	mg/L	0.0108	3.927 mg/L	0.0215	0.55%
Na 330.237†	-5.1	1.660	mg/L	0.3132	3.320 mg/L	0.6265	18.87%
Ni 231.604†	21788.7	6.449	mg/L	0.0242	12.90 mg/L	0.048	0.37%
Pb 220.353†	246.0	0.05815	mg/L	0.000392	0.1163 mg/L	0.00078	0.67%
Sb 206.836†	48.2	0.01651	mg/L	0.001510	0.03302 mg/L	0.003021	9.15%
Se 196.026†	35.9	0.02547	mg/L	0.006074	0.05093 mg/L	0.012148	23.85%
Si 288.158†	1452.6	0.8397	mg/L	0.00968	1.679 mg/L	0.0194	1.15%
Sn 189.927†	-62.7	-0.01076	mg/L	0.000696	-0.02152 mg/L	0.001393	6.47%
Sr 421.552†	165375.6	0.1991	mg/L	0.00069	0.3983 mg/L	0.00137	0.35%
Ti 334.903†	146837.0	8.691	mg/L	0.0348	17.38 mg/L	0.070	0.40%
Tl 190.801†	-37.1	0.00248	mg/L	0.003736	0.00496 mg/L	0.007473	150.56%
V 292.402†	71031.7	0.4455	mg/L	0.00367	0.8910 mg/L	0.00734	0.82%
Zn 206.200†	1768.9	0.5185	mg/L	0.00186	1.037 mg/L	0.0037	0.36%

Sequence No.: 61
 Sample ID: YE32 R SWC

Autosampler Location: 344
 Date Collected: 4/1/2014 12:47:48 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 R SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE32 R SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2937178.7	99.19	%	0.576			0.58%
ScR 361.383	252792.1	102.9	%	0.44			0.43%
Ag 328.068†	-271.5	-0.00097	mg/L	0.000247	-0.00193 mg/L	0.000495	25.60%
Al 308.215†	167180.5	128.1	mg/L	0.64	256.2 mg/L	1.27	0.50%
As 188.979†	-314.0	0.07388	mg/L	0.003989	0.1478 mg/L	0.00798	5.40%
B 249.677†	473.8	0.08262	mg/L	0.000943	0.1652 mg/L	0.00189	1.14%
Ba 233.527†	2471.1	0.6211	mg/L	0.00389	1.242 mg/L	0.0078	0.63%
Be 313.042†	1030.0	0.00186	mg/L	0.000029	0.00372 mg/L	0.000059	1.58%
Ca 317.933†	427792.7	43.66	mg/L	0.171	87.31 mg/L	0.341	0.39%
Cd 228.802†	17.8	0.00212	mg/L	0.000092	0.00425 mg/L	0.000184	4.32%
Co 228.616†	3555.5	0.07455	mg/L	0.000282	0.1491 mg/L	0.00056	0.38%
Cr 267.716†	1377.5	0.2753	mg/L	0.00138	0.5507 mg/L	0.00276	0.50%
Cu 324.752†	102191.5	0.3515	mg/L	0.00133	0.7029 mg/L	0.00266	0.38%
Fe 273.955†	190403.1	165.6	mg/L	0.60	331.1 mg/L	1.19	0.36%
K 766.490†	17138.2	7.527	mg/L	0.0425	15.05 mg/L	0.085	0.57%
Mg 279.077†	63654.6	56.54	mg/L	0.248	113.1 mg/L	0.50	0.44%
Mn 257.610†	77160.5	2.426	mg/L	0.0052	4.851 mg/L	0.0103	0.21%
Mo 202.031†	157.0	0.00741	mg/L	0.000055	0.01482 mg/L	0.000111	0.75%
Na 589.592†	31237.7	2.343	mg/L	0.0071	4.686 mg/L	0.0141	0.30%
Na 330.237†	8.3	1.951	mg/L	0.1692	3.903 mg/L	0.3384	8.67%
Ni 231.604†	7244.6	2.144	mg/L	0.0072	4.289 mg/L	0.0145	0.34%
Pb 220.353†	-86.1	0.01450	mg/L	0.000501	0.02900 mg/L	0.001003	3.46%
Sb 206.836†	38.5	0.01545	mg/L	0.000681	0.03089 mg/L	0.001363	4.41%
Se 196.026†	33.3	0.02360	mg/L	0.005264	0.04719 mg/L	0.010528	22.31%
Si 288.158†	3148.2	1.809	mg/L	0.0167	3.618 mg/L	0.0334	0.92%
Sn 189.927†	-68.9	-0.01263	mg/L	0.001259	-0.02525 mg/L	0.002518	9.97%
Sr 421.552†	144268.0	0.1737	mg/L	0.00047	0.3474 mg/L	0.00094	0.27%
Ti 334.903†	123029.0	7.281	mg/L	0.0278	14.56 mg/L	0.056	0.38%
Tl 190.801†	-32.3	0.00229	mg/L	0.001324	0.00458 mg/L	0.002648	57.81%
V 292.402†	61411.1	0.3845	mg/L	0.00192	0.7691 mg/L	0.00385	0.50%
Zn 206.200†	1187.8	0.3484	mg/L	0.00130	0.6967 mg/L	0.00260	0.37%

Sequence No.: 62
Sample ID: YE32 S SWC

Autosampler Location: 345
Date Collected: 4/1/2014 12:51:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 S SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 S SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2912782.2	98.36	%	0.514			0.52%
ScR 361.383	255035.8	103.8	%	0.46			0.44%
Ag 328.068†	-381.9	-0.00145	mg/L	0.000295	-0.00290 mg/L	0.000591	20.36%
Al 308.215†	184556.5	141.4	mg/L	0.60	282.8 mg/L	1.20	0.43%
As 188.979†	-453.6	0.08820	mg/L	0.004132	0.1764 mg/L	0.00826	4.69%
B 249.677†	606.8	0.1058	mg/L	0.00070	0.2117 mg/L	0.00140	0.66%
Ba 233.527†	2040.2	0.5040	mg/L	0.00322	1.008 mg/L	0.0064	0.64%
Be 313.042†	1163.7	0.00206	mg/L	0.000030	0.00412 mg/L	0.000060	1.45%
Ca 317.933†	461154.8	47.06	mg/L	0.178	94.12 mg/L	0.356	0.38%
Cd 228.802†	21.8	0.00306	mg/L	0.000037	0.00612 mg/L	0.000074	1.20%
Co 228.616†	4079.7	0.08265	mg/L	0.000350	0.1653 mg/L	0.00070	0.42%
Cr 267.716†	1417.5	0.2843	mg/L	0.00256	0.5687 mg/L	0.00511	0.90%
Cu 324.752†	184775.2	0.6316	mg/L	0.00187	1.263 mg/L	0.0037	0.30%
Fe 273.955†	221791.1	192.9	mg/L	1.14	385.7 mg/L	2.28	0.59%
K 766.490†	15737.3	6.912	mg/L	0.0280	13.82 mg/L	0.056	0.40%
Mg 279.077†	60865.8	54.04	mg/L	0.282	108.1 mg/L	0.56	0.52%
Mn 257.610†	83870.6	2.636	mg/L	0.0094	5.273 mg/L	0.0188	0.36%
Mo 202.031†	260.7	0.01270	mg/L	0.000321	0.02540 mg/L	0.000643	2.53%
Na 589.592†	38971.8	2.923	mg/L	0.0072	5.846 mg/L	0.0145	0.25%
Na 330.237†	9.2	2.660	mg/L	0.1215	5.320 mg/L	0.2429	4.57%
Ni 231.604†	9441.9	2.795	mg/L	0.0252	5.589 mg/L	0.0504	0.90%
Pb 220.353†	-87.8	0.01606	mg/L	0.000387	0.03212 mg/L	0.000775	2.41%
Sb 206.836†	35.9	0.01713	mg/L	0.000826	0.03426 mg/L	0.001651	4.82%
Se 196.026†	31.2	0.02206	mg/L	0.004528	0.04412 mg/L	0.009056	20.53%
Si 288.158†	4185.0	2.402	mg/L	0.0150	4.804 mg/L	0.0300	0.62%
Sn 189.927†	-76.9	-0.01393	mg/L	0.000873	-0.02787 mg/L	0.001747	6.27%
Sr 421.552†	142171.9	0.1712	mg/L	0.00051	0.3424 mg/L	0.00102	0.30%
Ti 334.903†	168242.2	9.958	mg/L	0.0311	19.92 mg/L	0.062	0.31%
Tl 190.801†	-35.8	0.00328	mg/L	0.003582	0.00657 mg/L	0.007164	109.06%
V 292.402†	83433.4	0.5237	mg/L	0.00160	1.047 mg/L	0.0032	0.31%
Zn 206.200†	1419.1	0.4162	mg/L	0.00375	0.8325 mg/L	0.00750	0.90%

Sequence No.: 63
Sample ID: YE32 T SWC

Autosampler Location: 346
Date Collected: 4/1/2014 12:55:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 T SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE32 T SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2919770.2	98.60	%	0.249				0.25%
ScR 361.383	252973.1	102.9	%	0.35				0.34%
Ag 328.068†	-223.2	-0.00085	mg/L	0.000118	-0.00170	mg/L	0.000236	13.87%
Al 308.215†	197067.3	151.0	mg/L	0.26	302.0	mg/L	0.53	0.17%
As 188.979†	-328.5	0.07879	mg/L	0.003546	0.1576	mg/L	0.00709	4.50%
B 249.677†	456.1	0.07952	mg/L	0.001783	0.1590	mg/L	0.00357	2.24%
Ba 233.527†	2553.1	0.6439	mg/L	0.00478	1.288	mg/L	0.0096	0.74%
Be 313.042†	958.6	0.00172	mg/L	0.000022	0.00344	mg/L	0.000044	1.27%
Ca 317.933†	239488.3	24.44	mg/L	0.093	48.88	mg/L	0.186	0.38%
Cd 228.802†	29.6	0.00337	mg/L	0.000056	0.00675	mg/L	0.000113	1.67%
Co 228.616†	3602.9	0.07495	mg/L	0.000128	0.1499	mg/L	0.00026	0.17%
Cr 267.716†	6244.1	1.250	mg/L	0.0068	2.500	mg/L	0.0136	0.54%
Cu 324.752†	143562.1	0.4910	mg/L	0.00129	0.9821	mg/L	0.00257	0.26%
Fe 273.955†	179646.5	156.2	mg/L	0.39	312.4	mg/L	0.77	0.25%
K 766.490†	10864.4	4.772	mg/L	0.0128	9.543	mg/L	0.0255	0.27%
Mg 279.077†	52287.2	46.43	mg/L	0.075	92.86	mg/L	0.151	0.16%
Mn 257.610†	80222.8	2.522	mg/L	0.0047	5.044	mg/L	0.0095	0.19%
Mo 202.031†	52.7	0.00233	mg/L	0.000298	0.00467	mg/L	0.000596	12.77%
Na 589.592†	15005.0	1.125	mg/L	0.0024	2.251	mg/L	0.0048	0.21%
Na 330.237†	-16.5	0.9998	mg/L	0.15921	2.000	mg/L	0.3184	15.92%
Ni 231.604†	9866.7	2.920	mg/L	0.0177	5.841	mg/L	0.0354	0.61%
Pb 220.353†	-125.2	0.01779	mg/L	0.000933	0.03558	mg/L	0.001865	5.24%
Sb 206.836†	77.8	0.01527	mg/L	0.002251	0.03054	mg/L	0.004501	14.74%
Se 196.026†	30.8	0.02182	mg/L	0.003994	0.04364	mg/L	0.007989	18.31%
Si 288.158†	5646.2	3.238	mg/L	0.0225	6.476	mg/L	0.0450	0.69%
Sn 189.927†	-48.0	-0.00903	mg/L	0.001967	-0.01806	mg/L	0.003935	21.79%
Sr 421.552†	124558.2	0.1500	mg/L	0.00037	0.3000	mg/L	0.00074	0.25%
Ti 334.903†	129204.5	7.648	mg/L	0.0184	15.30	mg/L	0.037	0.24%
Tl 190.801†	-33.5	0.00033	mg/L	0.000688	0.00066	mg/L	0.001376	208.51%
V 292.402†	58152.4	0.3678	mg/L	0.00111	0.7357	mg/L	0.00223	0.30%
Zn 206.200†	1297.4	0.3810	mg/L	0.00171	0.7620	mg/L	0.00342	0.45%

Sequence No.: 64
 Sample ID: YE34 B SWC

Autosampler Location: 347
 Date Collected: 4/1/2014 12:59:49 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 B SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34 B SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2897883.1	97.86 %	0.730			0.75%
ScR 361.383	254427.8	103.5 %	0.72			0.69%
Ag 328.068†	-317.7	-0.00121 mg/L	0.000089	-0.00243 mg/L	0.000178	7.32%
Al 308.215†	175183.8	134.2 mg/L	0.66	268.5 mg/L	1.33	0.49%
As 188.979†	-327.4	0.08103 mg/L	0.002704	0.1621 mg/L	0.00541	3.34%
B 249.677†	999.5	0.1745 mg/L	0.00201	0.3489 mg/L	0.00402	1.15%
Ba 233.527†	2409.7	0.6031 mg/L	0.00796	1.206 mg/L	0.0159	1.32%
Be 313.042†	1077.4	0.00194 mg/L	0.000004	0.00388 mg/L	0.000007	0.19%
Ca 317.933†	382130.5	39.00 mg/L	0.207	77.99 mg/L	0.414	0.53%
Cd 228.802†	-0.4	0.00380 mg/L	0.000093	0.00760 mg/L	0.000186	2.45%
Co 228.616†	3990.2	0.08422 mg/L	0.000708	0.1684 mg/L	0.00142	0.84%
Cr 267.716†	1346.0	0.2693 mg/L	0.00372	0.5386 mg/L	0.00743	1.38%
Cu 324.752†	130996.2	0.4493 mg/L	0.00503	0.8987 mg/L	0.01005	1.12%
Fe 273.955†	202595.1	176.2 mg/L	0.77	352.3 mg/L	1.53	0.44%
K 766.490†	13277.8	5.832 mg/L	0.0245	11.66 mg/L	0.049	0.42%
Mg 279.077†	64909.4	57.65 mg/L	0.313	115.3 mg/L	0.63	0.54%
Mn 257.610†	77620.2	2.440 mg/L	0.0062	4.880 mg/L	0.0123	0.25%
Mo 202.031†	107.3	0.00492 mg/L	0.000334	0.00984 mg/L	0.000667	6.78%
Na 589.592†	88440.0	6.633 mg/L	0.0352	13.27 mg/L	0.070	0.53%
Na 330.237†	102.3	6.465 mg/L	0.2381	12.93 mg/L	0.476	3.68%
Ni 231.604†	14990.9	4.437 mg/L	0.0374	8.874 mg/L	0.0748	0.84%
Pb 220.353†	-80.6	0.01631 mg/L	0.001213	0.03261 mg/L	0.002426	7.44%
Sb 206.836†	40.4	0.01653 mg/L	0.001428	0.03307 mg/L	0.002856	8.64%
Se 196.026†	29.4	0.02083 mg/L	0.006234	0.04167 mg/L	0.012469	29.92%
Si 288.158†	2569.6	1.478 mg/L	0.0174	2.955 mg/L	0.0347	1.18%
Sn 189.927†	-61.8	-0.01111 mg/L	0.001552	-0.02223 mg/L	0.003104	13.96%
Sr 421.552†	149835.8	0.1804 mg/L	0.00085	0.3608 mg/L	0.00169	0.47%
Ti 334.903†	129890.5	7.688 mg/L	0.0300	15.38 mg/L	0.060	0.39%
Tl 190.801†	-38.3	0.00064 mg/L	0.005266	0.00128 mg/L	0.010531	822.21%
V 292.402†	65166.1	0.4079 mg/L	0.00484	0.8159 mg/L	0.00969	1.19%
Zn 206.200†	1189.1	0.3487 mg/L	0.00358	0.6974 mg/L	0.00716	1.03%

Sequence No.: 65
Sample ID: YE34 C SWC

Autosampler Location: 348
Date Collected: 4/1/2014 1:03:49 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 C SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 C SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2908722.1	98.23 %	0.304			0.31%
ScR 361.383	254619.8	103.6 %	0.61			0.59%
Ag 328.068†	-282.1	-0.00106 mg/L	0.000115	-0.00213 mg/L	0.000231	10.83%
Al 308.215†	158513.7	121.5 mg/L	0.46	242.9 mg/L	0.91	0.38%
As 188.979†	-311.7	0.07093 mg/L	0.003145	0.1419 mg/L	0.00629	4.43%
B 249.677†	925.3	0.1615 mg/L	0.00104	0.3231 mg/L	0.00208	0.64%
Ba 233.527†	2343.9	0.5883 mg/L	0.00423	1.177 mg/L	0.0085	0.72%
Be 313.042†	1005.0	0.00181 mg/L	0.000022	0.00362 mg/L	0.000044	1.21%
Ca 317.933†	354729.2	36.20 mg/L	0.203	72.40 mg/L	0.407	0.56%
Cd 228.802†	31.9	0.00349 mg/L	0.000177	0.00699 mg/L	0.000354	5.07%
Co 228.616†	3502.3	0.07334 mg/L	0.000434	0.1467 mg/L	0.00087	0.59%
Cr 267.716†	1337.5	0.2678 mg/L	0.00223	0.5355 mg/L	0.00446	0.83%
Cu 324.752†	124748.7	0.4277 mg/L	0.00230	0.8553 mg/L	0.00460	0.54%
Fe 273.955†	185669.6	161.5 mg/L	0.50	322.9 mg/L	1.01	0.31%
K 766.490†	21271.4	9.342 mg/L	0.0159	18.68 mg/L	0.032	0.17%
Mg 279.077†	57521.9	51.08 mg/L	0.190	102.2 mg/L	0.38	0.37%
Mn 257.610†	71462.4	2.246 mg/L	0.0074	4.493 mg/L	0.0147	0.33%
Mo 202.031†	217.1	0.01062 mg/L	0.000261	0.02124 mg/L	0.000522	2.46%
Na 589.592†	82860.1	6.215 mg/L	0.0291	12.43 mg/L	0.058	0.47%
Na 330.237†	98.7	6.177 mg/L	0.2560	12.35 mg/L	0.512	4.14%
Ni 231.604†	10375.7	3.071 mg/L	0.0122	6.142 mg/L	0.0244	0.40%
Pb 220.353†	-77.5	0.01403 mg/L	0.000439	0.02806 mg/L	0.000878	3.13%
Sb 206.836†	41.6	0.01641 mg/L	0.002015	0.03282 mg/L	0.004031	12.28%
Se 196.026†	38.0	0.02699 mg/L	0.003828	0.05398 mg/L	0.007657	14.19%
Si 288.158†	2984.1	1.714 mg/L	0.0063	3.428 mg/L	0.0126	0.37%
Sn 189.927†	-59.6	-0.01095 mg/L	0.002120	-0.02191 mg/L	0.004240	19.35%
Sr 421.552†	145448.6	0.1751 mg/L	0.00072	0.3503 mg/L	0.00143	0.41%
Ti 334.903†	120696.5	7.143 mg/L	0.0240	14.29 mg/L	0.048	0.34%
Tl 190.801†	-32.7	0.00168 mg/L	0.001408	0.00337 mg/L	0.002815	83.63%
V 292.402†	60427.9	0.3784 mg/L	0.00233	0.7569 mg/L	0.00466	0.62%
Zn 206.200†	1120.2	0.3285 mg/L	0.00136	0.6571 mg/L	0.00272	0.41%

Sequence No.: 66
Sample ID: YE34 D SWC
Dilution: 2.000000X

Autosampler Location: 349
Date Collected: 4/1/2014 1:07:49 PM
Data Type: Original

Nebulizer Parameters: YE34 D SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE34 D SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2919807.7	98.60 %	0.525			0.53%
ScR 361.383	252855.0	102.9 %	0.10			0.09%
Ag 328.068†	-346.2	-0.00142 mg/L	0.000228	-0.00284 mg/L	0.000457	16.09%
Al 308.215†	236803.5	181.4 mg/L	0.80	362.9 mg/L	1.60	0.44%
As 188.979†	-341.1	0.07163 mg/L	0.004151	0.1433 mg/L	0.00830	5.80%
B 249.677†	684.5	0.1194 mg/L	0.00173	0.2389 mg/L	0.00345	1.45%
Ba 233.527†	2615.8	0.6577 mg/L	0.00291	1.315 mg/L	0.0058	0.44%
Be 313.042†	755.0	0.00130 mg/L	0.000034	0.00261 mg/L	0.000068	2.60%
Ca 317.933†	278036.1	28.37 mg/L	0.059	56.75 mg/L	0.118	0.21%
Cd 228.802†	86.5	0.00428 mg/L	0.000065	0.00857 mg/L	0.000130	1.52%
Co 228.616†	3165.1	0.06386 mg/L	0.000150	0.1277 mg/L	0.00030	0.24%
Cr 267.716†	29227.7	5.848 mg/L	0.0257	11.70 mg/L	0.051	0.44%
Cu 324.752†	247673.4	0.8440 mg/L	0.00225	1.688 mg/L	0.0045	0.27%
Fe 273.955†	199734.9	173.7 mg/L	0.86	347.4 mg/L	1.72	0.50%
K 766.490†	11609.5	5.099 mg/L	0.0275	10.20 mg/L	0.055	0.54%
Mg 279.077†	61228.2	54.38 mg/L	0.207	108.8 mg/L	0.41	0.38%
Mn 257.610†	73193.4	2.300 mg/L	0.0083	4.601 mg/L	0.0167	0.36%
Mo 202.031†	62.3	0.00277 mg/L	0.000224	0.00553 mg/L	0.000448	8.10%
Na 589.592†	46634.0	3.498 mg/L	0.0135	6.995 mg/L	0.0270	0.39%
Na 330.237†	39.6	3.666 mg/L	0.4644	7.331 mg/L	0.9287	12.67%
Ni 231.604†	7579.1	2.243 mg/L	0.0156	4.487 mg/L	0.0312	0.69%
Pb 220.353†	-226.2	0.02093 mg/L	0.001069	0.04186 mg/L	0.002138	5.11%
Sb 206.836†	273.9	0.01692 mg/L	0.003285	0.03384 mg/L	0.006571	19.42%
Se 196.026†	37.7	0.02681 mg/L	0.003477	0.05363 mg/L	0.006955	12.97%
Si 288.158†	3374.4	1.941 mg/L	0.0258	3.883 mg/L	0.0517	1.33%
Sn 189.927†	-55.6	-0.01059 mg/L	0.001108	-0.02118 mg/L	0.002216	10.46%
Sr 421.552†	108811.9	0.1310 mg/L	0.00057	0.2621 mg/L	0.00114	0.44%
Ti 334.903†	132643.7	7.850 mg/L	0.0203	15.70 mg/L	0.041	0.26%
Tl 190.801†	-33.1	0.00057 mg/L	0.002376	0.00113 mg/L	0.004751	419.81%
V 292.402†	64329.4	0.4256 mg/L	0.00058	0.8511 mg/L	0.00115	0.14%
Zn 206.200†	1033.8	0.3048 mg/L	0.00260	0.6095 mg/L	0.00521	0.85%

Sequence No.: 67

Sample ID: YE34 MB1SPK SWC

Autosampler Location: 350

Date Collected: 4/1/2014 1:11:04 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 MB1SPK SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 MB1SPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2942521.5	99.37	%	0.632				0.64%
ScR 361.383	251369.6	102.3	%	0.09				0.08%
Ag 328.068†	111921.1	0.5493	mg/L	0.00180	1.099	mg/L	0.0036	0.33%
Al 308.215†	2755.8	2.104	mg/L	0.0031	4.208	mg/L	0.0062	0.15%
As 188.979†	3858.1	2.236	mg/L	0.0158	4.472	mg/L	0.0315	0.71%
B 249.677†	15.9	0.00168	mg/L	0.001073	0.00335	mg/L	0.002145	63.99%
Ba 233.527†	8303.8	2.174	mg/L	0.0080	4.348	mg/L	0.0160	0.37%
Be 313.042†	262712.1	0.5191	mg/L	0.00282	1.038	mg/L	0.0056	0.54%
Ca 317.933†	104152.1	10.63	mg/L	0.061	21.26	mg/L	0.123	0.58%
Cd 228.802†	18433.7	0.5394	mg/L	0.00245	1.079	mg/L	0.0049	0.45%
Co 228.616†	21222.5	0.5248	mg/L	0.00172	1.050	mg/L	0.0034	0.33%
Cr 267.716†	2721.7	0.5434	mg/L	0.00075	1.087	mg/L	0.0015	0.14%
Cu 324.752†	151748.9	0.5135	mg/L	0.00238	1.027	mg/L	0.0048	0.46%
Fe 273.955†	2536.1	2.202	mg/L	0.0016	4.404	mg/L	0.0032	0.07%
K 766.490†	23659.4	10.39	mg/L	0.033	20.78	mg/L	0.066	0.32%
Mg 279.077†	12375.1	11.01	mg/L	0.037	22.02	mg/L	0.074	0.34%
Mn 257.610†	15994.1	0.5034	mg/L	0.00352	1.007	mg/L	0.0070	0.70%
Mo 202.031†	39.6	0.00187	mg/L	0.000136	0.00374	mg/L	0.000272	7.28%
Na 589.592†	141133.7	10.59	mg/L	0.042	21.17	mg/L	0.083	0.39%
Na 330.237†	235.9	10.77	mg/L	0.150	21.55	mg/L	0.299	1.39%
Ni 231.604†	1819.2	0.5376	mg/L	0.00334	1.075	mg/L	0.0067	0.62%
Pb 220.353†	18215.4	2.126	mg/L	0.0144	4.252	mg/L	0.0288	0.68%
Sb 206.836†	23.6	0.00216	mg/L	0.002891	0.00431	mg/L	0.005782	134.15%
Se 196.026†	3127.9	2.246	mg/L	0.0195	4.492	mg/L	0.0390	0.87%
Si 288.158†	1.1	0.00439	mg/L	0.003781	0.00877	mg/L	0.007563	86.23%
Sn 189.927†	-19.8	-0.00417	mg/L	0.000441	-0.00835	mg/L	0.000883	10.57%
Sr 421.552†	427246.0	0.5145	mg/L	0.00178	1.029	mg/L	0.0036	0.35%
Ti 334.903†	156.4	0.00840	mg/L	0.000188	0.01680	mg/L	0.000377	2.24%
Tl 190.801†	4599.1	2.093	mg/L	0.0126	4.186	mg/L	0.0252	0.60%
V 292.402†	81811.3	0.5305	mg/L	0.00074	1.061	mg/L	0.0015	0.14%
Zn 206.200†	1829.4	0.5362	mg/L	0.00265	1.072	mg/L	0.0053	0.49%

Sequence No.: 68

Sample ID: CV-7

Autosampler Location: 7

Date Collected: 4/1/2014 1:15:04 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921178.7	98.65	%	0.329			0.33%
ScR 361.383	245985.6	100.1	%	1.23			1.23%
Ag 328.068†	211800.9	1.039	mg/L	0.0108	1.039 mg/L	0.0108	1.04%
Al 308.215†	2664.2	2.010	mg/L	0.0268	2.010 mg/L	0.0268	1.34%
As 188.979†	3604.7	2.121	mg/L	0.0083	2.121 mg/L	0.0083	0.39%
B 249.677†	5784.1	1.010	mg/L	0.0112	1.010 mg/L	0.0112	1.10%
Ba 233.527†	3976.1	1.041	mg/L	0.0145	1.041 mg/L	0.0145	1.40%
Be 313.042†	508985.1	1.006	mg/L	0.0030	1.006 mg/L	0.0030	0.30%
Ca 317.933†	20757.4	2.118	mg/L	0.0255	2.118 mg/L	0.0255	1.20%
Cd 228.802†	34598.2	1.023	mg/L	0.0102	1.023 mg/L	0.0102	1.00%
Co 228.616†	40482.9	0.9998	mg/L	0.01114	0.9998 mg/L	0.01114	1.11%
Cr 267.716†	5247.5	1.049	mg/L	0.0112	1.049 mg/L	0.0112	1.06%
Cu 324.752†	303411.4	1.026	mg/L	0.0110	1.026 mg/L	0.0110	1.07%
Fe 273.955†	2449.3	2.123	mg/L	0.0286	2.123 mg/L	0.0286	1.35%
K 766.490†	45436.7	19.96	mg/L	0.159	19.96 mg/L	0.159	0.80%
Mg 279.077†	2285.2	2.040	mg/L	0.0275	2.040 mg/L	0.0275	1.35%
Mn 257.610†	31035.0	0.9766	mg/L	0.00468	0.9766 mg/L	0.00468	0.48%
Mo 202.031†	18871.4	0.9719	mg/L	0.00433	0.9719 mg/L	0.00433	0.45%
Na 589.592†	679225.1	50.94	mg/L	0.371	50.94 mg/L	0.371	0.73%
Na 330.237†	1095.7	50.99	mg/L	0.598	50.99 mg/L	0.598	1.17%
Ni 231.604†	3541.6	1.049	mg/L	0.0114	1.049 mg/L	0.0114	1.09%
Pb 220.353†	17563.6	2.050	mg/L	0.0095	2.050 mg/L	0.0095	0.46%
Sb 206.836†	6725.9	2.094	mg/L	0.0120	2.094 mg/L	0.0120	0.57%
Se 196.026†	2917.2	2.094	mg/L	0.0107	2.094 mg/L	0.0107	0.51%
Si 288.158†	3417.0	1.961	mg/L	0.0185	1.961 mg/L	0.0185	0.94%
Sn 189.927†	3501.3	0.9816	mg/L	0.00788	0.9816 mg/L	0.00788	0.80%
Sr 421.552†	837571.8	1.009	mg/L	0.0062	1.009 mg/L	0.0062	0.61%
Ti 334.903†	16576.1	0.9801	mg/L	0.00288	0.9801 mg/L	0.00288	0.29%
Tl 190.801†	4513.1	2.050	mg/L	0.0090	2.050 mg/L	0.0090	0.44%
V 292.402†	157203.6	1.020	mg/L	0.0096	1.020 mg/L	0.0096	0.94%
Zn 206.200†	3572.7	1.047	mg/L	0.0127	1.047 mg/L	0.0127	1.21%

Sequence No.: 69

Autosampler Location: 1

Sample ID: CB 7

Date Collected: 4/1/2014 1:19:08 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929809.7	98.94	%	0.834			0.84%
ScR 361.383	254814.3	103.7	%	0.80			0.77%
Ag 328.068†	-45.8	-0.00022	mg/L	0.000069	-0.00022 mg/L	0.000069	30.74%
Al 308.215†	-4.0	-0.00311	mg/L	0.003982	-0.00311 mg/L	0.003982	128.10%
As 188.979†	-1.1	-0.00059	mg/L	0.002089	-0.00059 mg/L	0.002089	351.31%
B 249.677†	14.5	0.00253	mg/L	0.001280	0.00253 mg/L	0.001280	50.61%
Ba 233.527†	1.7	0.00044	mg/L	0.000446	0.00044 mg/L	0.000446	101.10%
Be 313.042†	-1.9	-0.00000	mg/L	0.000023	-0.00000 mg/L	0.000023	622.59%
Ca 317.933†	3.1	0.00031	mg/L	0.001200	0.00031 mg/L	0.001200	385.50%
Cd 228.802†	14.8	0.00044	mg/L	0.000056	0.00044 mg/L	0.000056	12.64%
Co 228.616†	-2.2	-0.00006	mg/L	0.000040	-0.00006 mg/L	0.000040	71.15%
Cr 267.716†	0.2	0.00003	mg/L	0.001375	0.00003 mg/L	0.001375	>999.9%
Cu 324.752†	781.7	0.00264	mg/L	0.000239	0.00264 mg/L	0.000239	9.05%
Fe 273.955†	2.7	0.00236	mg/L	0.001062	0.00236 mg/L	0.001062	45.03%
K 766.490†	112.2	0.04927	mg/L	0.015305	0.04927 mg/L	0.015305	31.06%
Mg 279.077†	0.8	0.00076	mg/L	0.005004	0.00076 mg/L	0.005004	662.80%
Mn 257.610†	2.5	0.00008	mg/L	0.000088	0.00008 mg/L	0.000088	111.15%
Mo 202.031†	24.8	0.00128	mg/L	0.000437	0.00128 mg/L	0.000437	34.17%
Na 589.592†	66.1	0.00496	mg/L	0.003586	0.00496 mg/L	0.003586	72.30%
Na 330.237†	-2.7	-0.1276	mg/L	0.21757	-0.1276 mg/L	0.21757	170.57%
Ni 231.604†	-1.0	-0.00027	mg/L	0.000837	-0.00027 mg/L	0.000837	305.32%
Pb 220.353†	10.5	0.00122	mg/L	0.000540	0.00122 mg/L	0.000540	44.07%
Sb 206.836†	42.1	0.01311	mg/L	0.002659	0.01311 mg/L	0.002659	20.28%
Se 196.026†	-0.1	-0.00009	mg/L	0.005066	-0.00009 mg/L	0.005066	>999.9%
Si 288.158†	6.5	0.00372	mg/L	0.005515	0.00372 mg/L	0.005515	148.09%
Sn 189.927†	-1.7	-0.00047	mg/L	0.000257	-0.00047 mg/L	0.000257	55.05%
Sr 421.552†	29.3	0.00004	mg/L	0.000028	0.00004 mg/L	0.000028	79.28%
Ti 334.903†	27.1	0.00160	mg/L	0.000530	0.00160 mg/L	0.000530	33.12%
Tl 190.801†	-2.9	-0.00134	mg/L	0.001960	-0.00134 mg/L	0.001960	146.52%
V 292.402†	-16.2	-0.00010	mg/L	0.000231	-0.00010 mg/L	0.000231	220.41%
Zn 206.200†	2.0	0.00059	mg/L	0.000357	0.00059 mg/L	0.000357	60.63%

Sequence No.: 70
 Sample ID: YE34 MB1 SWC

Autosampler Location: 351
 Date Collected: 4/1/2014 1:23:24 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 MB1 SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE34 MB1 SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905664.8	98.12	%	0.777			0.79%
ScR 361.383	248916.5	101.3	%	0.44			0.44%
Ag 328.068†	24.3	0.00012	mg/L	0.000043	0.00024 mg/L	0.000086	36.00%
Al 308.215†	43.7	0.03348	mg/L	0.003817	0.06696 mg/L	0.007635	11.40%
As 188.979†	-1.0	-0.00046	mg/L	0.001513	-0.00091 mg/L	0.003026	330.83%
B 249.677†	6.5	0.00114	mg/L	0.000974	0.00228 mg/L	0.001949	85.63%
Ba 233.527†	-2.5	-0.00067	mg/L	0.001008	-0.00134 mg/L	0.002016	150.66%
Be 313.042†	49.5	0.00010	mg/L	0.000005	0.00020 mg/L	0.000009	4.73%
Ca 317.933†	435.4	0.04444	mg/L	0.001349	0.08887 mg/L	0.002697	3.04%
Cd 228.802†	13.9	0.00042	mg/L	0.000035	0.00083 mg/L	0.000071	8.48%
Co 228.616†	4.8	0.00011	mg/L	0.000077	0.00022 mg/L	0.000155	69.42%
Cr 267.716†	0.5	0.00010	mg/L	0.000257	0.00021 mg/L	0.000515	247.81%
Cu 324.752†	846.2	0.00286	mg/L	0.000277	0.00572 mg/L	0.000554	9.68%
Fe 273.955†	13.7	0.01188	mg/L	0.001126	0.02376 mg/L	0.002251	9.47%
K 766.490†	69.5	0.03051	mg/L	0.005787	0.06101 mg/L	0.011574	18.97%
Mg 279.077†	14.7	0.01304	mg/L	0.007277	0.02609 mg/L	0.014555	55.79%
Mn 257.610†	6.8	0.00021	mg/L	0.000089	0.00043 mg/L	0.000177	41.32%
Mo 202.031†	9.9	0.00051	mg/L	0.000185	0.00102 mg/L	0.000370	36.33%
Na 589.592†	118.6	0.00890	mg/L	0.003229	0.01780 mg/L	0.006459	36.29%
Na 330.237†	-1.0	-0.04731	mg/L	0.025606	-0.09462 mg/L	0.051213	54.12%
Ni 231.604†	-2.2	-0.00064	mg/L	0.001309	-0.00128 mg/L	0.002619	204.80%
Pb 220.353†	0.6	0.00007	mg/L	0.000539	0.00014 mg/L	0.001078	751.65%
Sb 206.836†	6.8	0.00211	mg/L	0.001092	0.00422 mg/L	0.002184	51.72%
Se 196.026†	0.2	0.00017	mg/L	0.003540	0.00034 mg/L	0.007079	>999.9%
Si 288.158†	-5.1	-0.00292	mg/L	0.002382	-0.00584 mg/L	0.004763	81.62%
Sn 189.927†	-4.2	-0.00116	mg/L	0.000646	-0.00232 mg/L	0.001292	55.69%
Sr 421.552†	67.2	0.00008	mg/L	0.000050	0.00016 mg/L	0.000100	61.94%
Ti 334.903†	67.0	0.00396	mg/L	0.000079	0.00792 mg/L	0.000158	1.99%
Tl 190.801†	3.3	0.00152	mg/L	0.001176	0.00304 mg/L	0.002352	77.31%
V 292.402†	-3.5	-0.00002	mg/L	0.000104	-0.00005 mg/L	0.000207	421.56%
Zn 206.200†	6.3	0.00185	mg/L	0.000594	0.00371 mg/L	0.001188	32.03%

Sequence No.: 71

Sample ID: YE34 E SWC

Autosampler Location: 352

Date Collected: 4/1/2014 1:27:25 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 E SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2922392.1	98.69	%	0.394			0.40%
ScR 361.383	252938.4	102.9	%	0.53			0.51%
Ag 328.068†	-289.7	-0.00110	mg/L	0.000105	-0.00219 mg/L	0.000210	9.57%
Al 308.215†	221027.9	169.4	mg/L	0.56	338.7 mg/L	1.12	0.33%
As 188.979†	-366.4	0.08004	mg/L	0.003172	0.1601 mg/L	0.00634	3.96%
B 249.677†	484.0	0.08436	mg/L	0.000682	0.1687 mg/L	0.00136	0.81%
Ba 233.527†	2254.1	0.5602	mg/L	0.00321	1.120 mg/L	0.0064	0.57%
Be 313.042†	1384.5	0.00253	mg/L	0.000014	0.00507 mg/L	0.000027	0.54%
Ca 317.933†	338653.9	34.56	mg/L	0.152	69.12 mg/L	0.304	0.44%
Cd 228.802†	-44.5	0.00291	mg/L	0.000043	0.00581 mg/L	0.000087	1.49%
Co 228.616†	4385.0	0.09283	mg/L	0.000845	0.1857 mg/L	0.00169	0.91%
Cr 267.716†	3074.7	0.6163	mg/L	0.00210	1.233 mg/L	0.0042	0.34%
Cu 324.752†	166148.2	0.5688	mg/L	0.00365	1.138 mg/L	0.0073	0.64%
Fe 273.955†	218186.7	189.7	mg/L	1.81	379.5 mg/L	3.62	0.95%
K 766.490†	13177.9	5.788	mg/L	0.0492	11.58 mg/L	0.098	0.85%
Mg 279.077†	56435.9	50.10	mg/L	0.185	100.2 mg/L	0.37	0.37%
Mn 257.610†	75890.8	2.385	mg/L	0.0250	4.771 mg/L	0.0499	1.05%
Mo 202.031†	123.7	0.00583	mg/L	0.000256	0.01167 mg/L	0.000512	4.39%
Na 589.592†	19798.6	1.485	mg/L	0.0081	2.970 mg/L	0.0163	0.55%
Na 330.237†	-15.0	1.141	mg/L	0.2304	2.283 mg/L	0.4608	20.19%
Ni 231.604†	16440.3	4.866	mg/L	0.0128	9.732 mg/L	0.0256	0.26%
Pb 220.353†	1084.0	0.1608	mg/L	0.00010	0.3217 mg/L	0.00020	0.06%
Sb 206.836†	60.4	0.01887	mg/L	0.003303	0.03773 mg/L	0.006607	17.51%
Se 196.026†	37.1	0.02632	mg/L	0.007879	0.05264 mg/L	0.015758	29.94%
Si 288.158†	1654.3	0.9532	mg/L	0.00607	1.906 mg/L	0.0121	0.64%
Sn 189.927†	-45.8	-0.00704	mg/L	0.001125	-0.01409 mg/L	0.002249	15.96%
Sr 421.552†	113964.5	0.1372	mg/L	0.00081	0.2745 mg/L	0.00162	0.59%
Ti 334.903†	140167.7	8.296	mg/L	0.0472	16.59 mg/L	0.094	0.57%
Tl 190.801†	-37.5	0.00227	mg/L	0.001875	0.00454 mg/L	0.003749	82.51%
V 292.402†	69175.1	0.4341	mg/L	0.00222	0.8682 mg/L	0.00444	0.51%
Zn 206.200†	1751.7	0.5135	mg/L	0.00211	1.027 mg/L	0.0042	0.41%

Sequence No.: 72
 Sample ID: YE34 F SWC

Autosampler Location: 353
 Date Collected: 4/1/2014 1:31:25 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 F SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34 F SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2925368.3	98.79	%	0.697			0.71%
ScR 361.383	252244.9	102.6	%	0.70			0.68%
Ag 328.068†	-227.4	-0.00076	mg/L	0.000130	-0.00153 mg/L	0.000260	17.04%
Al 308.215†	159948.1	122.6	mg/L	0.51	245.1 mg/L	1.01	0.41%
As 188.979†	-327.2	0.07868	mg/L	0.003376	0.1574 mg/L	0.00675	4.29%
B 249.677†	419.0	0.07306	mg/L	0.000415	0.1461 mg/L	0.00083	0.57%
Ba 233.527†	1723.3	0.4255	mg/L	0.00382	0.8510 mg/L	0.00765	0.90%
Be 313.042†	984.1	0.00176	mg/L	0.000018	0.00353 mg/L	0.000036	1.02%
Ca 317.933†	406907.0	41.53	mg/L	0.194	83.05 mg/L	0.389	0.47%
Cd 228.802†	75.2	0.00239	mg/L	0.000085	0.00478 mg/L	0.000169	3.55%
Co 228.616†	3376.9	0.06978	mg/L	0.000391	0.1396 mg/L	0.00078	0.56%
Cr 267.716†	1465.6	0.2928	mg/L	0.00307	0.5856 mg/L	0.00614	1.05%
Cu 324.752†	113540.7	0.3898	mg/L	0.00227	0.7796 mg/L	0.00454	0.58%
Fe 273.955†	190324.5	165.5	mg/L	0.89	331.0 mg/L	1.78	0.54%
K 766.490†	13124.7	5.764	mg/L	0.0246	11.53 mg/L	0.049	0.43%
Mg 279.077†	65596.1	58.27	mg/L	0.217	116.5 mg/L	0.43	0.37%
Mn 257.610†	81411.3	2.559	mg/L	0.0137	5.119 mg/L	0.0274	0.54%
Mo 202.031†	76.8	0.00331	mg/L	0.000286	0.00662 mg/L	0.000572	8.63%
Na 589.592†	58378.9	4.379	mg/L	0.0139	8.757 mg/L	0.0278	0.32%
Na 330.237†	52.8	4.136	mg/L	0.0156	8.272 mg/L	0.0312	0.38%
Ni 231.604†	2173.8	0.6434	mg/L	0.00620	1.287 mg/L	0.0124	0.96%
Pb 220.353†	-51.3	0.01698	mg/L	0.000270	0.03396 mg/L	0.000539	1.59%
Sb 206.836†	36.7	0.01492	mg/L	0.002982	0.02984 mg/L	0.005964	19.99%
Se 196.026†	31.6	0.02239	mg/L	0.002599	0.04478 mg/L	0.005198	11.61%
Si 288.158†	2476.2	1.424	mg/L	0.0113	2.849 mg/L	0.0226	0.79%
Sn 189.927†	-64.7	-0.01164	mg/L	0.001560	-0.02327 mg/L	0.003120	13.41%
Sr 421.552†	129713.9	0.1562	mg/L	0.00078	0.3124 mg/L	0.00155	0.50%
Ti 334.903†	128854.3	7.626	mg/L	0.0367	15.25 mg/L	0.073	0.48%
Tl 190.801†	-28.0	0.00425	mg/L	0.001818	0.00849 mg/L	0.003636	42.82%
V 292.402†	61419.4	0.3845	mg/L	0.00134	0.7690 mg/L	0.00269	0.35%
Zn 206.200†	1074.0	0.3150	mg/L	0.00146	0.6299 mg/L	0.00292	0.46%

Sequence No.: 73
 Sample ID: YE34H SWC
 Dilution: 2.000000X

Autosampler Location: 354
 Date Collected: 4/1/2014 1:35:25 PM
 Data Type: Original

44-1-11

Nebulizer Parameters: YE34H SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34H SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2914229.1	98.41	%	0.470				0.48%
ScR 361.383	251232.3	102.2	%	0.51				0.50%
Ag 328.068†	-199.5	-0.00069	mg/L	0.000123	-0.00139	mg/L	0.000246	17.78%
Al 308.215†	122498.7	93.85	mg/L	0.484	187.7	mg/L	0.97	0.52%
As 188.979†	-296.9	0.08346	mg/L	0.003039	0.1669	mg/L	0.00608	3.64%
B 249.677†	1048.7	0.1831	mg/L	0.00064	0.3663	mg/L	0.00129	0.35%
Ba 233.527†	2296.4	0.5664	mg/L	0.00476	1.133	mg/L	0.0095	0.84%
Be 313.042†	633.7	0.00105	mg/L	0.000023	0.00210	mg/L	0.000046	2.18%
Ca 317.933†	257493.2	26.28	mg/L	0.037	52.55	mg/L	0.075	0.14%
Cd 228.802†	99.3	0.00339	mg/L	0.000173	0.00678	mg/L	0.000347	5.11%
Co 228.616†	2410.4	0.04595	mg/L	0.000180	0.09190	mg/L	0.000359	0.39%
Cr 267.716†	33211.0	6.648	mg/L	0.0374	13.30	mg/L	0.075	0.56%
Cu 324.752†	217341.6	0.7438	mg/L	0.00180	1.488	mg/L	0.0036	0.24%
Fe 273.955†	257742.6	224.1	mg/L	1.09	448.3	mg/L	2.17	0.48%
K 766.490†	14268.8	6.267	mg/L	0.0356	12.53	mg/L	0.071	0.57%
Mg 279.077†	47746.4	42.35	mg/L	0.115	84.71	mg/L	0.230	0.27%
Mn 257.610†	54387.6	1.710	mg/L	0.0029	3.419	mg/L	0.0057	0.17%
Mo 202.031†	89.3	0.00419	mg/L	0.000168	0.00838	mg/L	0.000336	4.00%
Na 589.592†	96411.5	7.231	mg/L	0.0267	14.46	mg/L	0.053	0.37%
Na 330.237†	112.1	6.974	mg/L	0.2572	13.95	mg/L	0.514	3.69%
Ni 231.604†	5168.5	1.530	mg/L	0.0110	3.060	mg/L	0.0219	0.72%
Pb 220.353†	-60.0	0.01783	mg/L	0.000043	0.03567	mg/L	0.000086	0.24%
Sb 206.836†	314.0	0.01907	mg/L	0.002591	0.03813	mg/L	0.005181	13.59%
Se 196.026†	25.7	0.01812	mg/L	0.008054	0.03623	mg/L	0.016108	44.45%
Si 288.158†	2269.0	1.308	mg/L	0.0142	2.615	mg/L	0.0284	1.09%
Sn 189.927†	-48.7	-0.00897	mg/L	0.000750	-0.01794	mg/L	0.001501	8.37%
Sr 421.552†	123316.1	0.1485	mg/L	0.00061	0.2970	mg/L	0.00122	0.41%
Ti 334.903†	126581.7	7.491	mg/L	0.0307	14.98	mg/L	0.061	0.41%
Tl 190.801†	-29.8	0.00737	mg/L	0.001579	0.01474	mg/L	0.003158	21.43%
V 292.402†	76317.9	0.5035	mg/L	0.00280	1.007	mg/L	0.0056	0.56%
Zn 206.200†	891.2	0.2631	mg/L	0.00127	0.5262	mg/L	0.00254	0.48%

Sequence No.: 74
 Sample ID: YE34 I SWC

Autosampler Location: 355
 Date Collected: 4/1/2014 1:39:25 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 I SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YE34 I SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253 *	2914123.2	98.41 %	%	0.595			0.60%
ScR 361.383	251001.3	102.1 %	%	0.80			0.78%
Ag 328.068†	-211.0	-0.00056 mg/L	mg/L	0.000187	-0.00112 mg/L	0.000375	33.46%
Al 308.215†	211272.1	161.9 mg/L	mg/L	1.00	323.8 mg/L	2.01	0.62%
As 188.979†	-310.9	0.09927 mg/L	mg/L	0.005360	0.1985 mg/L	0.01072	5.40%
B 249.677†	713.9	0.1245 mg/L	mg/L	0.00119	0.2491 mg/L	0.00238	0.95%
Ba 233.527†	3275.1	0.8270 mg/L	mg/L	0.00585	1.654 mg/L	0.0117	0.71%
Be 313.042†	1246.6	0.00227 mg/L	mg/L	0.000029	0.00453 mg/L	0.000058	1.29%
Ca 317.933†	586824.7	59.89 mg/L	mg/L	0.211	119.8 mg/L	0.42	0.35%
Cd 228.802†	-37.7	0.00618 mg/L	mg/L	0.000072	0.01236 mg/L	0.000144	1.16%
Co 228.616†	4336.1	0.09155 mg/L	mg/L	0.000954	0.1831 mg/L	0.00191	1.04%
Cr 267.716†	7229.8	1.447 mg/L	mg/L	0.0077	2.895 mg/L	0.0153	0.53%
Cu 324.752†	389190.7	1.323 mg/L	mg/L	0.0146	2.647 mg/L	0.0292	1.10%
Fe 273.955†	219299.3	190.7 mg/L	mg/L	0.47	381.4 mg/L	0.95	0.25%
K 766.490†	14981.4	6.580 mg/L	mg/L	0.0438	13.16 mg/L	0.088	0.67%
Mg 279.077†	56154.5	49.85 mg/L	mg/L	0.179	99.69 mg/L	0.357	0.36%
Mn 257.610†	101393.1	3.188 mg/L	mg/L	0.0087	6.375 mg/L	0.0174	0.27%
Mo 202.031†	140.4	0.00630 mg/L	mg/L	0.000438	0.01261 mg/L	0.000876	6.95%
Na 589.592†	26525.0	1.989 mg/L	mg/L	0.0109	3.979 mg/L	0.0218	0.55%
Na 330.237†	5.7	1.813 mg/L	mg/L	0.3107	3.627 mg/L	0.6214	17.13%
Ni 231.604†	27479.2	8.134 mg/L	mg/L	0.0350	16.27 mg/L	0.070	0.43%
Pb 220.353†	3099.0	0.3950 mg/L	mg/L	0.00301	0.7899 mg/L	0.00601	0.76%
Sb 206.836†	104.1	0.02143 mg/L	mg/L	0.002212	0.04287 mg/L	0.004423	10.32%
Se 196.026†	40.8	0.02897 mg/L	mg/L	0.002218	0.05795 mg/L	0.004435	7.65%
Si 288.158†	2337.0	1.344 mg/L	mg/L	0.0106	2.689 mg/L	0.0212	0.79%
Sn 189.927†	-48.5	-0.00477 mg/L	mg/L	0.002058	-0.00953 mg/L	0.004115	43.16%
Sr 421.552†	200526.9	0.2415 mg/L	mg/L	0.00087	0.4829 mg/L	0.00175	0.36%
Ti 334.903†	135682.3	8.029 mg/L	mg/L	0.0291	16.06 mg/L	0.058	0.36%
Tl 190.801†	-34.6	0.00342 mg/L	mg/L	0.002115	0.00683 mg/L	0.004230	61.90%
V 292.402†	67868.7	0.4293 mg/L	mg/L	0.00417	0.8587 mg/L	0.00835	0.97%
Zn 206.200†	2525.0	0.7403 mg/L	mg/L	0.00307	1.481 mg/L	0.0061	0.41%

Sequence No.: 75

Sample ID: YE34 J SWC

Autosampler Location: 356

Date Collected: 4/1/2014 1:43:26 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 J SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 J SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2923602.8	98.73	%	0.670				0.68%
ScR 361.383	251088.0	102.2	%	0.43				0.42%
Ag 328.068†	-312.9	-0.00118	mg/L	0.000446	-0.00237	mg/L	0.000892	37.69%
Al 308.215†	173778.1	133.2	mg/L	0.50	266.3	mg/L	0.99	0.37%
As 188.979†	-322.8	0.07735	mg/L	0.005479	0.1547	mg/L	0.01096	7.08%
B 249.677†	168.5	0.02927	mg/L	0.001649	0.05854	mg/L	0.003299	5.64%
Ba 233.527†	2149.3	0.5360	mg/L	0.00356	1.072	mg/L	0.0071	0.66%
Be 313.042†	1153.6	0.00209	mg/L	0.000006	0.00418	mg/L	0.000012	0.29%
Ca 317.933†	386968.1	39.49	mg/L	0.196	78.98	mg/L	0.392	0.50%
Cd 228.802†	57.2	0.00174	mg/L	0.000020	0.00348	mg/L	0.000039	1.13%
Co 228.616†	3548.2	0.07421	mg/L	0.000403	0.1484	mg/L	0.00081	0.54%
Cr 267.716†	1648.2	0.3290	mg/L	0.00237	0.6580	mg/L	0.00473	0.72%
Cu 324.752†	42100.3	0.1484	mg/L	0.00179	0.2968	mg/L	0.00357	1.20%
Fe 273.955†	197890.6	172.1	mg/L	0.29	344.2	mg/L	0.58	0.17%
K 766.490†	24089.8	10.58	mg/L	0.021	21.16	mg/L	0.041	0.19%
Mg 279.077†	72701.2	64.59	mg/L	0.133	129.2	mg/L	0.27	0.21%
Mn 257.610†	74873.4	2.354	mg/L	0.0057	4.707	mg/L	0.0115	0.24%
Mo 202.031†	89.7	0.00401	mg/L	0.000453	0.00801	mg/L	0.000905	11.30%
Na 589.592†	22427.9	1.682	mg/L	0.0060	3.364	mg/L	0.0120	0.36%
Na 330.237†	-10.6	1.165	mg/L	0.1784	2.329	mg/L	0.3569	15.32%
Ni 231.604†	2032.2	0.6015	mg/L	0.00361	1.203	mg/L	0.0072	0.60%
Pb 220.353†	-78.9	0.01649	mg/L	0.000497	0.03298	mg/L	0.000993	3.01%
Sb 206.836†	40.0	0.01555	mg/L	0.002136	0.03110	mg/L	0.004272	13.74%
Se 196.026†	38.2	0.02712	mg/L	0.005641	0.05425	mg/L	0.011282	20.80%
Si 288.158†	2210.1	1.273	mg/L	0.0174	2.546	mg/L	0.0347	1.36%
Sn 189.927†	-59.7	-0.01051	mg/L	0.001384	-0.02102	mg/L	0.002767	13.17%
Sr 421.552†	116694.7	0.1405	mg/L	0.00052	0.2810	mg/L	0.00104	0.37%
Ti 334.903†	126941.8	7.513	mg/L	0.0238	15.03	mg/L	0.048	0.32%
Tl 190.801†	-27.6	0.00501	mg/L	0.001053	0.01002	mg/L	0.002107	21.03%
V 292.402†	67905.4	0.4262	mg/L	0.00451	0.8524	mg/L	0.00902	1.06%
Zn 206.200†	1090.5	0.3198	mg/L	0.00162	0.6395	mg/L	0.00324	0.51%

Sequence No.: 76
Sample ID: YE34 ADUP SWC

Autosampler Location: 357
Date Collected: 4/1/2014 1:47:26 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 ADUP SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 ADUP SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2945521.2	99.47	%	0.648				0.65%
ScR 361.383	253807.8	103.3	%	0.32				0.31%
Ag 328.068†	-324.1	-0.00131	mg/L	0.000179	-0.00261	mg/L	0.000357	13.66%
Al 308.215†	202610.3	155.2	mg/L	0.18	310.5	mg/L	0.35	0.11%
As 188.979†	-336.8	0.07829	mg/L	0.003094	0.1566	mg/L	0.00619	3.95%
B 249.677†	412.6	0.07188	mg/L	0.001365	0.1438	mg/L	0.00273	1.90%
Ba 233.527†	1919.8	0.4760	mg/L	0.00583	0.9520	mg/L	0.01165	1.22%
Be 313.042†	1170.4	0.00213	mg/L	0.000022	0.00427	mg/L	0.000045	1.05%
Ca 317.933†	298148.3	30.43	mg/L	0.053	60.85	mg/L	0.106	0.17%
Cd 228.802†	-104.3	0.00392	mg/L	0.000218	0.00784	mg/L	0.000436	5.56%
Co 228.616†	4139.5	0.08732	mg/L	0.000533	0.1746	mg/L	0.00107	0.61%
Cr 267.716†	1339.4	0.2688	mg/L	0.00058	0.5377	mg/L	0.00115	0.21%
Cu 324.752†	53227.7	0.1859	mg/L	0.00075	0.3717	mg/L	0.00151	0.41%
Fe 273.955†	191084.5	166.2	mg/L	0.75	332.3	mg/L	1.50	0.45%
K 766.490†	13507.2	5.932	mg/L	0.0234	11.86	mg/L	0.047	0.39%
Mg 279.077†	51141.8	45.40	mg/L	0.039	90.81	mg/L	0.078	0.09%
Mn 257.610†	81790.3	2.571	mg/L	0.0081	5.142	mg/L	0.0161	0.31%
Mo 202.031†	81.0	0.00370	mg/L	0.000258	0.00740	mg/L	0.000516	6.97%
Na 589.592†	23111.3	1.733	mg/L	0.0036	3.467	mg/L	0.0073	0.21%
Na 330.237†	-2.1	1.530	mg/L	0.0566	3.060	mg/L	0.1133	3.70%
Ni 231.604†	25572.5	7.569	mg/L	0.0588	15.14	mg/L	0.118	0.78%
Pb 220.353†	1120.8	0.1629	mg/L	0.00065	0.3258	mg/L	0.00130	0.40%
Sb 206.836†	35.4	0.01494	mg/L	0.002430	0.02989	mg/L	0.004860	16.26%
Se 196.026†	40.2	0.02856	mg/L	0.004091	0.05711	mg/L	0.008183	14.33%
Si 288.158†	1734.2	0.9981	mg/L	0.00750	1.996	mg/L	0.0150	0.75%
Sn 189.927†	-47.5	-0.00813	mg/L	0.000463	-0.01627	mg/L	0.000927	5.70%
Sr 421.552†	104177.6	0.1254	mg/L	0.00011	0.2509	mg/L	0.00023	0.09%
Ti 334.903†	130802.2	7.742	mg/L	0.0029	15.48	mg/L	0.006	0.04%
Tl 190.801†	-28.1	0.00426	mg/L	0.002119	0.00851	mg/L	0.004238	49.79%
V 292.402†	59436.9	0.3715	mg/L	0.00177	0.7430	mg/L	0.00355	0.48%
Zn 206.200†	2806.5	0.8224	mg/L	0.00421	1.645	mg/L	0.0084	0.51%

Sequence No.: 77
Sample ID: YE34 A SWC

Autosampler Location: 358
Date Collected: 4/1/2014 1:51:26 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 A SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE34 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2932298.6	99.02	%	0.570				0.58%
ScR 361.383	255259.8	103.9	%	0.81				0.78%
Ag 328.068†	-303.6	-0.00116	mg/L	0.000062	-0.00232	mg/L	0.000124	5.36%
Al 308.215†	223960.3	171.6	mg/L	0.58	343.2	mg/L	1.17	0.34%
As 188.979†	-364.3	0.08488	mg/L	0.001224	0.1698	mg/L	0.00245	1.44%
B 249.677†	445.1	0.07756	mg/L	0.000489	0.1551	mg/L	0.00098	0.63%
Ba 233.527†	2351.7	0.5842	mg/L	0.00380	1.168	mg/L	0.0076	0.65%
Be 313.042†	1331.2	0.00242	mg/L	0.000025	0.00485	mg/L	0.000051	1.05%
Ca 317.933†	337557.7	34.45	mg/L	0.173	68.90	mg/L	0.346	0.50%
Cd 228.802†	-147.5	0.00458	mg/L	0.000227	0.00917	mg/L	0.000453	4.94%
Co 228.616†	4700.8	0.09969	mg/L	0.000297	0.1994	mg/L	0.00059	0.30%
Cr 267.716†	2568.4	0.5153	mg/L	0.00401	1.031	mg/L	0.0080	0.78%
Cu 324.752†	150634.1	0.5166	mg/L	0.00490	1.033	mg/L	0.0098	0.95%
Fe 273.955†	225141.9	195.8	mg/L	1.12	391.6	mg/L	2.24	0.57%
K 766.490†	13861.9	6.088	mg/L	0.0167	12.18	mg/L	0.033	0.27%
Mg 279.077†	54881.4	48.71	mg/L	0.257	97.43	mg/L	0.513	0.53%
Mn 257.610†	84609.5	2.660	mg/L	0.0125	5.319	mg/L	0.0250	0.47%
Mo 202.031†	290.9	0.01445	mg/L	0.000089	0.02890	mg/L	0.000179	0.62%
Na 589.592†	26879.1	2.016	mg/L	0.0080	4.032	mg/L	0.0160	0.40%
Na 330.237†	0.8	1.774	mg/L	0.0985	3.547	mg/L	0.1970	5.55%
Ni 231.604†	32831.3	9.718	mg/L	0.0622	19.44	mg/L	0.124	0.64%
Pb 220.353†	2881.2	0.3713	mg/L	0.00158	0.7425	mg/L	0.00316	0.43%
Sb 206.836†	57.1	0.01929	mg/L	0.002194	0.03859	mg/L	0.004388	11.37%
Se 196.026†	43.1	0.03064	mg/L	0.005605	0.06129	mg/L	0.011211	18.29%
Si 288.158†	1825.1	1.051	mg/L	0.0084	2.101	mg/L	0.0168	0.80%
Sn 189.927†	-42.7	-0.00618	mg/L	0.001336	-0.01235	mg/L	0.002672	21.63%
Sr 421.552†	117357.2	0.1413	mg/L	0.00040	0.2826	mg/L	0.00079	0.28%
Ti 334.903†	141803.2	8.393	mg/L	0.0343	16.79	mg/L	0.069	0.41%
Tl 190.801†	-36.3	0.00345	mg/L	0.000535	0.00689	mg/L	0.001070	15.52%
V 292.402†	71659.6	0.4494	mg/L	0.00398	0.8988	mg/L	0.00795	0.88%
Zn 206.200†	3307.2	0.9692	mg/L	0.00546	1.938	mg/L	0.0109	0.56%

Sequence No.: 78

Autosampler Location: 359

Sample ID: YE34 ASPK SWC

Date Collected: 4/1/2014 1:55:26 PM

Dilution: 2.000000X

Data Type: Original

Nebulizer Parameters: YE34 ASPK SWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE34 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2982544.8	100.7 %		1.11			1.10%
ScR 361.383	132893.9	54.08 %		0.444			0.82%
Saturated within auto integration window (code 4)							
Ag 328.068†	102048.5	0.5009 mg/L		0.00411	1.002 mg/L	0.0082	0.82%
Al 308.215†	3920.6	2.990 mg/L		1.5476	5.980 mg/L	3.0953	51.76%
Saturated within auto integration window (code 4)							
As 188.979†	3052.2	1.774 mg/L		0.0262	3.548 mg/L	0.0523	1.47%
B 249.677†	768.8	0.1331 mg/L		0.06746	0.2661 mg/L	0.13491	50.69%
Saturated within auto integration window (code 4)							
Ba 233.527†	7387.0	1.933 mg/L		0.4340	3.867 mg/L	0.8681	22.45%
Saturated within auto integration window (code 4)							
Be 313.042†	2298.6	0.00430 mg/L		0.003106	0.00861 mg/L	0.006212	72.18%
Saturated within auto integration window (code 4)							
Ca 317.933†	188.4	0.01923 mg/L		0.010966	0.03846 mg/L	0.021933	57.03%
Saturated within auto integration window (code 4)							
Cd 228.802†	17528.6	0.5165 mg/L		0.00632	1.033 mg/L	0.0126	1.22%
Co 228.616†	24666.2	0.6095 mg/L		0.00704	1.219 mg/L	0.0141	1.15%
Cr 267.716†	5195.5	1.039 mg/L		0.4761	2.078 mg/L	0.9522	45.82%
Cu 324.752†	216681.2	0.7333 mg/L		0.00868	1.467 mg/L	0.0174	1.18%
Fe 273.955†	3608.8	3.132 mg/L		0.8106	6.264 mg/L	1.6213	25.88%
Saturated within auto integration window (code 4)							
K 766.490†	45300.0	19.90 mg/L		17.040	39.79 mg/L	34.079	85.65%
Mg 279.077†	2388.4	2.126 mg/L		2.7233	4.251 mg/L	5.4466	128.11%
Saturated within auto integration window (code 4)							
Mn 257.610†	9537.9	0.3004 mg/L		0.01239	0.6009 mg/L	0.02478	4.12%
Saturated within auto integration window (code 4)							
Mo 202.031†	103.1	0.00531 mg/L		0.000419	0.01062 mg/L	0.000839	7.90%
Na 589.592†	119680.8	8.976 mg/L		7.8042	17.95 mg/L	15.608	86.94%
Saturated within auto integration window (code 4)							
Na 330.237†	189.6	8.328 mg/L		8.1711	16.66 mg/L	16.342	98.12%
Ni 231.604†	7874.6	2.330 mg/L		0.0027	4.660 mg/L	0.0055	0.12%
Saturated within auto integration window (code 4)							
Pb 220.353†	17975.4	2.099 mg/L		0.0252	4.198 mg/L	0.0504	1.20%
Sb 206.836†	55.2	0.00717 mg/L		0.006187	0.01435 mg/L	0.012374	86.25%
Se 196.026†	2848.4	2.045 mg/L		0.0333	4.090 mg/L	0.0667	1.63%
Si 288.158†	2760.4	1.583 mg/L		0.3949	3.166 mg/L	0.7899	24.95%
Sn 189.927†	-66.2	-0.01842 mg/L		0.000544	-0.03684 mg/L	0.001088	2.95%
Sr 421.552†	167659.9	0.2019 mg/L		0.17457	0.4038 mg/L	0.34915	86.47%
Saturated within auto integration window (code 4)							
Ti 334.903†	2501.9	0.1479 mg/L		0.07317	0.2958 mg/L	0.14634	49.46%
Saturated within auto integration window (code 4)							
Tl 190.801†	4119.7	1.872 mg/L		0.0213	3.744 mg/L	0.0426	1.14%
V 292.402†	149342.7	0.9685 mg/L		0.00645	1.937 mg/L	0.0129	0.67%
Zn 206.200†	6433.8	1.885 mg/L		0.8823	3.771 mg/L	1.7646	46.79%

Sequence No.: 79
 Sample ID: YE34 APOST SWC

Autosampler Location: 360
 Date Collected: 4/1/2014 1:59:26 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 APOST SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: YE34 APOST SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2960051.2	99.96 %	1.031			1.03%
ScR 361.383	255321.7	103.9 %	1.51			1.46%
Ag 328.068†	98329.6	0.4830 mg/L	0.00269	0.9659 mg/L	0.00537	0.56%
Al 308.215†	218724.9	167.6 mg/L	2.36	335.2 mg/L	4.71	1.41%
As 188.979†	3242.1	2.164 mg/L	0.0089	4.328 mg/L	0.0179	0.41%
B 249.677†	439.5	0.07554 mg/L	0.000395	0.1511 mg/L	0.00079	0.52%
Ba 233.527†	9981.9	2.583 mg/L	0.0239	5.166 mg/L	0.0479	0.93%
Be 313.042†	231031.4	0.4563 mg/L	0.00327	0.9126 mg/L	0.00653	0.72%
Ca 317.933†	421744.9	43.04 mg/L	0.508	86.08 mg/L	1.016	1.18%
Cd 228.802†	17513.4	0.5213 mg/L	0.00497	1.043 mg/L	0.0099	0.95%
Co 228.616†	24226.9	0.5832 mg/L	0.00547	1.166 mg/L	0.0109	0.94%
Cr 267.716†	5024.6	1.006 mg/L	0.0156	2.011 mg/L	0.0312	1.55%
Cu 324.752†	299069.0	1.019 mg/L	0.0062	2.037 mg/L	0.0125	0.61%
Fe 273.955†	216978.1	188.7 mg/L	2.44	377.3 mg/L	4.88	1.29%
K 766.490†	36048.3	15.83 mg/L	0.217	31.66 mg/L	0.433	1.37%
Mg 279.077†	63894.5	56.74 mg/L	0.758	113.5 mg/L	1.52	1.34%
Mn 257.610†	95761.2	3.011 mg/L	0.0356	6.022 mg/L	0.0713	1.18%
Mo 202.031†	289.2	0.01423 mg/L	0.000329	0.02845 mg/L	0.000658	2.31%
Na 589.592†	160443.6	12.03 mg/L	0.154	24.07 mg/L	0.309	1.28%
Na 330.237†	225.5	11.97 mg/L	0.258	23.95 mg/L	0.516	2.15%
Ni 231.604†	33097.1	9.796 mg/L	0.1664	19.59 mg/L	0.333	1.70%
Pb 220.353†	19612.8	2.323 mg/L	0.0167	4.646 mg/L	0.0333	0.72%
Sb 206.836†	72.2	0.01908 mg/L	0.001789	0.03816 mg/L	0.003578	9.38%
Se 196.026†	2964.2	2.128 mg/L	0.0209	4.256 mg/L	0.0418	0.98%
Si 288.158†	1799.0	1.039 mg/L	0.0115	2.078 mg/L	0.0229	1.10%
Sn 189.927†	-58.8	-0.00962 mg/L	0.001240	-0.01924 mg/L	0.002480	12.89%
Sr 421.552†	517928.8	0.6237 mg/L	0.00816	1.247 mg/L	0.0163	1.31%
Ti 334.903†	136578.8	8.083 mg/L	0.1014	16.17 mg/L	0.203	1.25%
Tl 190.801†	4112.9	1.891 mg/L	0.0120	3.781 mg/L	0.0240	0.63%
V 292.402†	145829.8	0.9310 mg/L	0.00553	1.862 mg/L	0.0111	0.59%
Zn 206.200†	4878.3	1.430 mg/L	0.0225	2.859 mg/L	0.0450	1.58%

Sequence No.: 80

Sample ID: CV 9

Autosampler Location: 7

Date Collected: 4/1/2014 2:03:27 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2963114.5	100.1 %	0.90			0.90%
ScR 361.383	250207.7	101.8 %	0.23			0.22%
Ag 328.068†	209585.7	1.029 mg/L	0.0179	1.029 mg/L	0.0179	1.74%
Al 308.215†	2647.3	1.997 mg/L	0.0034	1.997 mg/L	0.0034	0.17%
As 188.979†	3509.4	2.065 mg/L	0.0245	2.065 mg/L	0.0245	1.19%
B 249.677†	5725.6	0.9995 mg/L	0.00545	0.9995 mg/L	0.00545	0.55%
Ba 233.527†	3936.3	1.030 mg/L	0.0038	1.030 mg/L	0.0038	0.37%
Be 313.042†	498376.6	0.9847 mg/L	0.00309	0.9847 mg/L	0.00309	0.31%
Ca 317.933†	20500.2	2.092 mg/L	0.0115	2.092 mg/L	0.0115	0.55%
Cd 228.802†	34115.7	1.009 mg/L	0.0151	1.009 mg/L	0.0151	1.49%
Co 228.616†	40140.6	0.9913 mg/L	0.01550	0.9913 mg/L	0.01550	1.56%
Cr 267.716†	5197.5	1.039 mg/L	0.0040	1.039 mg/L	0.0040	0.39%
Cu 324.752†	300801.5	1.017 mg/L	0.0195	1.017 mg/L	0.0195	1.92%
Fe 273.955†	2416.0	2.094 mg/L	0.0115	2.094 mg/L	0.0115	0.55%
K 766.490†	44502.3	19.55 mg/L	0.048	19.55 mg/L	0.048	0.24%
Mg 279.077†	2256.9	2.014 mg/L	0.0072	2.014 mg/L	0.0072	0.36%
Mn 257.610†	30273.2	0.9526 mg/L	0.00174	0.9526 mg/L	0.00174	0.18%
Mo 202.031†	18385.2	0.9469 mg/L	0.00956	0.9469 mg/L	0.00956	1.01%
Na 589.592†	666911.5	50.02 mg/L	0.158	50.02 mg/L	0.158	0.32%
Na 330.237†	1083.4	50.42 mg/L	0.331	50.42 mg/L	0.331	0.66%
Ni 231.604†	3510.5	1.039 mg/L	0.0059	1.039 mg/L	0.0059	0.57%
Pb 220.353†	17117.7	1.998 mg/L	0.0183	1.998 mg/L	0.0183	0.92%
Sb 206.836†	6561.2	2.043 mg/L	0.0166	2.043 mg/L	0.0166	0.81%
Se 196.026†	2837.6	2.037 mg/L	0.0189	2.037 mg/L	0.0189	0.93%
Si 288.158†	3365.5	1.931 mg/L	0.0197	1.931 mg/L	0.0197	1.02%
Sn 189.927†	3397.5	0.9525 mg/L	0.01072	0.9525 mg/L	0.01072	1.13%
Sr 421.552†	823505.8	0.9916 mg/L	0.00270	0.9916 mg/L	0.00270	0.27%
Ti 334.903†	16352.8	0.9670 mg/L	0.00441	0.9670 mg/L	0.00441	0.46%
Tl 190.801†	4417.9	2.007 mg/L	0.0150	2.007 mg/L	0.0150	0.75%
V 292.402†	155242.6	1.007 mg/L	0.0175	1.007 mg/L	0.0175	1.74%
Zn 206.200†	3531.2	1.035 mg/L	0.0057	1.035 mg/L	0.0057	0.55%

Sequence No.: 81

Sample ID: CB

Autosampler Location: 1

Date Collected: 4/1/2014 2:07:31 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2894853.0	97.76 %	0.450			0.46%
ScR 361.383	251607.1	102.4 %	0.27			0.26%
Ag 328.068†	23.8	0.00012 mg/L	0.000191	0.00012 mg/L	0.000191	163.42%
Al 308.215†	10.6	0.00809 mg/L	0.001313	0.00809 mg/L	0.001313	16.23%
As 188.979†	-3.0	-0.00170 mg/L	0.001600	-0.00170 mg/L	0.001600	94.11%
B 249.677†	13.3	0.00232 mg/L	0.001757	0.00232 mg/L	0.001757	75.76%
Ba 233.527†	-3.2	-0.00084 mg/L	0.000474	-0.00084 mg/L	0.000474	56.09%
Be 313.042†	40.6	0.00008 mg/L	0.000044	0.00008 mg/L	0.000044	54.93%
Ca 317.933†	6.8	0.00069 mg/L	0.000148	0.00069 mg/L	0.000148	21.29%
Cd 228.802†	18.8	0.00057 mg/L	0.000157	0.00057 mg/L	0.000157	27.51%
Co 228.616†	3.3	0.00008 mg/L	0.000092	0.00008 mg/L	0.000092	115.96%
Cr 267.716†	-2.7	-0.00055 mg/L	0.000947	-0.00055 mg/L	0.000947	173.26%
Cu 324.752†	948.4	0.00321 mg/L	0.000290	0.00321 mg/L	0.000290	9.03%
Fe 273.955†	5.9	0.00514 mg/L	0.002197	0.00514 mg/L	0.002197	42.75%
K 766.490†	80.2	0.03520 mg/L	0.011483	0.03520 mg/L	0.011483	32.62%
Mg 279.077†	4.6	0.00406 mg/L	0.002815	0.00406 mg/L	0.002815	69.27%
Mn 257.610†	5.7	0.00018 mg/L	0.000084	0.00018 mg/L	0.000084	46.41%
Mo 202.031†	27.0	0.00139 mg/L	0.000326	0.00139 mg/L	0.000326	23.46%
Na 589.592†	88.4	0.00663 mg/L	0.003019	0.00663 mg/L	0.003019	45.54%
Na 330.237†	-4.4	-0.2027 mg/L	0.22450	-0.2027 mg/L	0.22450	110.75%
Ni 231.604†	-0.1	-0.00003 mg/L	0.001146	-0.00003 mg/L	0.001146	>999.9%
Pb 220.353†	6.9	0.00080 mg/L	0.000665	0.00080 mg/L	0.000665	82.92%
Sb 206.836†	42.7	0.01333 mg/L	0.002023	0.01333 mg/L	0.002023	15.18%
Se 196.026†	-0.9	-0.00061 mg/L	0.000698	-0.00061 mg/L	0.000698	114.17%
Si 288.158†	4.9	0.00283 mg/L	0.004893	0.00283 mg/L	0.004893	172.65%
Sn 189.927†	-0.7	-0.00020 mg/L	0.000494	-0.00020 mg/L	0.000494	251.18%
Sr 421.552†	67.6	0.00008 mg/L	0.000044	0.00008 mg/L	0.000044	54.55%
Ti 334.903†	24.9	0.00148 mg/L	0.000376	0.00148 mg/L	0.000376	25.51%
Tl 190.801†	0.0	0.00001 mg/L	0.000709	0.00001 mg/L	0.000709	>999.9%
V 292.402†	-18.5	-0.00012 mg/L	0.000126	-0.00012 mg/L	0.000126	103.33%
Zn 206.200†	3.6	0.00107 mg/L	0.000226	0.00107 mg/L	0.000226	21.21%

Sequence No.: 82
 Sample ID: YE34 K SWC

Autosampler Location: 361
 Date Collected: 4/1/2014 2:11:47 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 K SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE34 K SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2893074.2	97.70	%	0.538			0.55%
ScR 361.383	251107.0	102.2	%	0.42			0.41%
Ag 328.068†	-231.8	-0.00082	mg/L	0.000195	-0.00163 mg/L	0.000391	23.96%
Al 308.215†	158778.2	121.7	mg/L	0.12	243.3 mg/L	0.24	0.10%
As 188.979†	-298.7	0.07196	mg/L	0.002539	0.1439 mg/L	0.00508	3.53%
B 249.677†	210.1	0.03654	mg/L	0.000346	0.07308 mg/L	0.000692	0.95%
Ba 233.527†	1734.6	0.4297	mg/L	0.00198	0.8594 mg/L	0.00395	0.46%
Be 313.042†	1030.3	0.00186	mg/L	0.000006	0.00372 mg/L	0.000011	0.31%
Ca 317.933†	356732.3	36.40	mg/L	0.081	72.81 mg/L	0.162	0.22%
Cd 228.802†	28.5	0.00170	mg/L	0.000083	0.00340 mg/L	0.000166	4.87%
Co 228.616†	3458.7	0.07287	mg/L	0.000295	0.1457 mg/L	0.00059	0.40%
Cr 267.716†	1534.1	0.3065	mg/L	0.00096	0.6130 mg/L	0.00191	0.31%
Cu 324.752†	46420.2	0.1625	mg/L	0.00018	0.3250 mg/L	0.00035	0.11%
Fe 273.955†	180637.5	157.1	mg/L	0.77	314.2 mg/L	1.53	0.49%
K 766.490†	11742.5	5.157	mg/L	0.0413	10.31 mg/L	0.083	0.80%
Mg 279.077†	62723.1	55.72	mg/L	0.051	111.4 mg/L	0.10	0.09%
Mn 257.610†	69299.7	2.178	mg/L	0.0039	4.357 mg/L	0.0078	0.18%
Mo 202.031†	226.1	0.01108	mg/L	0.000442	0.02217 mg/L	0.000885	3.99%
Na 589.592†	21542.0	1.616	mg/L	0.0041	3.231 mg/L	0.0081	0.25%
Na 330.237†	-3.0	1.390	mg/L	0.2453	2.780 mg/L	0.4905	17.64%
Ni 231.604†	4626.4	1.369	mg/L	0.0034	2.739 mg/L	0.0067	0.25%
Pb 220.353†	-46.9	0.01809	mg/L	0.000580	0.03617 mg/L	0.001160	3.21%
Sb 206.836†	37.7	0.01455	mg/L	0.001956	0.02909 mg/L	0.003913	13.45%
Se 196.026†	31.2	0.02211	mg/L	0.005510	0.04423 mg/L	0.011020	24.92%
Si 288.158†	2145.4	1.235	mg/L	0.0066	2.469 mg/L	0.0131	0.53%
Sn 189.927†	-57.6	-0.01040	mg/L	0.002137	-0.02081 mg/L	0.004275	20.54%
Sr 421.552†	119028.0	0.1433	mg/L	0.00016	0.2867 mg/L	0.00031	0.11%
Ti 334.903†	117648.0	6.963	mg/L	0.0007	13.93 mg/L	0.001	0.01%
Tl 190.801†	-33.9	0.00059	mg/L	0.002885	0.00118 mg/L	0.005770	489.25%
V 292.402†	61079.4	0.3832	mg/L	0.00216	0.7663 mg/L	0.00432	0.56%
Zn 206.200†	1107.8	0.3248	mg/L	0.00112	0.6497 mg/L	0.00224	0.34%

Sequence No.: 83
Sample ID: YE34 L SWC

Autosampler Location: 362
Date Collected: 4/1/2014 2:15:49 PM
Data Type: Original

Dilution: 2.000000X

Del

Nebulizer Parameters: YE34 L SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 L SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2985940.7	100.8 %	0.20			0.20%
ScR 361.383	261052.0	106.2 %	0.48			0.45%
Ag 328.068†	-388.7	-0.00164 mg/L	0.000287	-0.00327 mg/L	0.000573	17.50%
Al 308.215†	419650.5	321.6 mg/L	0.59	643.1 mg/L	1.18	0.18%
As 188.979†	-354.7	0.09228 mg/L	0.003349	0.1846 mg/L	0.00670	3.63%
B 249.677†	480.1	0.08372 mg/L	0.001760	0.1674 mg/L	0.00352	2.10%
Ba 233.527†	2952.1	0.7197 mg/L	0.00577	1.439 mg/L	0.0115	0.80%
Be 313.042†	1369.1	0.00243 mg/L	0.000007	0.00487 mg/L	0.000014	0.28%
Ca 317.933†	132166.5	13.49 mg/L	0.016	26.98 mg/L	0.031	0.12%
Cd 228.802†	53.5	0.00361 mg/L	0.000180	0.00722 mg/L	0.000360	4.98%
Co 228.616†	3434.6	0.06908 mg/L	0.000039	0.1382 mg/L	0.00008	0.06%
Cr 267.716†	15253.7	3.058 mg/L	0.0178	6.116 mg/L	0.0355	0.58%
Cu 324.752†	327770.8	1.123 mg/L	0.0042	2.245 mg/L	0.0085	0.38%
Fe 273.955†	391871.9	340.8 mg/L	1.66	681.5 mg/L	3.33	0.49%
K 766.490†	19089.8	8.384 mg/L	0.0185	16.77 mg/L	0.037	0.22%
Mg 279.077†	58398.3	51.76 mg/L	0.041	103.5 mg/L	0.08	0.08%
Mn 257.610†	56546.2	1.776 mg/L	0.0053	3.552 mg/L	0.0106	0.30%
Mo 202.031†	-3.5	-0.00039 mg/L	0.000415	-0.00078 mg/L	0.000830	106.65%
Na 589.592†	25418.6	1.906 mg/L	0.0081	3.813 mg/L	0.0162	0.42%
Na 330.237†	-6.9	1.710 mg/L	0.1820	3.419 mg/L	0.3639	10.64%
Ni 231.604†	13494.6	3.994 mg/L	0.0256	7.989 mg/L	0.0512	0.64%
Pb 220.353†	-211.5	0.04433 mg/L	0.000845	0.08866 mg/L	0.001690	1.91%
Sb 206.836†	191.3	0.02918 mg/L	0.002549	0.05836 mg/L	0.005098	8.74%
Se 196.026†	65.6	0.04660 mg/L	0.003086	0.09321 mg/L	0.006172	6.62%
Si 288.158†	2450.0	1.410 mg/L	0.0058	2.821 mg/L	0.0115	0.41%
Sn 189.927†	-43.0	-0.00877 mg/L	0.001543	-0.01754 mg/L	0.003085	17.58%
Sr 421.552†	94270.1	0.1135 mg/L	0.00025	0.2270 mg/L	0.00051	0.22%
Ti 334.903†	143558.9	8.498 mg/L	0.0160	17.00 mg/L	0.032	0.19%
Tl 190.801†	-76.8	-0.00013 mg/L	0.002925	-0.00026 mg/L	0.005849	>999.9%
V 292.402†	112724.3	0.7167 mg/L	0.00082	1.433 mg/L	0.0016	0.11%
Zn 206.200†	1654.9	0.4858 mg/L	0.00289	0.9717 mg/L	0.00577	0.59%

Sequence No.: 84
Sample ID: YE34 M SWC

Autosampler Location: 363
Date Collected: 4/1/2014 2:19:49 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 M SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE34 M SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2916001.8	98.47	%	0.391				0.40%
ScR 361.383	250370.5	101.9	%	0.40				0.39%
Ag 328.068†	-213.9	-0.00052	mg/L	0.000374	-0.00105	mg/L	0.000748	71.54%
Al 308.215†	237119.5	181.7	mg/L	0.54	363.4	mg/L	1.07	0.30%
As 188.979†	-301.2	0.1090	mg/L	0.00176	0.2180	mg/L	0.00352	1.62%
B 249.677†	573.0	0.09993	mg/L	0.001387	0.1999	mg/L	0.00277	1.39%
Ba 233.527†	3093.0	0.7796	mg/L	0.00615	1.559	mg/L	0.0123	0.79%
Be 313.042†	1427.7	0.00263	mg/L	0.000033	0.00526	mg/L	0.000066	1.26%
Ca 317.933†	682855.1	69.69	mg/L	0.081	139.4	mg/L	0.16	0.12%
Cd 228.802†	-60.4	0.00598	mg/L	0.000103	0.01196	mg/L	0.000206	1.73%
Co 228.616†	4139.6	0.08623	mg/L	0.000270	0.1725	mg/L	0.00054	0.31%
Cr 267.716†	16363.6	3.275	mg/L	0.0316	6.550	mg/L	0.0632	0.96%
Cu 324.752†	448151.8	1.523	mg/L	0.0061	3.045	mg/L	0.0121	0.40%
Fe 273.955†	216716.1	188.5	mg/L	1.07	376.9	mg/L	2.15	0.57%
K 766.490†	11493.6	5.048	mg/L	0.0078	10.10	mg/L	0.016	0.15%
Mg 279.077†	53454.6	47.45	mg/L	0.122	94.89	mg/L	0.244	0.26%
Mn 257.610†	91792.0	2.885	mg/L	0.0097	5.771	mg/L	0.0194	0.34%
Mo 202.031†	173.7	0.00787	mg/L	0.000221	0.01573	mg/L	0.000443	2.81%
Na 589.592†	37445.4	2.809	mg/L	0.0034	5.617	mg/L	0.0068	0.12%
Na 330.237†	27.9	2.780	mg/L	0.0877	5.559	mg/L	0.1753	3.15%
Ni 231.604†	29136.8	8.624	mg/L	0.0753	17.25	mg/L	0.151	0.87%
Pb 220.353†	5344.3	0.6652	mg/L	0.00217	1.330	mg/L	0.0043	0.33%
Sb 206.836†	202.0	0.02842	mg/L	0.001148	0.05684	mg/L	0.002296	4.04%
Se 196.026†	39.7	0.02823	mg/L	0.006472	0.05646	mg/L	0.012943	22.93%
Si 288.158†	1947.4	1.122	mg/L	0.0057	2.244	mg/L	0.0114	0.51%
Sn 189.927†	35.2	0.01990	mg/L	0.001062	0.03981	mg/L	0.002124	5.34%
Sr 421.552†	210255.7	0.2532	mg/L	0.00082	0.5064	mg/L	0.00163	0.32%
Ti 334.903†	139286.8	8.241	mg/L	0.0239	16.48	mg/L	0.048	0.29%
Tl 190.801†	-28.5	0.00530	mg/L	0.001537	0.01059	mg/L	0.003074	29.01%
V 292.402†	63308.0	0.4074	mg/L	0.00205	0.8148	mg/L	0.00409	0.50%
Zn 206.200†	3315.4	0.9723	mg/L	0.00954	1.945	mg/L	0.0191	0.98%

Sequence No.: 85
Sample ID: YE34 N SWC
Dilution: 2.000000X

Autosampler Location: 364
Date Collected: 4/1/2014 2:23:50 PM
Data Type: Original

Nebulizer Parameters: YE34 N SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 N SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2931599.5	99.00	%	0.417			0.42%
ScR 361.383	253905.4	103.3	%	0.73			0.71%
Ag 328.068†	-281.1	-0.00093	mg/L	0.000259	-0.00186 mg/L	0.000518	27.80%
Al 308.215†	173090.5	132.6	mg/L	0.34	265.2 mg/L	0.68	0.26%
As 188.979†	-324.9	0.08487	mg/L	0.001296	0.1697 mg/L	0.00259	1.53%
B 249.677†	390.4	0.06804	mg/L	0.000855	0.1361 mg/L	0.00171	1.26%
Ba 233.527†	2131.9	0.5316	mg/L	0.00353	1.063 mg/L	0.0071	0.66%
Be 313.042†	1222.0	0.00223	mg/L	0.000028	0.00445 mg/L	0.000056	1.25%
Ca 317.933†	551059.9	56.24	mg/L	0.236	112.5 mg/L	0.47	0.42%
Cd 228.802†	70.9	0.00294	mg/L	0.000043	0.00588 mg/L	0.000086	1.46%
Co 228.616†	3710.7	0.07759	mg/L	0.000557	0.1552 mg/L	0.00111	0.72%
Cr 267.716†	2252.6	0.4500	mg/L	0.00339	0.9000 mg/L	0.00678	0.75%
Cu 324.752†	68663.6	0.2381	mg/L	0.00041	0.4762 mg/L	0.00083	0.17%
Fe 273.955†	196072.8	170.5	mg/L	0.35	341.0 mg/L	0.70	0.21%
K 766.490†	13931.2	6.119	mg/L	0.0131	12.24 mg/L	0.026	0.21%
Mg 279.077†	69064.9	61.35	mg/L	0.082	122.7 mg/L	0.16	0.13%
Mn 257.610†	82209.8	2.584	mg/L	0.0011	5.168 mg/L	0.0021	0.04%
Mo 202.031†	92.5	0.00389	mg/L	0.000249	0.00778 mg/L	0.000498	6.40%
Na 589.592†	89889.1	6.742	mg/L	0.0131	13.48 mg/L	0.026	0.19%
Na 330.237†	108.3	6.672	mg/L	0.2476	13.34 mg/L	0.495	3.71%
Ni 231.604†	4665.6	1.381	mg/L	0.0113	2.762 mg/L	0.0225	0.81%
Pb 220.353†	-68.4	0.01786	mg/L	0.001222	0.03572 mg/L	0.002443	6.84%
Sb 206.836†	48.6	0.01679	mg/L	0.001800	0.03358 mg/L	0.003601	10.72%
Se 196.026†	37.4	0.02658	mg/L	0.003856	0.05317 mg/L	0.007712	14.51%
Si 288.158†	2865.3	1.648	mg/L	0.0015	3.295 mg/L	0.0029	0.09%
Sn 189.927†	-73.9	-0.01240	mg/L	0.000632	-0.02479 mg/L	0.001264	5.10%
Sr 421.552†	210273.1	0.2532	mg/L	0.00071	0.5064 mg/L	0.00141	0.28%
Ti 334.903†	131866.1	7.803	mg/L	0.0131	15.61 mg/L	0.026	0.17%
Tl 190.801†	-31.1	0.00323	mg/L	0.002422	0.00646 mg/L	0.004843	74.95%
V 292.402†	64647.1	0.4056	mg/L	0.00162	0.8112 mg/L	0.00324	0.40%
Zn 206.200†	1186.7	0.3481	mg/L	0.00188	0.6961 mg/L	0.00375	0.54%

Sequence No.: 86
 Sample ID: YE34 O SWC

Autosampler Location: 365
 Date Collected: 4/1/2014 2:27:51 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 O SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE34 O SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2967946.5	100.2	%	0.30			0.30%
ScR 361.383	255156.8	103.8	%	0.42			0.41%
Ag 328.068†	-297.4	-0.00106	mg/L	0.000093	-0.00211 mg/L	0.000187	8.84%
Al 308.215†	170599.8	130.7	mg/L	0.47	261.4 mg/L	0.95	0.36%
As 188.979†	-350.4	0.08450	mg/L	0.001915	0.1690 mg/L	0.00383	2.27%
B 249.677†	366.0	0.06380	mg/L	0.000634	0.1276 mg/L	0.00127	0.99%
Ba 233.527†	2730.0	0.6871	mg/L	0.00292	1.374 mg/L	0.0058	0.42%
Be 313.042†	986.5	0.00175	mg/L	0.000016	0.00350 mg/L	0.000032	0.90%
Ca 317.933†	472668.5	48.24	mg/L	0.191	96.47 mg/L	0.382	0.40%
Cd 228.802†	61.7	0.00279	mg/L	0.000113	0.00559 mg/L	0.000226	4.04%
Co 228.616†	3547.0	0.07277	mg/L	0.000697	0.1455 mg/L	0.00139	0.96%
Cr 267.716†	5252.6	1.051	mg/L	0.0066	2.102 mg/L	0.0133	0.63%
Cu 324.752†	87544.5	0.3022	mg/L	0.00038	0.6045 mg/L	0.00077	0.13%
Fe 273.955†	204065.9	177.4	mg/L	1.53	354.9 mg/L	3.06	0.86%
K 766.490†	19062.6	8.372	mg/L	0.0273	16.74 mg/L	0.055	0.33%
Mg 279.077†	65378.8	58.07	mg/L	0.211	116.1 mg/L	0.42	0.36%
Mn 257.610†	80845.2	2.541	mg/L	0.0127	5.083 mg/L	0.0254	0.50%
Mo 202.031†	401.3	0.01992	mg/L	0.000233	0.03984 mg/L	0.000466	1.17%
Na 589.592†	103391.7	7.755	mg/L	0.0296	15.51 mg/L	0.059	0.38%
Na 330.237†	128.3	7.763	mg/L	0.4584	15.53 mg/L	0.917	5.90%
Ni 231.604†	5047.8	1.494	mg/L	0.0124	2.988 mg/L	0.0247	0.83%
Pb 220.353†	631.8	0.09982	mg/L	0.001371	0.1996 mg/L	0.00274	1.37%
Sb 206.836†	61.2	0.01329	mg/L	0.002889	0.02658 mg/L	0.005778	21.74%
Se 196.026†	36.6	0.02596	mg/L	0.001165	0.05193 mg/L	0.002330	4.49%
Si 288.158†	3291.0	1.891	mg/L	0.0165	3.782 mg/L	0.0331	0.87%
Sn 189.927†	-71.9	-0.01273	mg/L	0.001077	-0.02546 mg/L	0.002155	8.46%
Sr 421.552†	186219.2	0.2242	mg/L	0.00098	0.4485 mg/L	0.00195	0.44%
Ti 334.903†	138795.2	8.214	mg/L	0.0285	16.43 mg/L	0.057	0.35%
Tl 190.801†	-20.3	0.00869	mg/L	0.002049	0.01737 mg/L	0.004098	23.59%
V 292.402†	67454.8	0.4256	mg/L	0.00086	0.8512 mg/L	0.00171	0.20%
Zn 206.200†	1142.9	0.3354	mg/L	0.00174	0.6709 mg/L	0.00348	0.52%

Sequence No.: 87
 Sample ID: YE34 P SWC

Autosampler Location: 366
 Date Collected: 4/1/2014 2:31:51 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 P SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE34 P SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2941977.5	99.35	%	0.304				0.31%
ScR 361.383	256684.9	104.5	%	0.51				0.49%
Ag 328.068†	-200.5	-0.00071	mg/L	0.000016	-0.00142	mg/L	0.000032	2.25%
Al 308.215†	159718.7	122.4	mg/L	0.63	244.8	mg/L	1.26	0.52%
As 188.979†	-242.4	0.06513	mg/L	0.001961	0.1303	mg/L	0.00392	3.01%
B 249.677†	814.6	0.1421	mg/L	0.00095	0.2842	mg/L	0.00189	0.67%
Ba 233.527†	2010.6	0.5024	mg/L	0.00247	1.005	mg/L	0.0049	0.49%
Be 313.042†	799.4	0.00143	mg/L	0.000039	0.00287	mg/L	0.000077	2.70%
Ca 317.933†	305196.2	31.15	mg/L	0.140	62.29	mg/L	0.281	0.45%
Cd 228.802†	-412.8	0.01486	mg/L	0.000124	0.02971	mg/L	0.000248	0.84%
Co 228.616†	4571.0	0.09802	mg/L	0.000305	0.1960	mg/L	0.00061	0.31%
Cr 267.716†	9187.5	1.838	mg/L	0.0028	3.676	mg/L	0.0056	0.15%
Cu 324.752†	743971.4	2.522	mg/L	0.0074	5.043	mg/L	0.0149	0.29%
Fe 273.955†	152714.3	132.8	mg/L	0.73	265.6	mg/L	1.45	0.55%
K 766.490†	12349.6	5.424	mg/L	0.0239	10.85	mg/L	0.048	0.44%
Mg 279.077†	51706.0	45.93	mg/L	0.269	91.86	mg/L	0.538	0.59%
Mn 257.610†	80450.4	2.529	mg/L	0.0141	5.058	mg/L	0.0281	0.56%
Mo 202.031†	70.2	0.00313	mg/L	0.000345	0.00626	mg/L	0.000689	11.01%
Na 589.592†	59794.8	4.485	mg/L	0.0181	8.970	mg/L	0.0362	0.40%
Na 330.237†	79.3	4.637	mg/L	0.2887	9.275	mg/L	0.5773	6.22%
Ni 231.604†	94122.5	27.86	mg/L	0.098	55.72	mg/L	0.197	0.35%
Pb 220.353†	-77.8	0.01858	mg/L	0.000336	0.03717	mg/L	0.000672	1.81%
Sb 206.836†	101.2	0.01335	mg/L	0.002279	0.02671	mg/L	0.004558	17.07%
Se 196.026†	34.9	0.02480	mg/L	0.003122	0.04960	mg/L	0.006243	12.59%
Si 288.158†	2416.4	1.390	mg/L	0.0060	2.779	mg/L	0.0121	0.43%
Sn 189.927†	-55.7	-0.01070	mg/L	0.000556	-0.02140	mg/L	0.001111	5.19%
Sr 421.552†	104402.5	0.1257	mg/L	0.00062	0.2514	mg/L	0.00125	0.50%
Ti 334.903†	99787.6	5.906	mg/L	0.0290	11.81	mg/L	0.058	0.49%
Tl 190.801†	-15.9	0.00545	mg/L	0.003349	0.01090	mg/L	0.006697	61.46%
V 292.402†	50233.4	0.3215	mg/L	0.00131	0.6429	mg/L	0.00262	0.41%
Zn 206.200†	5125.4	1.502	mg/L	0.0015	3.004	mg/L	0.0031	0.10%

Sequence No.: 88
 Sample ID: YE34 G SWC

Autosampler Location: 367
 Date Collected: 4/1/2014 2:35:52 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 G SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

 Mean Data: YE34 G SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2948445.8	99.57	%	0.130				0.13%
ScR 361.383	255497.3	104.0	%	0.51				0.49%
Ag 328.068†	-261.1	-0.00083	mg/L	0.000146	-0.00166	mg/L	0.000293	17.68%
Al 308.215†	181184.7	138.8	mg/L	0.20	277.6	mg/L	0.40	0.14%
As 188.979†	-383.3	0.09056	mg/L	0.001475	0.1811	mg/L	0.00295	1.63%
B 249.677†	463.9	0.08088	mg/L	0.000730	0.1618	mg/L	0.00146	0.90%
Ba 233.527†	2363.8	0.5917	mg/L	0.00261	1.183	mg/L	0.0052	0.44%
Be 313.042†	1111.0	0.00199	mg/L	0.000020	0.00397	mg/L	0.000041	1.02%
Ca 317.933†	546859.6	55.81	mg/L	0.077	111.6	mg/L	0.15	0.14%
Cd 228.802†	90.3	0.00323	mg/L	0.000131	0.00647	mg/L	0.000262	4.04%
Co 228.616†	3692.1	0.07522	mg/L	0.000153	0.1504	mg/L	0.00031	0.20%
Cr 267.716†	1801.8	0.3598	mg/L	0.00191	0.7196	mg/L	0.00383	0.53%
Cu 324.752†	134514.0	0.4608	mg/L	0.00075	0.9217	mg/L	0.00149	0.16%
Fe 273.955†	201067.4	174.8	mg/L	0.34	349.7	mg/L	0.68	0.20%
K 766.490†	13648.5	5.994	mg/L	0.0364	11.99	mg/L	0.073	0.61%
Mg 279.077†	71273.8	63.31	mg/L	0.067	126.6	mg/L	0.13	0.11%
Mn 257.610†	87689.2	2.757	mg/L	0.0042	5.513	mg/L	0.0084	0.15%
Mo 202.031†	224.1	0.01068	mg/L	0.000236	0.02136	mg/L	0.000473	2.21%
Na 589.592†	73568.4	5.518	mg/L	0.0067	11.04	mg/L	0.013	0.12%
Na 330.237†	74.0	5.369	mg/L	0.1578	10.74	mg/L	0.316	2.94%
Ni 231.604†	3232.8	0.9569	mg/L	0.00364	1.914	mg/L	0.0073	0.38%
Pb 220.353†	-53.8	0.02038	mg/L	0.000404	0.04075	mg/L	0.000808	1.98%
Sb 206.836†	42.8	0.01713	mg/L	0.001856	0.03427	mg/L	0.003711	10.83%
Se 196.026†	32.5	0.02299	mg/L	0.003632	0.04597	mg/L	0.007263	15.80%
Si 288.158†	3140.0	1.805	mg/L	0.0089	3.610	mg/L	0.0178	0.49%
Sn 189.927†	-76.7	-0.01303	mg/L	0.001416	-0.02605	mg/L	0.002831	10.87%
Sr 421.552†	178728.9	0.2152	mg/L	0.00031	0.4304	mg/L	0.00062	0.14%
Ti 334.903†	150495.7	8.906	mg/L	0.0109	17.81	mg/L	0.022	0.12%
Tl 190.801†	-27.6	0.00529	mg/L	0.003981	0.01058	mg/L	0.007963	75.23%
V 292.402†	69462.6	0.4355	mg/L	0.00037	0.8709	mg/L	0.00073	0.08%
Zn 206.200†	1173.6	0.3442	mg/L	0.00162	0.6884	mg/L	0.00323	0.47%

Sequence No.: 89
Sample ID: YE33 D SWC
Dilution: 2.000000X

Autosampler Location: 368
Date Collected: 4/1/2014 2:39:53 PM
Data Type: Original

Handwritten: 4-21-14

Nebulizer Parameters: YE33 D SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE33 D SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2930657.4	98.97	%	0.069				0.07%
ScR 361.383	253994.0	103.4	%	0.49				0.48%
Ag 328.068†	-304.1	-0.00123	mg/L	0.000215	-0.00245	mg/L	0.000431	17.57%
Al 308.215†	211327.8	161.9	mg/L	0.07	323.9	mg/L	0.14	0.04%
As 188.979†	-329.7	0.07525	mg/L	0.003105	0.1505	mg/L	0.00621	4.13%
B 249.677†	678.2	0.1184	mg/L	0.00419	0.2367	mg/L	0.00838	3.54%
Ba 233.527†	2937.4	0.7421	mg/L	0.00180	1.484	mg/L	0.0036	0.24%
Be 313.042†	938.0	0.00167	mg/L	0.000013	0.00334	mg/L	0.000025	0.76%
Ca 317.933†	262962.6	26.84	mg/L	0.030	53.67	mg/L	0.059	0.11%
Cd 228.802†	95.5	0.00345	mg/L	0.000078	0.00690	mg/L	0.000155	2.25%
Co 228.616†	2993.0	0.05988	mg/L	0.000256	0.1198	mg/L	0.00051	0.43%
Cr 267.716†	31652.1	6.333	mg/L	0.0758	12.67	mg/L	0.152	1.20%
Cu 324.752†	240680.4	0.8203	mg/L	0.00746	1.641	mg/L	0.0149	0.91%
Fe 273.955†	199699.2	173.7	mg/L	1.01	347.3	mg/L	2.01	0.58%
K 766.490†	10681.7	4.691	mg/L	0.0519	9.383	mg/L	0.1037	1.11%
Mg 279.077†	62095.7	55.15	mg/L	0.616	110.3	mg/L	1.23	1.12%
Mn 257.610†	65666.8	2.064	mg/L	0.0077	4.128	mg/L	0.0155	0.38%
Mo 202.031†	105.5	0.00502	mg/L	0.000082	0.01003	mg/L	0.000163	1.63%
Na 589.592†	18908.7	1.418	mg/L	0.0013	2.836	mg/L	0.0026	0.09%
Na 330.237†	-14.7	1.133	mg/L	0.1358	2.267	mg/L	0.2715	11.98%
Ni 231.604†	3936.9	1.165	mg/L	0.0136	2.331	mg/L	0.0273	1.17%
Pb 220.353†	-198.4	0.02015	mg/L	0.001057	0.04029	mg/L	0.002114	5.25%
Sb 206.836†	296.1	0.01741	mg/L	0.001931	0.03482	mg/L	0.003863	11.09%
Se 196.026†	35.2	0.02500	mg/L	0.000378	0.05000	mg/L	0.000756	1.51%
Si 288.158†	11150.3	6.392	mg/L	0.0570	12.78	mg/L	0.114	0.89%
Sn 189.927†	-55.6	-0.01080	mg/L	0.001287	-0.02161	mg/L	0.002574	11.91%
Sr 421.552†	112282.2	0.1352	mg/L	0.00011	0.2704	mg/L	0.00021	0.08%
Ti 334.903†	131491.7	7.782	mg/L	0.0050	15.56	mg/L	0.010	0.06%
Tl 190.801†	-36.6	-0.00118	mg/L	0.000857	-0.00236	mg/L	0.001715	72.56%
V 292.402†	62462.0	0.4155	mg/L	0.00344	0.8310	mg/L	0.00688	0.83%
Zn 206.200†	976.7	0.2890	mg/L	0.00198	0.5780	mg/L	0.00397	0.69%

Sequence No.: 90
 Sample ID: YE34 ASPK SWC

Autosampler Location: 369
 Date Collected: 4/1/2014 2:43:08 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 ASPK SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE34 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2947389.3	99.53	%	0.104			0.10%
ScR 361.383	253752.8	103.3	%	0.58			0.56%
Ag 328.068†	104847.7	0.5150	mg/L	0.00137	1.030 mg/L	0.0027	0.27%
Al 308.215†	248594.0	190.5	mg/L	0.34	380.9 mg/L	0.68	0.18%
As 188.979†	3133.3	2.156	mg/L	0.0065	4.311 mg/L	0.0130	0.30%
B 249.677†	502.5	0.08648	mg/L	0.001608	0.1730 mg/L	0.00322	1.86%
Ba 233.527†	10457.1	2.706	mg/L	0.0152	5.412 mg/L	0.0304	0.56%
Be 313.042†	252124.0	0.4979	mg/L	0.00284	0.9959 mg/L	0.00568	0.57%
Ca 317.933†	476408.6	48.62	mg/L	0.083	97.24 mg/L	0.166	0.17%
Cd 228.802†	17946.3	0.5337	mg/L	0.00081	1.067 mg/L	0.0016	0.15%
Co 228.616†	25423.5	0.6101	mg/L	0.00119	1.220 mg/L	0.0024	0.20%
Cr 267.716†	4273.8	0.8544	mg/L	0.00372	1.709 mg/L	0.0074	0.43%
Cu 324.752†	221133.8	0.7550	mg/L	0.00394	1.510 mg/L	0.0079	0.52%
Fe 273.955†	230759.9	200.7	mg/L	0.17	401.3 mg/L	0.33	0.08%
K 766.490†	36380.0	15.98	mg/L	0.046	31.96 mg/L	0.091	0.29%
Mg 279.077†	80032.7	71.09	mg/L	0.040	142.2 mg/L	0.08	0.06%
Mn 257.610†	112463.5	3.536	mg/L	0.0055	7.072 mg/L	0.0110	0.16%
Mo 202.031†	107.5	0.00478	mg/L	0.000479	0.00957 mg/L	0.000957	10.01%
Na 589.592†	167269.0	12.55	mg/L	0.031	25.09 mg/L	0.062	0.25%
Na 330.237†	225.6	12.34	mg/L	0.171	24.68 mg/L	0.342	1.39%
Ni 231.604†	30650.3	9.071	mg/L	0.0149	18.14 mg/L	0.030	0.16%
Pb 220.353†	18445.6	2.192	mg/L	0.0063	4.384 mg/L	0.0127	0.29%
Sb 206.836†	54.7	0.01696	mg/L	0.002658	0.03392 mg/L	0.005316	15.67%
Se 196.026†	2919.3	2.096	mg/L	0.0025	4.191 mg/L	0.0050	0.12%
Si 288.158†	1822.7	1.054	mg/L	0.0081	2.108 mg/L	0.0163	0.77%
Sn 189.927†	-67.1	-0.01099	mg/L	0.000696	-0.02199 mg/L	0.001392	6.33%
Sr 421.552†	545520.8	0.6569	mg/L	0.00146	1.314 mg/L	0.0029	0.22%
Ti 334.903†	162631.0	9.625	mg/L	0.0169	19.25 mg/L	0.034	0.18%
Tl 190.801†	4233.8	1.947	mg/L	0.0090	3.894 mg/L	0.0180	0.46%
V 292.402†	152802.4	0.9740	mg/L	0.00251	1.948 mg/L	0.0050	0.26%
Zn 206.200†	5020.7	1.471	mg/L	0.0046	2.943 mg/L	0.0092	0.31%

Sequence No.: 91

Sample ID: YE33 MB1SPK SWC

Autosampler Location: 370

Date Collected: 4/1/2014 2:47:09 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 MB1SPK SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE33 MB1SPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2948246.6	99.56	%	0.400				0.40%
ScR 361.383	250002.2	101.7	%	0.65				0.64%
Ag 328.068†	109356.9	0.5368	mg/L	0.00329	1.074	mg/L	0.0066	0.61%
Al 308.215†	2670.5	2.039	mg/L	0.0131	4.078	mg/L	0.0261	0.64%
As 188.979†	3696.4	2.142	mg/L	0.0117	4.285	mg/L	0.0234	0.55%
B 249.677†	16.9	0.00188	mg/L	0.000241	0.00377	mg/L	0.000481	12.77%
Ba 233.527†	8193.4	2.145	mg/L	0.0064	4.290	mg/L	0.0129	0.30%
Be 313.042†	250001.4	0.4940	mg/L	0.00072	0.9879	mg/L	0.00145	0.15%
Ca 317.933†	100746.9	10.28	mg/L	0.033	20.56	mg/L	0.067	0.32%
Cd 228.802†	17733.7	0.5190	mg/L	0.00270	1.038	mg/L	0.0054	0.52%
Co 228.616†	20575.0	0.5088	mg/L	0.00341	1.018	mg/L	0.0068	0.67%
Cr 267.716†	2641.2	0.5273	mg/L	0.00294	1.055	mg/L	0.0059	0.56%
Cu 324.752†	148035.6	0.5009	mg/L	0.00280	1.002	mg/L	0.0056	0.56%
Fe 273.955†	2422.9	2.103	mg/L	0.0244	4.207	mg/L	0.0488	1.16%
K 766.490†	23112.0	10.15	mg/L	0.033	20.30	mg/L	0.067	0.33%
Mg 279.077†	11980.2	10.66	mg/L	0.078	21.32	mg/L	0.156	0.73%
Mn 257.610†	15395.9	0.4846	mg/L	0.00187	0.9691	mg/L	0.00374	0.39%
Mo 202.031†	32.5	0.00151	mg/L	0.000227	0.00303	mg/L	0.000455	15.01%
Na 589.592†	138090.1	10.36	mg/L	0.026	20.71	mg/L	0.052	0.25%
Na 330.237†	229.6	10.48	mg/L	0.328	20.97	mg/L	0.655	3.13%
Ni 231.604†	1784.0	0.5272	mg/L	0.00519	1.054	mg/L	0.0104	0.99%
Pb 220.353†	17534.1	2.047	mg/L	0.0092	4.093	mg/L	0.0184	0.45%
Sb 206.836†	19.6	0.00108	mg/L	0.002238	0.00217	mg/L	0.004475	206.41%
Se 196.026†	2966.6	2.130	mg/L	0.0196	4.260	mg/L	0.0391	0.92%
Si 288.158†	0.0	0.00364	mg/L	0.002466	0.00729	mg/L	0.004933	67.67%
Sn 189.927†	-21.5	-0.00470	mg/L	0.001440	-0.00939	mg/L	0.002880	30.67%
Sr 421.552†	415800.2	0.5007	mg/L	0.00094	1.001	mg/L	0.0019	0.19%
Ti 334.903†	169.3	0.00919	mg/L	0.000757	0.01839	mg/L	0.001514	8.24%
Tl 190.801†	4472.2	2.035	mg/L	0.0140	4.070	mg/L	0.0280	0.69%
V 292.402†	79828.1	0.5176	mg/L	0.00311	1.035	mg/L	0.0062	0.60%
Zn 206.200†	1773.8	0.5199	mg/L	0.00272	1.040	mg/L	0.0054	0.52%

YE33:00199

Sequence No.: 92

Sample ID: CV 9

Autosampler Location: 7

Date Collected: 4/1/2014 2:51:09 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2956464.3	99.84 %	0.704			0.71%
ScR 361.383	250318.4	101.9 %	0.11			0.10%
Ag 328.068†	211685.0	1.039 mg/L	0.0135	1.039 mg/L	0.0135	1.30%
Al 308.215†	2658.5	2.006 mg/L	0.0061	2.006 mg/L	0.0061	0.30%
As 188.979†	3559.3	2.094 mg/L	0.0062	2.094 mg/L	0.0062	0.29%
B 249.677†	5798.7	1.012 mg/L	0.0026	1.012 mg/L	0.0026	0.26%
Ba 233.527†	4015.7	1.051 mg/L	0.0032	1.051 mg/L	0.0032	0.31%
Be 313.042†	499199.9	0.9864 mg/L	0.00387	0.9864 mg/L	0.00387	0.39%
Ca 317.933†	20628.9	2.105 mg/L	0.0083	2.105 mg/L	0.0083	0.39%
Cd 228.802†	34068.4	1.008 mg/L	0.0120	1.008 mg/L	0.0120	1.19%
Co 228.616†	40426.0	0.9984 mg/L	0.01175	0.9984 mg/L	0.01175	1.18%
Cr 267.716†	5248.2	1.050 mg/L	0.0033	1.050 mg/L	0.0033	0.31%
Cu 324.752†	301880.1	1.021 mg/L	0.0137	1.021 mg/L	0.0137	1.35%
Fe 273.955†	2406.6	2.086 mg/L	0.0069	2.086 mg/L	0.0069	0.33%
K 766.490†	45400.3	19.94 mg/L	0.079	19.94 mg/L	0.079	0.40%
Mg 279.077†	2286.7	2.041 mg/L	0.0088	2.041 mg/L	0.0088	0.43%
Mn 257.610†	30408.2	0.9569 mg/L	0.00260	0.9569 mg/L	0.00260	0.27%
Mo 202.031†	18589.2	0.9574 mg/L	0.00331	0.9574 mg/L	0.00331	0.35%
Na 589.592†	679693.1	50.98 mg/L	0.059	50.98 mg/L	0.059	0.12%
Na 330.237†	1089.4	50.69 mg/L	0.135	50.69 mg/L	0.135	0.27%
Ni 231.604†	3564.0	1.055 mg/L	0.0050	1.055 mg/L	0.0050	0.47%
Pb 220.353†	17365.2	2.027 mg/L	0.0085	2.027 mg/L	0.0085	0.42%
Sb 206.836†	6642.4	2.068 mg/L	0.0102	2.068 mg/L	0.0102	0.49%
Se 196.026†	2866.3	2.057 mg/L	0.0091	2.057 mg/L	0.0091	0.44%
Si 288.158†	3396.9	1.949 mg/L	0.0152	1.949 mg/L	0.0152	0.78%
Sn 189.927†	3415.9	0.9576 mg/L	0.00470	0.9576 mg/L	0.00470	0.49%
Sr 421.552†	833597.6	1.004 mg/L	0.0012	1.004 mg/L	0.0012	0.12%
Ti 334.903†	16417.3	0.9708 mg/L	0.00062	0.9708 mg/L	0.00062	0.06%
Tl 190.801†	4497.5	2.043 mg/L	0.0042	2.043 mg/L	0.0042	0.20%
V 292.402†	156336.1	1.014 mg/L	0.0126	1.014 mg/L	0.0126	1.24%
Zn 206.200†	3563.9	1.045 mg/L	0.0036	1.045 mg/L	0.0036	0.35%

Sequence No.: 93

Sample ID: CB ↑

Autosampler Location: 1

Date Collected: 4/1/2014 2:55:13 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2983614.2	100.8 %	0.45			0.45%
ScR 361.383	250090.3	101.8 %	0.43			0.42%
Ag 328.068†	-11.8	-0.00006 mg/L	0.000186	-0.00006 mg/L	0.000186	320.65%
Al 308.215†	1.5	0.00109 mg/L	0.006210	0.00109 mg/L	0.006210	567.37%
As 188.979†	-3.9	-0.00219 mg/L	0.001609	-0.00219 mg/L	0.001609	73.54%
B 249.677†	13.6	0.00237 mg/L	0.001305	0.00237 mg/L	0.001305	54.97%
Ba 233.527†	-2.4	-0.00064 mg/L	0.000280	-0.00064 mg/L	0.000280	43.70%
Be 313.042†	59.9	0.00012 mg/L	0.000014	0.00012 mg/L	0.000014	11.53%
Ca 317.933†	6.1	0.00063 mg/L	0.001064	0.00063 mg/L	0.001064	169.90%
Cd 228.802†	15.2	0.00047 mg/L	0.000108	0.00047 mg/L	0.000108	23.11%
Co 228.616†	3.8	0.00009 mg/L	0.000066	0.00009 mg/L	0.000066	71.66%
Cr 267.716†	0.6	0.00012 mg/L	0.000504	0.00012 mg/L	0.000504	404.06%
Cu 324.752†	828.5	0.00280 mg/L	0.000126	0.00280 mg/L	0.000126	4.49%
Fe 273.955†	3.0	0.00257 mg/L	0.000432	0.00257 mg/L	0.000432	16.83%
K 766.490†	122.9	0.05399 mg/L	0.007953	0.05399 mg/L	0.007953	14.73%
Mg 279.077†	-1.0	-0.00089 mg/L	0.002861	-0.00089 mg/L	0.002861	323.05%
Mn 257.610†	6.7	0.00021 mg/L	0.000094	0.00021 mg/L	0.000094	44.14%
Mo 202.031†	23.8	0.00123 mg/L	0.000061	0.00123 mg/L	0.000061	4.98%
Na 589.592†	73.4	0.00550 mg/L	0.000810	0.00550 mg/L	0.000810	14.72%
Na 330.237†	-5.5	-0.2567 mg/L	0.25072	-0.2567 mg/L	0.25072	97.66%
Ni 231.604†	2.7	0.00082 mg/L	0.001578	0.00082 mg/L	0.001578	192.56%
Pb 220.353†	3.3	0.00039 mg/L	0.000205	0.00039 mg/L	0.000205	53.12%
Sb 206.836†	38.1	0.01188 mg/L	0.001544	0.01188 mg/L	0.001544	12.99%
Se 196.026†	-0.4	-0.00028 mg/L	0.005824	-0.00028 mg/L	0.005824	>999.9%
Si 288.158†	10.9	0.00626 mg/L	0.004863	0.00626 mg/L	0.004863	77.74%
Sn 189.927†	-1.7	-0.00047 mg/L	0.000570	-0.00047 mg/L	0.000570	120.63%
Sr 421.552†	42.5	0.00005 mg/L	0.000047	0.00005 mg/L	0.000047	91.27%
Ti 334.903†	28.6	0.00169 mg/L	0.000522	0.00169 mg/L	0.000522	30.89%
Tl 190.801†	0.4	0.00019 mg/L	0.001011	0.00019 mg/L	0.001011	525.46%
V 292.402†	1.9	0.00001 mg/L	0.000118	0.00001 mg/L	0.000118	958.13%
Zn 206.200†	3.0	0.00087 mg/L	0.000648	0.00087 mg/L	0.000648	74.43%

Sequence No.: 94
 Sample ID: YE33 MB1 SWC

Autosampler Location: 370
 Date Collected: 4/1/2014 2:59:29 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE33 MB1 SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

 Mean Data: YE33 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	7563853.6	255.4 %	%	17.37			6.80%
ScR 361.383	659980.5	268.6 %	%	20.46			7.62%
Ag 328.068†	8231.5	0.04040 mg/L	mg/L	0.001447	0.08081 mg/L	0.002894	3.58%
Al 308.215†	158.0	0.1204 mg/L	mg/L	0.06501	0.2408 mg/L	0.13002	53.99%
As 188.979†	360.0	0.2088 mg/L	mg/L	0.02465	0.4175 mg/L	0.04929	11.81%
B 249.677†	-15.2	-0.00278 mg/L	mg/L	0.000188	-0.00555 mg/L	0.000375	6.76%
Ba 233.527†	675.1	0.1767 mg/L	mg/L	0.06510	0.3535 mg/L	0.13019	36.83%
Be 313.042†	12943.9	0.02557 mg/L	mg/L	0.027108	0.05114 mg/L	0.054217	106.01%
Ca 317.933†	5745.7	0.5863 mg/L	mg/L	0.58432	1.173 mg/L	1.1686	99.65%
Cd 228.802†	1798.7	0.05268 mg/L	mg/L	0.006761	0.1054 mg/L	0.01352	12.83%
Co 228.616†	2211.6	0.05469 mg/L	mg/L	0.006443	0.1094 mg/L	0.01289	11.78%
Cr 267.716†	271.6	0.05425 mg/L	mg/L	0.015561	0.1085 mg/L	0.03112	28.69%
Cu 324.752†	4793.9	0.01623 mg/L	mg/L	0.000314	0.03246 mg/L	0.000628	1.93%
Saturated within auto integration window (code 4)							
Fe 273.955†	174.7	0.1516 mg/L	mg/L	0.06378	0.3033 mg/L	0.12756	42.06%
K 766.490†	1072.5	0.4711 mg/L	mg/L	0.58968	0.9421 mg/L	1.17937	125.18%
Mg 279.077†	930.0	0.8276 mg/L	mg/L	0.27731	1.655 mg/L	0.5546	33.51%
Mn 257.610†	1039.9	0.03274 mg/L	mg/L	0.007969	0.06549 mg/L	0.015939	24.34%
Saturated within auto integration window (code 4)							
Mo 202.031†	-21.6	-0.00112 mg/L	mg/L	0.000169	-0.00225 mg/L	0.000337	15.01%
Na 589.592†	6278.9	0.4709 mg/L	mg/L	0.43481	0.9419 mg/L	0.86962	92.33%
Saturated within auto integration window (code 4)							
Na 330.237†	114.8	5.334 mg/L	mg/L	0.3284	10.67 mg/L	0.657	6.16%
Ni 231.604†	158.8	0.04689 mg/L	mg/L	0.016234	0.09378 mg/L	0.032468	34.62%
Pb 220.353†	1779.2	0.2077 mg/L	mg/L	0.02601	0.4154 mg/L	0.05202	12.52%
Sb 206.836†	-34.4	-0.01127 mg/L	mg/L	0.001074	-0.02254 mg/L	0.002148	9.53%
Se 196.026†	292.3	0.2099 mg/L	mg/L	0.02233	0.4197 mg/L	0.04467	10.64%
Si 288.158†	22.5	0.01324 mg/L	mg/L	0.007931	0.02648 mg/L	0.015862	59.91%
Sn 189.927†	-2.5	-0.00064 mg/L	mg/L	0.000359	-0.00128 mg/L	0.000718	56.13%
Sr 421.552†	14943.6	0.01799 mg/L	mg/L	0.020636	0.03599 mg/L	0.041272	114.68%
Ti 334.903†	44.1	0.00256 mg/L	mg/L	0.000271	0.00513 mg/L	0.000541	10.56%
Tl 190.801†	471.1	0.2144 mg/L	mg/L	0.02467	0.4287 mg/L	0.04933	11.51%
V 292.402†	7160.7	0.04646 mg/L	mg/L	0.001762	0.09292 mg/L	0.003525	3.79%
Zn 206.200†	136.7	0.04007 mg/L	mg/L	0.015425	0.08015 mg/L	0.030851	38.49%

User canceled analysis.

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Analysis Begun

Start Time: 4/1/2014 3:04:18 PM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0401.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 92

Autosampler Location: 7

Sample ID: CV \0

Date Collected: 4/1/2014 3:04:20 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2908904.2	98.23	%	0.474				0.48%
ScR 361.383	247691.5	100.8	%	0.53				0.52%
Ag 328.068†	216383.4	1.062	mg/L	0.0024	1.062	mg/L	0.0024	0.23%
Al 308.215†	2704.3	2.040	mg/L	0.0132	2.040	mg/L	0.0132	0.64%
As 188.979†	3621.1	2.131	mg/L	0.0088	2.131	mg/L	0.0088	0.41%
B 249.677†	5901.9	1.030	mg/L	0.0022	1.030	mg/L	0.0022	0.22%
Ba 233.527†	4085.4	1.069	mg/L	0.0037	1.069	mg/L	0.0037	0.35%
Be 313.042†	509633.4	1.007	mg/L	0.0051	1.007	mg/L	0.0051	0.51%
Ca 317.933†	21029.3	2.146	mg/L	0.0110	2.146	mg/L	0.0110	0.51%
Cd 228.802†	34903.9	1.032	mg/L	0.0076	1.032	mg/L	0.0076	0.73%
Co 228.616†	41486.4	1.025	mg/L	0.0064	1.025	mg/L	0.0064	0.62%
Cr 267.716†	5333.9	1.067	mg/L	0.0015	1.067	mg/L	0.0015	0.14%
Cu 324.752†	310780.8	1.051	mg/L	0.0045	1.051	mg/L	0.0045	0.42%
Fe 273.955†	2451.6	2.125	mg/L	0.0111	2.125	mg/L	0.0111	0.52%
K 766.490†	45961.5	20.19	mg/L	0.099	20.19	mg/L	0.099	0.49%
Mg 279.077†	2317.3	2.068	mg/L	0.0116	2.068	mg/L	0.0116	0.56%
Mn 257.610†	30783.5	0.9687	mg/L	0.00385	0.9687	mg/L	0.00385	0.40%
Mo 202.031†	18986.2	0.9779	mg/L	0.00472	0.9779	mg/L	0.00472	0.48%
Na 589.592†	688044.6	51.61	mg/L	0.062	51.61	mg/L	0.062	0.12%
Na 330.237†	1109.2	51.62	mg/L	0.348	51.62	mg/L	0.348	0.67%
Ni 231.604†	3620.0	1.072	mg/L	0.0027	1.072	mg/L	0.0027	0.26%
Pb 220.353†	17722.7	2.069	mg/L	0.0082	2.069	mg/L	0.0082	0.39%
Sb 206.836†	6781.2	2.111	mg/L	0.0109	2.111	mg/L	0.0109	0.52%
Se 196.026†	2917.8	2.094	mg/L	0.0064	2.094	mg/L	0.0064	0.30%
Si 288.158†	3459.2	1.985	mg/L	0.0146	1.985	mg/L	0.0146	0.73%
Sn 189.927†	3486.6	0.9775	mg/L	0.00558	0.9775	mg/L	0.00558	0.57%
Sr 421.552†	844959.4	1.017	mg/L	0.0017	1.017	mg/L	0.0017	0.16%
Ti 334.903†	16615.0	0.9824	mg/L	0.00125	0.9824	mg/L	0.00125	0.13%
Tl 190.801†	4585.9	2.083	mg/L	0.0118	2.083	mg/L	0.0118	0.57%
V 292.402†	160103.9	1.038	mg/L	0.0043	1.038	mg/L	0.0043	0.42%
Zn 206.200†	3627.4	1.063	mg/L	0.0016	1.063	mg/L	0.0016	0.15%

Sequence No.: 93
 Sample ID: CB 10

Autosampler Location: 1
 Date Collected: 4/1/2014 3:08:24 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2935086.9	99.12	%	0.680			0.69%
ScR 361.383	250193.3	101.8	%	0.62			0.61%
Ag 328.068†	-12.4	-0.00006	mg/L	0.000147	-0.00006 mg/L	0.000147	240.32%
Al 308.215†	-1.6	-0.00123	mg/L	0.001075	-0.00123 mg/L	0.001075	87.65%
As 188.979†	-3.8	-0.00216	mg/L	0.001974	-0.00216 mg/L	0.001974	91.53%
B 249.677†	16.0	0.00280	mg/L	0.000673	0.00280 mg/L	0.000673	24.06%
Ba 233.527†	-2.4	-0.00062	mg/L	0.000177	-0.00062 mg/L	0.000177	28.60%
Be 313.042†	56.7	0.00011	mg/L	0.000017	0.00011 mg/L	0.000017	14.89%
Ca 317.933†	1.4	0.00014	mg/L	0.000786	0.00014 mg/L	0.000786	551.85%
Cd 228.802†	14.4	0.00044	mg/L	0.000044	0.00044 mg/L	0.000044	10.09%
Co 228.616†	-4.0	-0.00010	mg/L	0.000183	-0.00010 mg/L	0.000183	182.47%
Cr 267.716†	-1.9	-0.00037	mg/L	0.000425	-0.00037 mg/L	0.000425	113.76%
Cu 324.752†	882.2	0.00298	mg/L	0.000127	0.00298 mg/L	0.000127	4.26%
Fe 273.955†	2.9	0.00253	mg/L	0.001458	0.00253 mg/L	0.001458	57.68%
K 766.490†	98.5	0.04327	mg/L	0.009671	0.04327 mg/L	0.009671	22.35%
Mg 279.077†	3.5	0.00309	mg/L	0.006169	0.00309 mg/L	0.006169	199.81%
Mn 257.610†	3.5	0.00011	mg/L	0.000057	0.00011 mg/L	0.000057	51.69%
Mo 202.031†	22.7	0.00117	mg/L	0.000264	0.00117 mg/L	0.000264	22.53%
Na 589.592†	61.2	0.00459	mg/L	0.001193	0.00459 mg/L	0.001193	26.01%
Na 330.237†	-4.5	-0.2119	mg/L	0.14972	-0.2119 mg/L	0.14972	70.65%
Ni 231.604†	-0.4	-0.00011	mg/L	0.001029	-0.00011 mg/L	0.001029	911.55%
Pb 220.353†	9.8	0.00113	mg/L	0.000497	0.00113 mg/L	0.000497	43.89%
Sb 206.836†	37.8	0.01177	mg/L	0.001094	0.01177 mg/L	0.001094	9.29%
Se 196.026†	1.7	0.00119	mg/L	0.001583	0.00119 mg/L	0.001583	132.90%
Si 288.158†	4.9	0.00281	mg/L	0.005701	0.00281 mg/L	0.005701	203.15%
Sn 189.927†	-2.6	-0.00073	mg/L	0.000866	-0.00073 mg/L	0.000866	119.36%
Sr 421.552†	58.4	0.00007	mg/L	0.000010	0.00007 mg/L	0.000010	14.43%
Ti 334.903†	11.9	0.00070	mg/L	0.000480	0.00070 mg/L	0.000480	68.10%
Tl 190.801†	-2.1	-0.00097	mg/L	0.001388	-0.00097 mg/L	0.001388	143.71%
V 292.402†	-20.2	-0.00013	mg/L	0.000086	-0.00013 mg/L	0.000086	64.95%
Zn 206.200†	3.0	0.00087	mg/L	0.000050	0.00087 mg/L	0.000050	5.72%

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Analysis Begun

Start Time: 4/1/2014 3:12:29 PM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0401.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: Calib Blank 1

Date Collected: 4/1/2014 3:12:30 PM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected		Std.Dev.	RSD	Calib	
	Intensity				Conc.	Units
ScA 357.253	2950110.4		3416.53	0.12%	99.62	%
ScR 361.383	251915.4		1708.10	0.68%	102.5	%
Ag 328.068†	64.5		23.48	36.41%	[0.00]	mg/L
Al 308.215†	108.1		9.84	9.10%	[0.00]	mg/L
As 188.979†	-10.2		0.82	8.10%	[0.00]	mg/L
B 249.677†	31.0		3.98	12.83%	[0.00]	mg/L
Ba 233.527†	14.8		3.67	24.72%	[0.00]	mg/L
Be 313.042†	718.4		3.66	0.51%	[0.00]	mg/L
Ca 317.933†	-129.1		12.31	9.53%	[0.00]	mg/L
Cd 228.802†	312.3		4.20	1.35%	[0.00]	mg/L
Co 228.616†	-80.9		5.42	6.70%	[0.00]	mg/L
Cr 267.716†	-82.5		2.57	3.11%	[0.00]	mg/L
Cu 324.752†	4615.6		42.94	0.93%	[0.00]	mg/L
Fe 273.955†	48.6		1.25	2.57%	[0.00]	mg/L
K 766.490†	542.0		41.58	7.67%	[0.00]	mg/L
Mg 279.077†	59.6		6.94	11.65%	[0.00]	mg/L
Mn 257.610†	137.3		3.44	2.51%	[0.00]	mg/L
Mo 202.031†	55.9		5.28	9.43%	[0.00]	mg/L
Na 589.592†	-347.0		29.83	8.60%	[0.00]	mg/L
Na 330.237†	-150.0		6.29	4.20%	[0.00]	mg/L
Ni 231.604†	-17.5		4.00	22.84%	[0.00]	mg/L
Pb 220.353†	47.1		5.68	12.07%	[0.00]	mg/L
Sb 206.836†	83.6		7.85	9.39%	[0.00]	mg/L
Se 196.026†	-32.1		2.31	7.20%	[0.00]	mg/L
Si 288.158†	66.6		4.86	7.30%	[0.00]	mg/L
Sn 189.927†	-4.2		0.36	8.64%	[0.00]	mg/L
Sr 421.552†	223.4		15.88	7.11%	[0.00]	mg/L
Ti 334.903†	-33.5		12.69	37.85%	[0.00]	mg/L
Tl 190.801†	-38.1		2.02	5.31%	[0.00]	mg/L
V 292.402†	94.1		26.26	27.91%	[0.00]	mg/L
Zn 206.200†	10.7		2.92	27.42%	[0.00]	mg/L

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Analysis Begun

Start Time: 4/1/2014 3:16:22 PM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0401.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Sequence No.: 1

Autosampler Location: 7

Sample ID: CV \A

Date Collected: 4/1/2014 3:16:24 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2939391.9	99.26	%	0.684			0.69%
ScR 361.383	246724.7	100.4	%	0.46			0.46%
Ag 328.068†	215852.0	1.059	mg/L	0.0098	1.059	mg/L	0.92%
Al 308.215†	2698.9	2.036	mg/L	0.0143	2.036	mg/L	0.70%
As 188.979†	3596.3	2.116	mg/L	0.0285	2.116	mg/L	1.35%
B 249.677†	5853.2	1.022	mg/L	0.0045	1.022	mg/L	0.44%
Ba 233.527†	4063.5	1.063	mg/L	0.0027	1.063	mg/L	0.25%
Be 313.042†	503690.0	0.9952	mg/L	0.00483	0.9952	mg/L	0.48%
Ca 317.933†	20848.3	2.128	mg/L	0.0113	2.128	mg/L	0.53%
Cd 228.802†	34464.0	1.019	mg/L	0.0095	1.019	mg/L	0.94%
Co 228.616†	40584.0	1.002	mg/L	0.0080	1.002	mg/L	0.80%
Cr 267.716†	5285.4	1.057	mg/L	0.0061	1.057	mg/L	0.58%
Cu 324.752†	294002.8	0.9944	mg/L	0.00259	0.9944	mg/L	0.26%
Fe 273.955†	2413.6	2.092	mg/L	0.0166	2.092	mg/L	0.79%
K 766.490†	45632.3	20.04	mg/L	0.063	20.04	mg/L	0.32%
Mg 279.077†	2288.8	2.043	mg/L	0.0101	2.043	mg/L	0.49%
Mn 257.610†	30524.7	0.9605	mg/L	0.00275	0.9605	mg/L	0.29%
Mo 202.031†	18315.0	0.9433	mg/L	0.00945	0.9433	mg/L	1.00%
Na 589.592†	684005.5	51.30	mg/L	0.226	51.30	mg/L	0.44%
Na 330.237†	1106.3	51.48	mg/L	0.280	51.48	mg/L	0.54%
Ni 231.604†	3601.0	1.066	mg/L	0.0063	1.066	mg/L	0.59%
Pb 220.353†	17000.6	1.985	mg/L	0.0197	1.985	mg/L	0.99%
Sb 206.836†	6719.9	2.092	mg/L	0.0306	2.092	mg/L	1.46%
Se 196.026†	2889.0	2.074	mg/L	0.0307	2.074	mg/L	1.48%
Si 288.158†	3433.3	1.970	mg/L	0.0168	1.970	mg/L	0.85%
Sn 189.927†	3457.3	0.9693	mg/L	0.01490	0.9693	mg/L	1.54%
Sr 421.552†	839551.3	1.011	mg/L	0.0034	1.011	mg/L	0.33%
Ti 334.903†	16493.7	0.9753	mg/L	0.00273	0.9753	mg/L	0.28%
Tl 190.801†	4544.5	2.065	mg/L	0.0268	2.065	mg/L	1.30%
V 292.402†	159293.6	1.033	mg/L	0.0104	1.033	mg/L	1.00%
Zn 206.200†	3579.9	1.049	mg/L	0.0092	1.049	mg/L	0.88%

Sequence No.: 2
Sample ID: CB \

Autosampler Location: 1
Date Collected: 4/1/2014 3:20:28 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2955097.9	99.79	%	1.055				1.06%
ScR 361.383	251436.3	102.3	%	0.44				0.43%
Ag 328.068†	27.1	0.00013	mg/L	0.000102	0.00013	mg/L	0.000102	76.55%
Al 308.215†	3.4	0.00258	mg/L	0.003636	0.00258	mg/L	0.003636	141.06%
As 188.979†	2.3	0.00138	mg/L	0.001805	0.00138	mg/L	0.001805	130.76%
B 249.677†	12.6	0.00219	mg/L	0.001519	0.00219	mg/L	0.001519	69.25%
Ba 233.527†	0.8	0.00022	mg/L	0.001168	0.00022	mg/L	0.001168	539.10%
Be 313.042†	20.1	0.00004	mg/L	0.000007	0.00004	mg/L	0.000007	18.85%
Ca 317.933†	11.2	0.00114	mg/L	0.001008	0.00114	mg/L	0.001008	88.04%
Cd 228.802†	2.6	0.00007	mg/L	0.000015	0.00007	mg/L	0.000015	20.61%
Co 228.616†	6.1	0.00015	mg/L	0.000046	0.00015	mg/L	0.000046	30.80%
Cr 267.716†	2.7	0.00055	mg/L	0.000919	0.00055	mg/L	0.000919	167.04%
Cu 324.752†	25.8	0.00009	mg/L	0.000081	0.00009	mg/L	0.000081	93.57%
Fe 273.955†	-0.3	-0.00023	mg/L	0.000559	-0.00023	mg/L	0.000559	246.58%
K 766.490†	46.0	0.02021	mg/L	0.006690	0.02021	mg/L	0.006690	33.10%
Mg 279.077†	-1.9	-0.00173	mg/L	0.007164	-0.00173	mg/L	0.007164	415.20%
Mn 257.610†	3.7	0.00012	mg/L	0.000037	0.00012	mg/L	0.000037	31.73%
Mo 202.031†	12.9	0.00067	mg/L	0.000207	0.00067	mg/L	0.000207	31.01%
Na 589.592†	37.8	0.00284	mg/L	0.002552	0.00284	mg/L	0.002552	89.95%
Na 330.237†	-3.6	-0.1658	mg/L	0.16489	-0.1658	mg/L	0.16489	99.43%
Ni 231.604†	2.0	0.00061	mg/L	0.000485	0.00061	mg/L	0.000485	79.84%
Pb 220.353†	3.5	0.00041	mg/L	0.000239	0.00041	mg/L	0.000239	57.69%
Sb 206.836†	30.0	0.00936	mg/L	0.002214	0.00936	mg/L	0.002214	23.66%
Se 196.026†	-0.2	-0.00013	mg/L	0.004583	-0.00013	mg/L	0.004583	>999.9%
Si 288.158†	9.4	0.00537	mg/L	0.003803	0.00537	mg/L	0.003803	70.77%
Sn 189.927†	3.8	0.00106	mg/L	0.000305	0.00106	mg/L	0.000305	28.89%
Sr 421.552†	16.3	0.00002	mg/L	0.000013	0.00002	mg/L	0.000013	67.47%
Ti 334.903†	12.3	0.00073	mg/L	0.000382	0.00073	mg/L	0.000382	52.46%
Tl 190.801†	3.4	0.00156	mg/L	0.002120	0.00156	mg/L	0.002120	135.71%
V 292.402†	-21.7	-0.00014	mg/L	0.000129	-0.00014	mg/L	0.000129	93.13%
Zn 206.200†	-0.2	-0.00007	mg/L	0.000183	-0.00007	mg/L	0.000183	279.53%

Sequence No.: 3
 Sample ID: YE74 MB TWC

Autosampler Location: 368
 Date Collected: 4/1/2014 3:24:43 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE74 MB TWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: YE74 MB TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2959465.1	99.94	%	0.649			0.65%
ScR 361.383	255791.6	104.1	%	0.31			0.30%
Ag 328.068†	-12.3	-0.00006	mg/L	0.000142	-0.00006 mg/L	0.000142	235.43%
Al 308.215†	5.3	0.00407	mg/L	0.004059	0.00407 mg/L	0.004059	99.61%
As 188.979†	1.9	0.00111	mg/L	0.000984	0.00111 mg/L	0.000984	88.26%
B 249.677†	141.6	0.02475	mg/L	0.001095	0.02475 mg/L	0.001095	4.43%
Ba 233.527†	0.8	0.00022	mg/L	0.000371	0.00022 mg/L	0.000371	168.73%
Be 313.042†	-56.2	-0.00011	mg/L	0.000011	-0.00011 mg/L	0.000011	10.31%
Ca 317.933†	44.1	0.00450	mg/L	0.000813	0.00450 mg/L	0.000813	18.07%
Cd 228.802†	1.2	0.00003	mg/L	0.000087	0.00003 mg/L	0.000087	275.58%
Co 228.616†	1.2	0.00003	mg/L	0.000059	0.00003 mg/L	0.000059	192.33%
Cr 267.716†	6.9	0.00138	mg/L	0.001705	0.00138 mg/L	0.001705	123.78%
Cu 324.752†	130.3	0.00044	mg/L	0.000166	0.00044 mg/L	0.000166	37.70%
Fe 273.955†	0.2	0.00013	mg/L	0.0002611	0.00013 mg/L	0.0002611	>999.9%
K 766.490†	22.8	0.01000	mg/L	0.003422	0.01000 mg/L	0.003422	34.22%
Mg 279.077†	1.0	0.00089	mg/L	0.004114	0.00089 mg/L	0.004114	463.81%
Mn 257.610†	0.2	0.00001	mg/L	0.000053	0.00001 mg/L	0.000053	993.65%
Mo 202.031†	2.5	0.00013	mg/L	0.000187	0.00013 mg/L	0.000187	144.56%
Na 589.592†	298.2	0.02237	mg/L	0.002512	0.02237 mg/L	0.002512	11.23%
Na 330.237†	1.1	0.04956	mg/L	0.132987	0.04956 mg/L	0.132987	268.32%
Ni 231.604†	0.7	0.00022	mg/L	0.000777	0.00022 mg/L	0.000777	352.62%
Pb 220.353†	2.4	0.00029	mg/L	0.001054	0.00029 mg/L	0.001054	369.12%
Sb 206.836†	-4.0	-0.00127	mg/L	0.000268	-0.00127 mg/L	0.000268	21.03%
Se 196.026†	2.1	0.00150	mg/L	0.002551	0.00150 mg/L	0.002551	169.72%
Si 288.158†	21.7	0.01244	mg/L	0.002470	0.01244 mg/L	0.002470	19.85%
Sn 189.927†	2.2	0.00061	mg/L	0.000570	0.00061 mg/L	0.000570	93.90%
Sr 421.552†	-9.8	-0.00001	mg/L	0.000015	-0.00001 mg/L	0.000015	126.42%
Ti 334.903†	-0.3	-0.00002	mg/L	0.000682	-0.00002 mg/L	0.000682	>999.9%
Tl 190.801†	2.8	0.00128	mg/L	0.002378	0.00128 mg/L	0.002378	185.22%
V 292.402†	-17.4	-0.00011	mg/L	0.000265	-0.00011 mg/L	0.000265	247.90%
Zn 206.200†	5.7	0.00167	mg/L	0.000495	0.00167 mg/L	0.000495	29.57%

Sequence No.: 4
 Sample ID: YE74 A TWC

Autosampler Location: 369
 Date Collected: 4/1/2014 3:28:44 PM
 Data Type: Original

Dilution: 10.000000X

DZ

Nebulizer Parameters: YE74 A TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE74 A TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2683491.6	90.62 %	%	0.646			0.71%
ScR 361.383	235693.4	95.91 %	%	0.286			0.30%
Ag 328.068†	-307.5	-0.00141 mg/L	mg/L	0.000202	-0.01410 mg/L	0.002017	14.30%
Al 308.215†	21.4	0.01561 mg/L	mg/L	0.007428	0.1561 mg/L	0.07428	47.60%
As 188.979†	59.8	0.03313 mg/L	mg/L	0.001716	0.3313 mg/L	0.01716	5.18%
B 249.677†	1227687.9	214.5 mg/L	mg/L	0.44	2145 mg/L	4.38	0.20%
Ba 233.527†	-3.3	-0.00100 mg/L	mg/L	0.001443	-0.01003 mg/L	0.014428	143.81%
Be 313.042†	-6.3	-0.00001 mg/L	mg/L	0.000030	-0.00013 mg/L	0.000295	235.32%
Ca 317.933†	159954.7	16.32 mg/L	mg/L	0.078	163.2 mg/L	0.78	0.48%
Cd 228.802†	-12.7	-0.00056 mg/L	mg/L	0.000236	-0.00557 mg/L	0.002359	42.37%
Co 228.616†	8.6	0.00022 mg/L	mg/L	0.000147	0.00217 mg/L	0.001475	68.09%
Cr 267.716†	4.8	0.00081 mg/L	mg/L	0.000485	0.00812 mg/L	0.004852	59.73%
Cu 324.752†	1255.6	0.00422 mg/L	mg/L	0.000043	0.04221 mg/L	0.000428	1.01%
Fe 273.955†	940.7	0.8181 mg/L	mg/L	0.00357	8.181 mg/L	0.0357	0.44%
K 766.490†	1468.2	0.6448 mg/L	mg/L	0.01493	6.448 mg/L	0.1493	2.32%
Mg 279.077†	319.7	0.2822 mg/L	mg/L	0.00593	2.822 mg/L	0.0593	2.10%
Mn 257.610†	9216.7	0.2898 mg/L	mg/L	0.00149	2.898 mg/L	0.0149	0.51%
Mo 202.031†	956.8	0.04903 mg/L	mg/L	0.000547	0.4903 mg/L	0.00547	1.11%
Na 589.592†	16710576.5	1253 mg/L	mg/L	7.68	12530 mg/L	76.76	0.61%
Na 330.237†	27414.7	1277 mg/L	mg/L	10.66	12770 mg/L	106.61	0.83%
Ni 231.604†	24.8	0.00733 mg/L	mg/L	0.000549	0.07327 mg/L	0.005485	7.49%
Pb 220.353†	150.8	0.01756 mg/L	mg/L	0.000298	0.1756 mg/L	0.00298	1.70%
Sb 206.836†	-89.4	-0.02789 mg/L	mg/L	0.003477	-0.2789 mg/L	0.03477	12.47%
Se 196.026†	11.4	0.00820 mg/L	mg/L	0.003337	0.08202 mg/L	0.033370	40.69%
Si 288.158†	76.3	0.04371 mg/L	mg/L	0.005386	0.4371 mg/L	0.05386	12.32%
Sn 189.927†	-15.1	-0.00226 mg/L	mg/L	0.000308	-0.02262 mg/L	0.003076	13.60%
Sr 421.552†	55785.7	0.06717 mg/L	mg/L	0.000517	0.6717 mg/L	0.00517	0.77%
Ti 334.903†	23.3	0.00018 mg/L	mg/L	0.000251	0.00181 mg/L	0.002511	139.13%
Tl 190.801†	25.3	0.01169 mg/L	mg/L	0.002931	0.1169 mg/L	0.02931	25.07%
V 292.402†	3.1	0.00005 mg/L	mg/L	0.000180	0.00048 mg/L	0.001804	378.35%
Zn 206.200†	514.7	0.1508 mg/L	mg/L	0.00146	1.508 mg/L	0.0146	0.97%

Sequence No.: 5
 Sample ID: YE74 MBSPK TWC

Autosampler Location: 370
 Date Collected: 4/1/2014 3:33:22 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE74 MBSPK TWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

 Mean Data: YE74 MBSPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2961362.2	100.0	%	0.54			0.54%
ScR 361.383	252971.7	102.9	%	0.34			0.33%
Ag 328.068†	107364.8	0.5270	mg/L	0.00240	0.5270 mg/L	0.00240	0.45%
Al 308.215†	2642.9	2.018	mg/L	0.0040	2.018 mg/L	0.0040	0.20%
As 188.979†	3639.4	2.109	mg/L	0.0103	2.109 mg/L	0.0103	0.49%
B 249.677†	1723.9	0.3002	mg/L	0.04450	0.3002 mg/L	0.04450	14.82%
Ba 233.527†	8095.0	2.119	mg/L	0.0105	2.119 mg/L	0.0105	0.50%
Be 313.042†	248007.7	0.4900	mg/L	0.00092	0.4900 mg/L	0.00092	0.19%
Ca 317.933†	99721.3	10.18	mg/L	0.023	10.18 mg/L	0.023	0.22%
Cd 228.802†	17365.3	0.5081	mg/L	0.00139	0.5081 mg/L	0.00139	0.27%
Co 228.616†	20328.1	0.5027	mg/L	0.00375	0.5027 mg/L	0.00375	0.75%
Cr 267.716†	2622.1	0.5235	mg/L	0.00307	0.5235 mg/L	0.00307	0.59%
Cu 324.752†	145432.6	0.4921	mg/L	0.00312	0.4921 mg/L	0.00312	0.63%
Fe 273.955†	2398.3	2.082	mg/L	0.0114	2.082 mg/L	0.0114	0.55%
K 766.490†	22835.8	10.03	mg/L	0.055	10.03 mg/L	0.055	0.55%
Mg 279.077†	11863.3	10.56	mg/L	0.041	10.56 mg/L	0.041	0.39%
Mn 257.610†	15227.9	0.4793	mg/L	0.00277	0.4793 mg/L	0.00277	0.58%
Mo 202.031†	29.0	0.00133	mg/L	0.000071	0.00133 mg/L	0.000071	5.31%
Na 589.592†	137143.6	10.29	mg/L	0.021	10.29 mg/L	0.021	0.20%
Na 330.237†	231.1	10.56	mg/L	0.191	10.56 mg/L	0.191	1.81%
Ni 231.604†	1761.7	0.5206	mg/L	0.00316	0.5206 mg/L	0.00316	0.61%
Pb 220.353†	17278.6	2.017	mg/L	0.0078	2.017 mg/L	0.0078	0.39%
Sb 206.836†	11.6	-0.00138	mg/L	0.001038	-0.00138 mg/L	0.001038	75.05%
Se 196.026†	2882.0	2.069	mg/L	0.0160	2.069 mg/L	0.0160	0.77%
Si 288.158†	18.7	0.01430	mg/L	0.002366	0.01430 mg/L	0.002366	16.55%
Sn 189.927†	-19.1	-0.00403	mg/L	0.000256	-0.00403 mg/L	0.000256	6.35%
Sr 421.552†	411758.0	0.4958	mg/L	0.00063	0.4958 mg/L	0.00063	0.13%
Ti 334.903†	17.6	0.00022	mg/L	0.000384	0.00022 mg/L	0.000384	174.96%
Tl 190.801†	4402.4	2.003	mg/L	0.0161	2.003 mg/L	0.0161	0.81%
V 292.402†	78997.2	0.5123	mg/L	0.00262	0.5123 mg/L	0.00262	0.51%
Zn 206.200†	1757.0	0.5150	mg/L	0.00222	0.5150 mg/L	0.00222	0.43%

User canceled analysis.

=====
Analysis Begun

Start Time: 4/1/2014 3:37:29 PM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0401.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 4
Sample ID: YE74 A TWC
Dilution: 10_000000X
Autosampler Location: 369
Date Collected: 4/1/2014 3:37:30 PM
Data Type: Original

SOX *A 41-14*

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Nebulizer Parameters: YE74 A TWC
Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

=====
Mean Data: YE74 A TWC

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2869413.1	96.90	%	0.285				0.29%
ScR 361.383	247200.1	100.6	%	0.70				0.69%
Ag 328.068†	-87.8	-0.00041	mg/L	0.000235	-0.00411	mg/L	0.002351	57.21%
Al 308.215†	5.6	0.00416	mg/L	0.007104	0.04165	mg/L	0.071044	170.59%
As 188.979†	13.9	0.00774	mg/L	0.000991	0.07741	mg/L	0.009912	12.80%
B 249.677†	242835.2	42.44	mg/L	0.158	424.4	mg/L	1.58	0.37%
Ba 233.527†	0.4	0.00007	mg/L	0.000801	0.00071	mg/L	0.008006	>999.9%
Be 313.042†	11.5	0.00002	mg/L	0.000021	0.00023	mg/L	0.000211	92.75%
Ca 317.933†	32384.0	3.305	mg/L	0.0471	33.05	mg/L	0.471	1.43%
Cd 228.802†	5.1	0.00011	mg/L	0.000071	0.00111	mg/L	0.000715	64.27%
Co 228.616†	10.0	0.00025	mg/L	0.000140	0.00246	mg/L	0.001398	56.74%
Cr 267.716†	3.5	0.00068	mg/L	0.000190	0.00676	mg/L	0.001900	28.13%
Cu 324.752†	306.7	0.00103	mg/L	0.000182	0.01032	mg/L	0.001817	17.61%
Fe 273.955†	187.4	0.1629	mg/L	0.00078	1.629	mg/L	0.0078	0.48%
K 766.490†	332.1	0.1458	mg/L	0.01366	1.458	mg/L	0.1366	9.37%
Mg 279.077†	62.3	0.05498	mg/L	0.006388	0.5498	mg/L	0.06388	11.62%
Mn 257.610†	1882.9	0.05921	mg/L	0.000516	0.5921	mg/L	0.00516	0.87%
Mo 202.031†	196.5	0.01007	mg/L	0.000281	0.1007	mg/L	0.00281	2.79%
Na 589.592†	3337584.0	250.3	mg/L	2.33	2503	mg/L	23.27	0.93%
Na 330.237†	5366.9	250.0	mg/L	2.65	2500	mg/L	26.45	1.06%
Ni 231.604†	5.4	0.00160	mg/L	0.000729	0.01605	mg/L	0.007294	45.45%
Pb 220.353†	35.7	0.00416	mg/L	0.000553	0.04161	mg/L	0.005529	13.29%
Sb 206.836†	-18.8	-0.00587	mg/L	0.002149	-0.05867	mg/L	0.021493	36.64%
Se 196.026†	4.3	0.00309	mg/L	0.001093	0.03089	mg/L	0.010927	35.37%
Si 288.158†	19.0	0.01087	mg/L	0.005313	0.1087	mg/L	0.05313	48.87%
Sn 189.927†	-2.2	-0.00023	mg/L	0.000195	-0.00228	mg/L	0.001954	85.78%
Sr 421.552†	11048.6	0.01330	mg/L	0.000207	0.1330	mg/L	0.00207	1.56%
Ti 334.903†	16.5	0.00074	mg/L	0.000126	0.00736	mg/L	0.001259	17.10%
Tl 190.801†	8.5	0.00393	mg/L	0.000721	0.03929	mg/L	0.007208	18.34%
V 292.402†	26.6	0.00018	mg/L	0.000130	0.00179	mg/L	0.001298	72.42%
Zn 206.200†	101.8	0.02983	mg/L	0.000652	0.2983	mg/L	0.00652	2.18%

User canceled analysis.

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Analysis BegunStart Time: 4/1/2014 3:42:36 PM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0401.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 6

Sample ID: CV *CV*

Autosampler Location: 7

Date Collected: 4/1/2014 3:42:37 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2906078.8	98.14 %		0.430			0.44%
ScR 361.383	245226.1	99.79 %		0.403			0.40%
Ag 328.068†	216021.7	1.060 mg/L		0.0056	1.060 mg/L	0.0056	0.53%
Al 308.215†	2709.1	2.044 mg/L		0.0103	2.044 mg/L	0.0103	0.50%
As 188.979†	3615.0	2.127 mg/L		0.0106	2.127 mg/L	0.0106	0.50%
B 249.677†	6592.5	1.151 mg/L		0.0041	1.151 mg/L	0.0041	0.35%
Ba 233.527†	4079.6	1.068 mg/L		0.0072	1.068 mg/L	0.0072	0.67%
Be 313.042†	505759.9	0.9993 mg/L		0.00744	0.9993 mg/L	0.00744	0.74%
Ca 317.933†	21094.8	2.153 mg/L		0.0065	2.153 mg/L	0.0065	0.30%
Cd 228.802†	34841.5	1.031 mg/L		0.0068	1.031 mg/L	0.0068	0.66%
Co 228.616†	41273.0	1.019 mg/L		0.0083	1.019 mg/L	0.0083	0.82%
Cr 267.716†	5341.4	1.068 mg/L		0.0034	1.068 mg/L	0.0034	0.32%
Cu 324.752†	307880.0	1.041 mg/L		0.0075	1.041 mg/L	0.0075	0.72%
Fe 273.955†	2455.1	2.128 mg/L		0.0060	2.128 mg/L	0.0060	0.28%
K 766.490†	45782.4	20.11 mg/L		0.073	20.11 mg/L	0.073	0.36%
Mg 279.077†	2318.9	2.070 mg/L		0.0083	2.070 mg/L	0.0083	0.40%
Mn 257.610†	30853.6	0.9709 mg/L		0.00367	0.9709 mg/L	0.00367	0.38%
Mo 202.031†	18951.5	0.9761 mg/L		0.00529	0.9761 mg/L	0.00529	0.54%
Na 589.592†	687705.3	51.58 mg/L		0.286	51.58 mg/L	0.286	0.55%
Na 330.237†	1109.3	51.62 mg/L		0.140	51.62 mg/L	0.140	0.27%
Ni 231.604†	3627.3	1.074 mg/L		0.0026	1.074 mg/L	0.0026	0.24%
Pb 220.353†	17686.7	2.065 mg/L		0.0113	2.065 mg/L	0.0113	0.55%
Sb 206.836†	6747.7	2.101 mg/L		0.0056	2.101 mg/L	0.0056	0.27%
Se 196.026†	2913.7	2.091 mg/L		0.0048	2.091 mg/L	0.0048	0.23%
Si 288.158†	3460.1	1.985 mg/L		0.0261	1.985 mg/L	0.0261	1.31%
Sn 189.927†	3493.9	0.9795 mg/L		0.00219	0.9795 mg/L	0.00219	0.22%
Sr 421.552†	842880.7	1.015 mg/L		0.0044	1.015 mg/L	0.0044	0.44%
Ti 334.903†	16589.5	0.9809 mg/L		0.00570	0.9809 mg/L	0.00570	0.58%
Tl 190.801†	4573.4	2.078 mg/L		0.0084	2.078 mg/L	0.0084	0.40%
V 292.402†	159961.8	1.037 mg/L		0.0055	1.037 mg/L	0.0055	0.53%
Zn 206.200†	3639.1	1.067 mg/L		0.0023	1.067 mg/L	0.0023	0.21%

Sequence No.: 7

Sample ID: CB 17

Autosampler Location: 1

Date Collected: 4/1/2014 3:46:41 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2933542.8	99.06	%	0.197				0.20%
ScR 361.383	252614.9	102.8	%	0.74				0.72%
Ag 328.068†	44.9	0.00022	mg/L	0.000147	0.00022	mg/L	0.000147	66.75%
Al 308.215†	1.8	0.00138	mg/L	0.005039	0.00138	mg/L	0.005039	365.05%
As 188.979†	3.4	0.00202	mg/L	0.000213	0.00202	mg/L	0.000213	10.55%
B 249.677†	388.2	0.06784	mg/L	0.004306	0.06784	mg/L	0.004306	6.35%
Ba 233.527†	-2.9	-0.00076	mg/L	0.000693	-0.00076	mg/L	0.000693	91.63%
Be 313.042†	-1.5	-0.00000	mg/L	0.000019	-0.00000	mg/L	0.000019	644.02%
Ca 317.933†	9.0	0.00092	mg/L	0.001046	0.00092	mg/L	0.001046	114.05%
Cd 228.802†	-0.6	-0.00003	mg/L	0.000158	-0.00003	mg/L	0.000158	538.72%
Co 228.616†	1.0	0.00002	mg/L	0.000052	0.00002	mg/L	0.000052	224.89%
Cr 267.716†	0.7	0.00015	mg/L	0.000127	0.00015	mg/L	0.000127	86.96%
Cu 324.752†	11.1	0.00004	mg/L	0.000171	0.00004	mg/L	0.000171	460.81%
Fe 273.955†	1.3	0.00112	mg/L	0.001269	0.00112	mg/L	0.001269	113.25%
K 766.490†	10.6	0.00465	mg/L	0.009563	0.00465	mg/L	0.009563	205.67%
Mg 279.077†	-3.6	-0.00322	mg/L	0.008006	-0.00322	mg/L	0.008006	248.46%
Mn 257.610†	-0.6	-0.00002	mg/L	0.000066	-0.00002	mg/L	0.000066	329.19%
Mo 202.031†	17.9	0.00092	mg/L	0.000028	0.00092	mg/L	0.000028	3.01%
Na 589.592†	229.3	0.01720	mg/L	0.000837	0.01720	mg/L	0.000837	4.86%
Na 330.237†	2.3	0.1081	mg/L	0.14066	0.1081	mg/L	0.14066	130.08%
Ni 231.604†	0.7	0.00022	mg/L	0.001618	0.00022	mg/L	0.001618	743.62%
Pb 220.353†	1.1	0.00013	mg/L	0.000470	0.00013	mg/L	0.000470	371.32%
Sb 206.836†	22.1	0.00688	mg/L	0.001003	0.00688	mg/L	0.001003	14.58%
Se 196.026†	-4.7	-0.00337	mg/L	0.003286	-0.00337	mg/L	0.003286	97.40%
Si 288.158†	1.7	0.00095	mg/L	0.003559	0.00095	mg/L	0.003559	373.03%
Sn 189.927†	0.7	0.00021	mg/L	0.000496	0.00021	mg/L	0.000496	234.12%
Sr 421.552†	41.8	0.00005	mg/L	0.000017	0.00005	mg/L	0.000017	33.10%
Ti 334.903†	10.7	0.00064	mg/L	0.000283	0.00064	mg/L	0.000283	44.51%
Tl 190.801†	2.2	0.00102	mg/L	0.000809	0.00102	mg/L	0.000809	79.31%
V 292.402†	-13.2	-0.00008	mg/L	0.000101	-0.00008	mg/L	0.000101	119.48%
Zn 206.200†	3.1	0.00092	mg/L	0.001055	0.00092	mg/L	0.001055	114.83%

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Analysis Begun

Start Time: 4/1/2014 3:53:25 PM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0401.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 371

Sample ID: YE33 MB1 SWC

Date Collected: 4/1/2014 3:53:26 PM

Dilution: 2.000000X

Data Type: Original

Nebulizer Parameters: YE33 MB1 SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE33 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2966232.7	100.2	%	0.23			0.23%
ScR 361.383	255229.1	103.9	%	0.36			0.35%
Ag 328.068†	35.3	0.00017	mg/L	0.000307	0.00035	0.000615	177.27%
Al 308.215†	10.9	0.00836	mg/L	0.002471	0.01673	0.004943	29.55%
As 188.979†	1.3	0.00076	mg/L	0.000967	0.00153	0.001934	126.65%
B 249.677†	214.5	0.03748	mg/L	0.000770	0.07496	0.001540	2.05%
Ba 233.527†	-1.2	-0.00030	mg/L	0.000518	-0.00061	0.001036	170.54%
Be 313.042†	-6.9	-0.00001	mg/L	0.000009	-0.00003	0.000017	64.13%
Ca 317.933†	79.0	0.00806	mg/L	0.000767	0.01612	0.001535	9.52%
Cd 228.802†	-2.5	-0.00008	mg/L	0.000112	-0.00015	0.000224	145.33%
Co 228.616†	7.1	0.00017	mg/L	0.000150	0.00035	0.000299	86.48%
Cr 267.716†	5.6	0.00113	mg/L	0.000392	0.00226	0.000784	34.76%
Cu 324.752†	4.8	0.00002	mg/L	0.000143	0.00003	0.000287	892.19%
Fe 273.955†	4.1	0.00357	mg/L	0.000722	0.00713	0.001445	20.25%
K 766.490†	28.1	0.01235	mg/L	0.021941	0.02470	0.043883	177.68%
Mg 279.077†	3.2	0.00289	mg/L	0.005038	0.00578	0.010075	174.34%
Mn 257.610†	-0.8	-0.00003	mg/L	0.000121	-0.00005	0.000242	460.48%
Mo 202.031†	0.4	0.00002	mg/L	0.000173	0.00004	0.000346	887.89%
Na 589.592†	279.9	0.02100	mg/L	0.000953	0.04199	0.001905	4.54%
Na 330.237†	8.4	0.3908	mg/L	0.08061	0.7816	0.16122	20.63%
Ni 231.604†	4.1	0.00122	mg/L	0.000689	0.00243	0.001379	56.64%
Pb 220.353†	7.9	0.00093	mg/L	0.000360	0.00185	0.000720	38.85%
Sb 206.836†	-0.8	-0.00026	mg/L	0.001505	-0.00052	0.003011	575.82%
Se 196.026†	-2.6	-0.00187	mg/L	0.002818	-0.00375	0.005636	150.36%
Si 288.158†	7.7	0.00439	mg/L	0.003801	0.00879	0.007602	86.52%
Sn 189.927†	0.5	0.00015	mg/L	0.000467	0.00029	0.000933	320.01%
Sr 421.552†	4.1	0.00000	mg/L	0.000034	0.00001	0.000069	699.47%
Ti 334.903†	15.7	0.00093	mg/L	0.000161	0.00186	0.000322	17.30%
Tl 190.801†	-0.3	-0.00013	mg/L	0.001155	-0.00026	0.002310	903.71%
V 292.402†	12.9	0.00009	mg/L	0.000059	0.00018	0.000118	67.67%
Zn 206.200†	3.3	0.00096	mg/L	0.000966	0.00192	0.001931	100.45%

Sequence No.: 2

Sample ID: YE33 E SWC

Autosampler Location: 372

Date Collected: 4/1/2014 3:57:28 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 E SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE33 E SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2944995.1	99.45 %	0.258			0.26%
ScR 361.383	253810.2	103.3 %	0.72			0.70%
Ag 328.068†	-60.4	0.00004 mg/L	0.000170	0.00008 mg/L	0.000340	409.59%
Al 308.215†	187715.0	143.8 mg/L	0.02	287.7 mg/L	0.04	0.02%
As 188.979†	-304.4	0.09691 mg/L	0.004469	0.1938 mg/L	0.00894	4.61%
B 249.677†	421.9	0.07346 mg/L	0.002605	0.1469 mg/L	0.00521	3.55%
Ba 233.527†	3573.3	0.9011 mg/L	0.00597	1.802 mg/L	0.0119	0.66%
Be 313.042†	1038.5	0.00188 mg/L	0.000030	0.00376 mg/L	0.000060	1.59%
Ca 317.933†	399300.9	40.75 mg/L	0.134	81.50 mg/L	0.269	0.33%
Cd 228.802†	-354.1	0.00913 mg/L	0.000213	0.01826 mg/L	0.000427	2.34%
Co 228.616†	5606.9	0.1212 mg/L	0.00057	0.2424 mg/L	0.00114	0.47%
Cr 267.716†	15929.1	3.188 mg/L	0.0260	6.376 mg/L	0.0519	0.81%
Cu 324.752†	1440601.1	4.881 mg/L	0.0120	9.763 mg/L	0.0240	0.25%
Fe 273.955†	237441.2	206.5 mg/L	1.30	412.9 mg/L	2.60	0.63%
K 766.490†	11589.6	5.090 mg/L	0.0433	10.18 mg/L	0.087	0.85%
Mg 279.077†	63476.9	56.36 mg/L	0.439	112.7 mg/L	0.88	0.78%
Mn 257.610†	105297.4	3.311 mg/L	0.0129	6.622 mg/L	0.0258	0.39%
Mo 202.031†	313.9	0.01553 mg/L	0.000268	0.03107 mg/L	0.000535	1.72%
Na 589.592†	20481.1	1.536 mg/L	0.0031	3.072 mg/L	0.0062	0.20%
Na 330.237†	10.4	1.977 mg/L	0.2597	3.954 mg/L	0.5194	13.14%
Ni 231.604†	70231.4	20.79 mg/L	0.159	41.58 mg/L	0.319	0.77%
Pb 220.353†	19316.7	2.282 mg/L	0.0054	4.564 mg/L	0.0107	0.24%
Sb 206.836†	227.1	0.03690 mg/L	0.000723	0.07380 mg/L	0.001447	1.96%
Se 196.026†	30.1	0.02135 mg/L	0.003193	0.04270 mg/L	0.006386	14.95%
Si 288.158†	5277.0	3.029 mg/L	0.0504	6.058 mg/L	0.1009	1.67%
Sn 189.927†	37.6	0.01707 mg/L	0.001127	0.03414 mg/L	0.002254	6.60%
Sr 421.552†	139518.3	0.1680 mg/L	0.00016	0.3360 mg/L	0.00032	0.10%
Ti 334.903†	133178.8	7.882 mg/L	0.0012	15.76 mg/L	0.002	0.02%
Tl 190.801†	-31.1	0.00620 mg/L	0.005632	0.01241 mg/L	0.011264	90.78%
V 292.402†	55051.1	0.3530 mg/L	0.00145	0.7059 mg/L	0.00289	0.41%
Zn 206.200†	4092.2	1.200 mg/L	0.0114	2.401 mg/L	0.0228	0.95%

Sequence No.: 3
 Sample ID: YE33 F SWC

Autosampler Location: 373
 Date Collected: 4/1/2014 4:00:44 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 F SWC

Analyte Back Pressure Flow
 All 220.0 kPa 0.75 L/min

Mean Data: YE33 F SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2948531.6	99.57	%	0.158				0.16%
ScR 361.383	256524.0	104.4	%	0.17				0.16%
Ag 328.068†	-226.8	-0.00077	mg/L	0.000132	-0.00153	mg/L	0.000264	17.27%
Al 308.215†	217457.3	166.6	mg/L	0.69	333.2	mg/L	1.38	0.41%
As 188.979†	-322.7	0.08965	mg/L	0.004018	0.1793	mg/L	0.00804	4.48%
B 249.677†	1516.0	0.2647	mg/L	0.00435	0.5293	mg/L	0.00870	1.64%
Ba 233.527†	2802.4	0.6998	mg/L	0.00530	1.400	mg/L	0.0106	0.76%
Be 313.042†	1123.9	0.00202	mg/L	0.000025	0.00405	mg/L	0.000050	1.23%
Ca 317.933†	378356.2	38.61	mg/L	0.136	77.22	mg/L	0.272	0.35%
Cd 228.802†	-377.7	0.00483	mg/L	0.000164	0.00965	mg/L	0.000328	3.40%
Co 228.616†	5044.0	0.1076	mg/L	0.00054	0.2153	mg/L	0.00108	0.50%
Cr 267.716†	23126.0	4.627	mg/L	0.0337	9.255	mg/L	0.0674	0.73%
Cu 324.752†	527865.4	1.793	mg/L	0.0030	3.586	mg/L	0.0060	0.17%
Fe 273.955†	235870.5	205.1	mg/L	0.75	410.2	mg/L	1.49	0.36%
K 766.490†	14256.6	6.261	mg/L	0.0471	12.52	mg/L	0.094	0.75%
Mg 279.077†	73106.7	64.93	mg/L	0.254	129.9	mg/L	0.51	0.39%
Mn 257.610†	89376.3	2.810	mg/L	0.0086	5.620	mg/L	0.0172	0.31%
Mo 202.031†	100.8	0.00459	mg/L	0.000293	0.00918	mg/L	0.000586	6.39%
Na 589.592†	23805.9	1.786	mg/L	0.0050	3.571	mg/L	0.0099	0.28%
Na 330.237†	6.3	1.980	mg/L	0.2322	3.960	mg/L	0.4644	11.73%
Ni 231.604†	57759.5	17.10	mg/L	0.137	34.19	mg/L	0.273	0.80%
Pb 220.353†	26902.2	3.179	mg/L	0.0118	6.358	mg/L	0.0236	0.37%
Sb 206.836†	260.6	0.02896	mg/L	0.002013	0.05793	mg/L	0.004025	6.95%
Se 196.026†	35.9	0.02543	mg/L	0.007652	0.05085	mg/L	0.015305	30.10%
Si 288.158†	5674.7	3.258	mg/L	0.0068	6.517	mg/L	0.0137	0.21%
Sn 189.927†	-6.0	0.00467	mg/L	0.001392	0.00934	mg/L	0.002783	29.80%
Sr 421.552†	184721.7	0.2224	mg/L	0.00048	0.4449	mg/L	0.00096	0.22%
Ti 334.903†	135678.2	8.030	mg/L	0.0253	16.06	mg/L	0.051	0.32%
Tl 190.801†	-30.9	0.00532	mg/L	0.001671	0.01065	mg/L	0.003343	31.40%
V 292.402†	68453.2	0.4454	mg/L	0.00035	0.8907	mg/L	0.00069	0.08%
Zn 206.200†	2421.9	0.7115	mg/L	0.00468	1.423	mg/L	0.0094	0.66%

Sequence No.: 4
 Sample ID: YE33 G SWC
 Dilution: 2.000000X

Autosampler Location: 374
 Date Collected: 4/1/2014 4:04:00 PM
 Data Type: Original

Nebulizer Parameters: YE33 G SWC

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YE33 G SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2941254.9	99.33	%	0.337			0.34%
ScR 361.383	253980.5	103.4	%	0.26			0.25%
Ag 328.068†	-239.5	-0.00086	mg/L	0.000099	-0.00172 mg/L	0.000197	11.43%
Al 308.215†	172488.7	132.2	mg/L	0.20	264.3 mg/L	0.41	0.15%
As 188.979†	-333.5	0.08010	mg/L	0.002409	0.1602 mg/L	0.00482	3.01%
B 249.677†	615.5	0.1074	mg/L	0.00080	0.2148 mg/L	0.00160	0.75%
Ba 233.527†	2200.1	0.5514	mg/L	0.00351	1.103 mg/L	0.0070	0.64%
Be 313.042†	771.2	0.00134	mg/L	0.000023	0.00269 mg/L	0.000046	1.72%
Ca 317.933†	349503.4	35.67	mg/L	0.293	71.33 mg/L	0.586	0.82%
Cd 228.802†	68.9	0.00322	mg/L	0.000055	0.00644 mg/L	0.000110	1.72%
Co 228.616†	3084.4	0.06178	mg/L	0.000315	0.1236 mg/L	0.00063	0.51%
Cr 267.716†	26963.9	5.395	mg/L	0.0242	10.79 mg/L	0.048	0.45%
Cu 324.752†	230922.5	0.7865	mg/L	0.00491	1.573 mg/L	0.0098	0.62%
Fe 273.955†	181314.4	157.7	mg/L	1.32	315.3 mg/L	2.65	0.84%
K 766.490†	11075.3	4.864	mg/L	0.0163	9.728 mg/L	0.0325	0.33%
Mg 279.077†	62616.1	55.63	mg/L	0.221	111.3 mg/L	0.44	0.40%
Mn 257.610†	66599.4	2.093	mg/L	0.0136	4.187 mg/L	0.0273	0.65%
Mo 202.031†	72.9	0.00320	mg/L	0.000524	0.00640 mg/L	0.001049	16.38%
Na 589.592†	18664.1	1.400	mg/L	0.0007	2.800 mg/L	0.0014	0.05%
Na 330.237†	-2.3	1.694	mg/L	0.0524	3.388 mg/L	0.1049	3.10%
Ni 231.604†	5333.8	1.579	mg/L	0.0061	3.158 mg/L	0.0121	0.38%
Pb 220.353†	143.7	0.05172	mg/L	0.000282	0.1034 mg/L	0.00056	0.54%
Sb 206.836†	239.2	0.01192	mg/L	0.002821	0.02384 mg/L	0.005642	23.66%
Se 196.026†	22.4	0.01584	mg/L	0.003337	0.03168 mg/L	0.006675	21.07%
Si 288.158†	7152.1	4.103	mg/L	0.0121	8.207 mg/L	0.0242	0.29%
Sn 189.927†	-61.6	-0.01139	mg/L	0.002529	-0.02277 mg/L	0.005058	22.21%
Sr 421.552†	146693.5	0.1766	mg/L	0.00028	0.3533 mg/L	0.00057	0.16%
Ti 334.903†	134552.2	7.963	mg/L	0.0232	15.93 mg/L	0.046	0.29%
Tl 190.801†	-16.7	0.00654	mg/L	0.001519	0.01309 mg/L	0.003038	23.21%
V 292.402†	58218.3	0.3850	mg/L	0.00265	0.7701 mg/L	0.00530	0.69%
Zn 206.200†	1068.2	0.3151	mg/L	0.00218	0.6303 mg/L	0.00436	0.69%

Sequence No.: 5
 Sample ID: YE33 H SWC

Autosampler Location: 375
 Date Collected: 4/1/2014 4:08:03 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 H SWC

Analyte Back Pressure Flow
 All 219.0 kPa 0.75 L/min

Mean Data: YE33 H SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2943146.8	99.39	%	0.348			0.35%
ScR 361.383	256715.7	104.5	%	0.42			0.40%
Ag 328.068†	-220.6	-0.00081	mg/L	0.000253	-0.00162 mg/L	0.000506	31.27%
Al 308.215†	197277.6	151.2	mg/L	0.21	302.3 mg/L	0.42	0.14%
As 188.979†	-364.1	0.08156	mg/L	0.003256	0.1631 mg/L	0.00651	3.99%
B 249.677†	467.2	0.08149	mg/L	0.000386	0.1630 mg/L	0.00077	0.47%
Ba 233.527†	2356.0	0.5917	mg/L	0.00431	1.183 mg/L	0.0086	0.73%
Be 313.042†	966.8	0.00173	mg/L	0.000020	0.00345 mg/L	0.000039	1.13%
Ca 317.933†	286859.8	29.27	mg/L	0.061	58.55 mg/L	0.121	0.21%
Cd 228.802†	63.8	0.00286	mg/L	0.000121	0.00573 mg/L	0.000241	4.21%
Co 228.616†	3017.5	0.05951	mg/L	0.000235	0.1190 mg/L	0.00047	0.39%
Cr 267.716†	7396.5	1.480	mg/L	0.0078	2.960 mg/L	0.0156	0.53%
Cu 324.752†	221176.6	0.7537	mg/L	0.00320	1.507 mg/L	0.0064	0.42%
Fe 273.955†	185566.9	161.4	mg/L	0.49	322.7 mg/L	0.98	0.30%
K 766.490†	13136.5	5.770	mg/L	0.0314	11.54 mg/L	0.063	0.54%
Mg 279.077†	55719.6	49.48	mg/L	0.072	98.96 mg/L	0.144	0.15%
Mn 257.610†	59974.4	1.885	mg/L	0.0038	3.770 mg/L	0.0076	0.20%
Mo 202.031†	56.6	0.00246	mg/L	0.000342	0.00493 mg/L	0.000684	13.88%
Na 589.592†	16902.8	1.268	mg/L	0.0078	2.536 mg/L	0.0156	0.61%
Na 330.237†	-9.1	1.518	mg/L	0.1750	3.035 mg/L	0.3500	11.53%
Ni 231.604†	4447.5	1.316	mg/L	0.0121	2.633 mg/L	0.0243	0.92%
Pb 220.353†	-134.9	0.01635	mg/L	0.000331	0.03270 mg/L	0.000663	2.03%
Sb 206.836†	75.6	0.01210	mg/L	0.002807	0.02419 mg/L	0.005615	23.21%
Se 196.026†	30.7	0.02179	mg/L	0.003668	0.04358 mg/L	0.007336	16.83%
Si 288.158†	8001.4	4.586	mg/L	0.0303	9.173 mg/L	0.0607	0.66%
Sn 189.927†	-55.9	-0.01053	mg/L	0.001445	-0.02106 mg/L	0.002890	13.72%
Sr 421.552†	108274.2	0.1304	mg/L	0.00024	0.2608 mg/L	0.00049	0.19%
Ti 334.903†	140645.5	8.325	mg/L	0.0182	16.65 mg/L	0.036	0.22%
Tl 190.801†	-30.1	0.00247	mg/L	0.002894	0.00494 mg/L	0.005787	117.15%
V 292.402†	57823.5	0.3659	mg/L	0.00138	0.7318 mg/L	0.00275	0.38%
Zn 206.200†	1037.2	0.3051	mg/L	0.00300	0.6102 mg/L	0.00600	0.98%

Sequence No.: 6
 Sample ID: YE33 I SWC

Autosampler Location: 376
 Date Collected: 4/1/2014 4:12:03 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE33 I SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

 Mean Data: YE33 I SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2933306.9	99.06 %	0.397			0.40%
ScR 361.383	255727.1	104.1 %	1.45			1.39%
Ag 328.068†	26.2	0.00049 mg/L	0.000242	0.00097 mg/L	0.000484	49.69%
Al 308.215†	205249.6	157.3 mg/L	0.90	314.5 mg/L	1.79	0.57%
As 188.979†	-316.2	0.1043 mg/L	0.00198	0.2086 mg/L	0.00397	1.90%
B 249.677†	577.6	0.1007 mg/L	0.00349	0.2013 mg/L	0.00699	3.47%
Ba 233.527†	3143.0	0.7856 mg/L	0.01730	1.571 mg/L	0.0346	2.20%
Be 313.042†	1170.0	0.00212 mg/L	0.000032	0.00424 mg/L	0.000064	1.51%
Ca 317.933†	413873.5	42.24 mg/L	0.116	84.47 mg/L	0.231	0.27%
Cd 228.802†	-239.9	0.01198 mg/L	0.000055	0.02396 mg/L	0.000111	0.46%
Co 228.616†	5691.0	0.1225 mg/L	0.00085	0.2451 mg/L	0.00171	0.70%
Cr 267.716†	23815.3	4.767 mg/L	0.0320	9.534 mg/L	0.0639	0.67%
Cu 324.752†	1363612.0	4.622 mg/L	0.0103	9.243 mg/L	0.0206	0.22%
Fe 273.955†	258367.6	224.7 mg/L	1.86	449.3 mg/L	3.72	0.83%
K 766.490†	13180.9	5.789 mg/L	0.0310	11.58 mg/L	0.062	0.54%
Mg 279.077†	60891.2	54.05 mg/L	0.388	108.1 mg/L	0.78	0.72%
Mn 257.610†	91197.3	2.867 mg/L	0.0163	5.735 mg/L	0.0326	0.57%
Mo 202.031†	250.4	0.01224 mg/L	0.000349	0.02448 mg/L	0.000699	2.85%
Na 589.592†	22441.6	1.683 mg/L	0.0093	3.366 mg/L	0.0186	0.55%
Na 330.237†	20.0	2.084 mg/L	0.7284	4.167 mg/L	1.4567	34.96%
Ni 231.604†	68747.1	20.35 mg/L	0.057	40.70 mg/L	0.114	0.28%
Pb 220.353†	24455.5	2.887 mg/L	0.0185	5.774 mg/L	0.0369	0.64%
Sb 206.836†	311.1	0.04326 mg/L	0.001995	0.08652 mg/L	0.003989	4.61%
Se 196.026†	34.7	0.02458 mg/L	0.003281	0.04916 mg/L	0.006563	13.35%
Si 288.158†	2615.5	1.506 mg/L	0.0243	3.013 mg/L	0.0486	1.61%
Sn 189.927†	100.7	0.03502 mg/L	0.000735	0.07004 mg/L	0.001470	2.10%
Sr 421.552†	127013.4	0.1529 mg/L	0.00076	0.3059 mg/L	0.00151	0.50%
Ti 334.903†	141056.9	8.348 mg/L	0.0413	16.70 mg/L	0.083	0.49%
Tl 190.801†	-41.7	0.00265 mg/L	0.002169	0.00531 mg/L	0.004338	81.73%
V 292.402†	62183.5	0.4042 mg/L	0.00115	0.8083 mg/L	0.00231	0.29%
Zn 206.200†	9498.0	2.784 mg/L	0.0179	5.568 mg/L	0.0358	0.64%

Sequence No.: 7

Autosampler Location: 377

Sample ID: YE33 ADUP SWC

Date Collected: 4/1/2014 4:15:20 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 ADUP SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE33 ADUP SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2958009.0	99.89	%	0.574			0.57%
ScR 361.383	257280.5	104.7	%	0.53			0.51%
Ag 328.068†	1078.0	0.00562	mg/L	0.000011	0.01123 mg/L	0.000023	0.20%
Al 308.215†	199353.4	152.8	mg/L	0.73	305.5 mg/L	1.46	0.48%
As 188.979†	-242.7	0.1251	mg/L	0.00179	0.2503 mg/L	0.00357	1.43%
B 249.677†	441.0	0.07671	mg/L	0.001778	0.1534 mg/L	0.00356	2.32%
Ba 235.527†	61255.9	16.00	mg/L	0.180	32.00 mg/L	0.359	1.12%
Be 313.042†	1107.2	0.00201	mg/L	0.000043	0.00402 mg/L	0.000086	2.14%
Ca 317.933†	385501.3	39.34	mg/L	0.165	78.68 mg/L	0.329	0.42%
Cd 228.802†	-533.3	0.00990	mg/L	0.000363	0.01980 mg/L	0.000726	3.67%
Co 228.616†	6940.8	0.1509	mg/L	0.00103	0.3017 mg/L	0.00206	0.68%
Cr 267.716†	100610.7	20.13	mg/L	0.082	40.26 mg/L	0.163	0.41%
Cu 324.752†	1872544.8	6.344	mg/L	0.0076	12.69 mg/L	0.015	0.12%
Fe 273.955†	262689.0	228.5	mg/L	0.59	456.9 mg/L	1.19	0.26%
K 766.490†	17113.5	7.516	mg/L	0.0774	15.03 mg/L	0.155	1.03%
Mg 279.077†	57940.2	51.44	mg/L	0.527	102.9 mg/L	1.05	1.03%
Mn 257.610†	99338.5	3.137	mg/L	0.0050	6.275 mg/L	0.0100	0.16%
Mo 202.031†	242.3	0.01187	mg/L	0.000222	0.02374 mg/L	0.000444	1.87%
Na 589.592†	23105.8	1.733	mg/L	0.0077	3.466 mg/L	0.0153	0.44%
Na 330.237†	5.4	1.778	mg/L	0.1649	3.557 mg/L	0.3297	9.27%
Ni 231.604†	92349.4	27.34	mg/L	0.194	54.67 mg/L	0.387	0.71%
Pb 220.353†	583399.9	68.13	mg/L	0.108	136.3 mg/L	0.22	0.16%
Sb 206.836†	1548.5	0.2290	mg/L	0.00119	0.4579 mg/L	0.00239	0.52%
Se 196.026†	24.8	0.01752	mg/L	0.004411	0.03504 mg/L	0.008821	25.17%
Si 288.158†	3492.7	2.017	mg/L	0.0142	4.034 mg/L	0.0283	0.70%
Sn 189.927†	107.9	0.03923	mg/L	0.000405	0.07846 mg/L	0.000810	1.03%
Sr 421.552†	284706.2	0.3428	mg/L	0.00100	0.6857 mg/L	0.00200	0.29%
Ti 334.903†	141321.3	8.361	mg/L	0.0267	16.72 mg/L	0.053	0.32%
Tl 190.801†	-22.9	0.00533	mg/L	0.000995	0.01065 mg/L	0.001989	18.68%
V 292.402†	53167.1	0.4091	mg/L	0.00046	0.8183 mg/L	0.00091	0.11%
Zn 206.200†	5350.1	1.578	mg/L	0.0197	3.156 mg/L	0.0394	1.25%

Sequence No.: 8
 Sample ID: YE33 A SWC

Autosampler Location: 378
 Date Collected: 4/1/2014 4:18:36 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 A SWC

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YE33 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2940521.1	99.30 %		0.454			0.46%
ScR 361.383	255566.1	104.0 %		0.73			0.71%
Ag 328.068†	424.7	0.00245 mg/L		0.000265	0.00489 mg/L	0.000530	10.84%
Al 308.215†	205266.4	157.3 mg/L		0.61	314.6 mg/L	1.22	0.39%
As 188.979†	-325.6	0.1176 mg/L		0.00219	0.2352 mg/L	0.00438	1.86%
B 249.677†	534.4	0.09300 mg/L		0.001085	0.1860 mg/L	0.00217	1.17%
Ba 233.527†	36047.7	9.398 mg/L		0.0132	18.80 mg/L	0.026	0.14%
Be 313.042†	1082.5	0.00194 mg/L		0.000022	0.00389 mg/L	0.000045	1.15%
Ca 317.933†	423877.5	43.26 mg/L		0.081	86.51 mg/L	0.162	0.19%
Cd 228.802†	-565.8	0.01117 mg/L		0.000304	0.02234 mg/L	0.000609	2.72%
Co 228.616†	7539.0	0.1646 mg/L		0.00131	0.3291 mg/L	0.00262	0.80%
Cr 267.716†	56213.2	11.25 mg/L		0.078	22.50 mg/L	0.156	0.69%
Cu 324.752†	1859731.8	6.300 mg/L		0.0102	12.60 mg/L	0.020	0.16%
Fe 273.955†	270317.0	235.1 mg/L		0.80	470.1 mg/L	1.59	0.34%
K 766.490†	13998.4	6.148 mg/L		0.0545	12.30 mg/L	0.109	0.89%
Mg 279.077†	65646.3	58.28 mg/L		0.384	116.6 mg/L	0.77	0.66%
Mn 257.610†	103793.2	3.270 mg/L		0.0092	6.539 mg/L	0.0184	0.28%
Mo 202.031†	255.3	0.01248 mg/L		0.000423	0.02496 mg/L	0.000846	3.39%
Na 589.592†	26674.5	2.001 mg/L		0.0037	4.001 mg/L	0.0075	0.19%
Na 330.237†	0.8	1.684 mg/L		0.2324	3.368 mg/L	0.4648	13.80%
Ni 231.604†	99355.5	29.41 mg/L		0.040	58.82 mg/L	0.079	0.13%
Pb 220.353†	265197.6	30.99 mg/L		0.067	61.97 mg/L	0.134	0.22%
Sb 206.836†	825.4	0.1198 mg/L		0.00393	0.2396 mg/L	0.00787	3.29%
Se 196.026†	30.8	0.02177 mg/L		0.001786	0.04355 mg/L	0.003571	8.20%
Si 288.158†	2936.7	1.694 mg/L		0.0234	3.389 mg/L	0.0468	1.38%
Sn 189.927†	68.4	0.02735 mg/L		0.002039	0.05469 mg/L	0.004078	7.46%
Sr 421.552†	224472.9	0.2703 mg/L		0.00057	0.5406 mg/L	0.00114	0.21%
Ti 334.903†	154477.4	9.141 mg/L		0.0193	18.28 mg/L	0.039	0.21%
Tl 190.801†	-32.5	0.00513 mg/L		0.004451	0.01026 mg/L	0.008903	86.80%
V 292.402†	60221.5	0.4173 mg/L		0.00140	0.8345 mg/L	0.00280	0.34%
Zn 206.200†	6082.8	1.787 mg/L		0.0184	3.575 mg/L	0.0368	1.03%

YE33:00221

Sequence No.: 9

Autosampler Location: 379

Sample ID: YE33 ASPK SWC

Date Collected: 4/1/2014 4:21:52 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 ASPK SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE33 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932036.9	99.01	%	0.278			0.28%
ScR 361.383	253985.8	103.4	%	0.69			0.66%
Ag 328.068†	106806.6	0.5246	mg/L	0.00108	1.049 mg/L	0.0022	0.21%
Al 308.215†	202802.8	155.4	mg/L	0.03	310.8 mg/L	0.07	0.02%
As 188.979†	3235.4	2.152	mg/L	0.0122	4.305 mg/L	0.0244	0.57%
B 249.677†	421.7	0.07230	mg/L	0.002532	0.1446 mg/L	0.00506	3.50%
Ba 233.527†	41716.6	10.88	mg/L	0.067	21.77 mg/L	0.134	0.62%
Be 313.042†	246997.7	0.4879	mg/L	0.00097	0.9757 mg/L	0.00194	0.20%
Ca 317.933†	528142.7	53.90	mg/L	0.112	107.8 mg/L	0.22	0.21%
Cd 228.802†	17404.4	0.5337	mg/L	0.00129	1.067 mg/L	0.0026	0.24%
Co 228.616†	26802.2	0.6431	mg/L	0.00281	1.286 mg/L	0.0056	0.44%
Cr 267.716†	56477.9	11.30	mg/L	0.082	22.60 mg/L	0.165	0.73%
Cu 324.752†	1821437.3	6.171	mg/L	0.0387	12.34 mg/L	0.077	0.63%
Fe 273.955†	260064.1	226.2	mg/L	0.86	452.3 mg/L	1.71	0.38%
K 766.490†	38722.1	17.01	mg/L	0.022	34.01 mg/L	0.043	0.13%
Mg 279.077†	73165.9	64.98	mg/L	0.038	130.0 mg/L	0.08	0.06%
Mn 257.610†	115395.9	3.635	mg/L	0.0106	7.269 mg/L	0.0211	0.29%
Mo 202.031†	258.9	0.01250	mg/L	0.000196	0.02500 mg/L	0.000393	1.57%
Na 589.592†	159401.7	11.96	mg/L	0.004	23.91 mg/L	0.008	0.03%
Na 330.237†	230.3	12.03	mg/L	0.421	24.07 mg/L	0.842	3.50%
Ni 231.604†	87462.6	25.89	mg/L	0.077	51.78 mg/L	0.154	0.30%
Pb 220.353†	270188.5	31.57	mg/L	0.099	63.14 mg/L	0.198	0.31%
Sb 206.836†	869.3	0.1339	mg/L	0.00312	0.2678 mg/L	0.00623	2.33%
Se 196.026†	2859.6	2.053	mg/L	0.0100	4.106 mg/L	0.0199	0.49%
Si 288.158†	4577.4	2.636	mg/L	0.0308	5.273 mg/L	0.0617	1.17%
Sn 189.927†	62.5	0.02687	mg/L	0.001042	0.05374 mg/L	0.002084	3.88%
Sr 421.552†	643798.4	0.7752	mg/L	0.00076	1.550 mg/L	0.0015	0.10%
Ti 334.903†	140567.4	8.317	mg/L	0.0077	16.63 mg/L	0.015	0.09%
Tl 190.801†	4186.4	1.924	mg/L	0.0046	3.848 mg/L	0.0092	0.24%
V 292.402†	137431.2	0.9171	mg/L	0.00207	1.834 mg/L	0.0041	0.23%
Zn 206.200†	6757.6	1.985	mg/L	0.0222	3.971 mg/L	0.0444	1.12%

Sequence No.: 10

Autosampler Location: 380

Sample ID: ~~YE33 APOST SWC~~ 222222

Date Collected: 4/1/2014 4:25:09 PM

Dilution: 2.000000X

7A 4/2/14

Data Type: Original

Nebulizer Parameters: YE33 APOST SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YE33 APOST SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2930173.5	98.95 %		0.589			0.60%
ScR 361.383	252710.1	102.8 %		0.32			0.31%
Ag 328.068†	101559.7	0.4988 mg/L		0.00187	0.9977 mg/L	0.00374	0.38%
Al 308.215†	206238.1	158.0 mg/L		0.44	316.0 mg/L	0.88	0.28%
As 188.979†	3313.0	2.223 mg/L		0.0061	4.445 mg/L	0.0122	0.28%
B 249.677†	516.1	0.08877 mg/L		0.004260	0.1775 mg/L	0.00852	4.80%
Ba 233.527†	44331.9	11.57 mg/L		0.030	23.14 mg/L	0.061	0.26%
Be 313.042†	235930.9	0.4660 mg/L		0.00067	0.9319 mg/L	0.00135	0.14%
Ca 317.933†	520493.0	53.12 mg/L		0.191	106.2 mg/L	0.38	0.36%
Cd 228.802†	17390.4	0.5367 mg/L		0.00319	1.073 mg/L	0.0064	0.59%
Co 228.616†	27530.0	0.6591 mg/L		0.00364	1.318 mg/L	0.0073	0.55%
Cr 267.716†	58595.9	11.72 mg/L		0.066	23.45 mg/L	0.132	0.56%
Cu 324.752†	2003112.0	6.785 mg/L		0.0079	13.57 mg/L	0.016	0.12%
Fe 273.955†	268156.1	233.2 mg/L		1.21	466.4 mg/L	2.41	0.52%
K 766.490†	37255.2	16.36 mg/L		0.013	32.72 mg/L	0.025	0.08%
Mg 279.077†	74134.2	65.83 mg/L		0.258	131.7 mg/L	0.52	0.39%
Mn 257.610†	117367.9	3.697 mg/L		0.0172	7.394 mg/L	0.0344	0.47%
Mo 202.031†	263.6	0.01276 mg/L		0.000332	0.02551 mg/L	0.000663	2.60%
Na 589.592†	166680.7	12.50 mg/L		0.052	25.00 mg/L	0.103	0.41%
Na 330.237†	240.2	12.60 mg/L		0.336	25.21 mg/L	0.672	2.67%
Ni 231.604†	99965.8	29.59 mg/L		0.201	59.18 mg/L	0.402	0.68%
Pb 220.353†	277724.8	32.45 mg/L		0.198	64.90 mg/L	0.397	0.61%
Sb 206.836†	830.5	0.1169 mg/L		0.00196	0.2338 mg/L	0.00391	1.67%
Se 196.026†	2959.6	2.125 mg/L		0.0186	4.249 mg/L	0.0373	0.88%
Si 288.158†	2691.6	1.557 mg/L		0.0186	3.115 mg/L	0.0372	1.19%
Sn 189.927†	57.3	0.02547 mg/L		0.000765	0.05094 mg/L	0.001530	3.00%
Sr 421.552†	643019.4	0.7743 mg/L		0.00199	1.549 mg/L	0.0040	0.26%
Ti 334.903†	152813.3	9.042 mg/L		0.0191	18.08 mg/L	0.038	0.21%
Tl 190.801†	4188.1	1.925 mg/L		0.0089	3.850 mg/L	0.0177	0.46%
V 292.402†	137859.6	0.9208 mg/L		0.00515	1.842 mg/L	0.0103	0.56%
Zn 206.200†	7777.8	2.284 mg/L		0.0094	4.568 mg/L	0.0189	0.41%

Sequence No.: 11
 Sample ID: CV 13

Autosampler Location: 7
 Date Collected: 4/1/2014 4:28:26 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

 Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2957300.7	99.87	%	0.460			0.46%
ScR 361.383	250206.5	101.8	%	0.72			0.71%
Ag 328.068†	213098.6	1.046	mg/L	0.0037	1.046 mg/L	0.0037	0.35%
Al 308.215†	2676.0	2.019	mg/L	0.0235	2.019 mg/L	0.0235	1.16%
As 188.979†	3568.7	2.100	mg/L	0.0051	2.100 mg/L	0.0051	0.24%
B 249.677†	5864.4	1.024	mg/L	0.0126	1.024 mg/L	0.0126	1.23%
Ba 233.527†	4036.2	1.056	mg/L	0.0108	1.056 mg/L	0.0108	1.02%
Be 313.042†	498578.6	0.9851	mg/L	0.00911	0.9851 mg/L	0.00911	0.93%
Ca 317.933†	20690.5	2.111	mg/L	0.0222	2.111 mg/L	0.0222	1.05%
Cd 228.802†	34219.4	1.012	mg/L	0.0082	1.012 mg/L	0.0082	0.81%
Co 228.616†	40517.7	1.001	mg/L	0.0059	1.001 mg/L	0.0059	0.59%
Cr 267.716†	5263.2	1.053	mg/L	0.0103	1.053 mg/L	0.0103	0.98%
Cu 324.752†	303009.7	1.025	mg/L	0.0075	1.025 mg/L	0.0075	0.73%
Fe 273.955†	2410.2	2.089	mg/L	0.0170	2.089 mg/L	0.0170	0.82%
K 766.490†	45181.3	19.84	mg/L	0.150	19.84 mg/L	0.150	0.76%
Mg 279.077†	2275.6	2.031	mg/L	0.0221	2.031 mg/L	0.0221	1.09%
Mn 257.610†	30274.3	0.9526	mg/L	0.00273	0.9526 mg/L	0.00273	0.29%
Mo 202.031†	18676.9	0.9619	mg/L	0.00318	0.9619 mg/L	0.00318	0.33%
Na 589.592†	679372.1	50.95	mg/L	0.221	50.95 mg/L	0.221	0.43%
Na 330.237†	1096.2	51.01	mg/L	0.376	51.01 mg/L	0.376	0.74%
Ni 231.604†	3574.5	1.058	mg/L	0.0100	1.058 mg/L	0.0100	0.94%
Pb 220.353†	17476.6	2.040	mg/L	0.0057	2.040 mg/L	0.0057	0.28%
Sb 206.836†	6647.1	2.070	mg/L	0.0026	2.070 mg/L	0.0026	0.13%
Se 196.026†	2872.5	2.062	mg/L	0.0048	2.062 mg/L	0.0048	0.23%
Si 288.158†	3411.2	1.957	mg/L	0.0388	1.957 mg/L	0.0388	1.98%
Sn 189.927†	3443.6	0.9654	mg/L	0.00409	0.9654 mg/L	0.00409	0.42%
Sr 421.552†	832972.0	1.003	mg/L	0.0031	1.003 mg/L	0.0031	0.31%
Ti 334.903†	16480.1	0.9745	mg/L	0.00136	0.9745 mg/L	0.00136	0.14%
Tl 190.801†	4508.5	2.048	mg/L	0.0045	2.048 mg/L	0.0045	0.22%
V 292.402†	157236.0	1.020	mg/L	0.0060	1.020 mg/L	0.0060	0.59%
Zn 206.200†	3572.0	1.047	mg/L	0.0113	1.047 mg/L	0.0113	1.08%

Sequence No.: 12
Sample ID: CB 13

Autosampler Location: 1
Date Collected: 4/1/2014 4:32:30 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2978473.0	100.6	%	0.50			0.50%
ScR 361.383	252950.3	102.9	%	0.35			0.34%
Ag 328.068†	14.0	0.00007	mg/L	0.000045	0.00007 mg/L	0.000045	65.68%
Al 308.215†	9.1	0.00697	mg/L	0.005584	0.00697 mg/L	0.005584	80.06%
As 188.979†	0.8	0.00050	mg/L	0.001706	0.00050 mg/L	0.001706	344.40%
B 249.677†	74.5	0.01302	mg/L	0.000210	0.01302 mg/L	0.000210	1.61%
Ba 233.527†	-2.6	-0.00068	mg/L	0.000291	-0.00068 mg/L	0.000291	42.59%
Be 313.042†	11.0	0.00002	mg/L	0.000028	0.00002 mg/L	0.000028	128.72%
Ca 317.933†	6.1	0.00062	mg/L	0.001062	0.00062 mg/L	0.001062	170.47%
Cd 228.802†	-0.5	-0.00002	mg/L	0.000112	-0.00002 mg/L	0.000112	632.50%
Co 228.616†	-1.1	-0.00003	mg/L	0.000189	-0.00003 mg/L	0.000189	669.11%
Cr 267.716†	3.7	0.00074	mg/L	0.001008	0.00074 mg/L	0.001008	135.90%
Cu 324.752†	57.3	0.00019	mg/L	0.000177	0.00019 mg/L	0.000177	91.57%
Fe 273.955†	-0.7	-0.00058	mg/L	0.002669	-0.00058 mg/L	0.002669	463.86%
K 766.490†	10.2	0.00447	mg/L	0.016801	0.00447 mg/L	0.016801	375.60%
Mg 279.077†	-7.6	-0.00674	mg/L	0.003318	-0.00674 mg/L	0.003318	49.23%
Mn 257.610†	3.2	0.00010	mg/L	0.000070	0.00010 mg/L	0.000070	69.11%
Mo 202.031†	13.8	0.00071	mg/L	0.000032	0.00071 mg/L	0.000032	4.47%
Na 589.592†	73.3	0.00550	mg/L	0.003299	0.00550 mg/L	0.003299	60.02%
Na 330.237†	2.7	0.1276	mg/L	0.08376	0.1276 mg/L	0.08376	65.63%
Ni 231.604†	1.1	0.00034	mg/L	0.001649	0.00034 mg/L	0.001649	482.02%
Pb 220.353†	17.3	0.00202	mg/L	0.000275	0.00202 mg/L	0.000275	13.62%
Sb 206.836†	18.9	0.00588	mg/L	0.002493	0.00588 mg/L	0.002493	42.41%
Se 196.026†	1.2	0.00086	mg/L	0.003912	0.00086 mg/L	0.003912	454.64%
Si 288.158†	2.1	0.00119	mg/L	0.001354	0.00119 mg/L	0.001354	113.87%
Sn 189.927†	3.0	0.00085	mg/L	0.000586	0.00085 mg/L	0.000586	68.60%
Sr 421.552†	-6.0	-0.00001	mg/L	0.000015	-0.00001 mg/L	0.000015	204.69%
Ti 334.903†	19.0	0.00113	mg/L	0.000118	0.00113 mg/L	0.000118	10.44%
Tl 190.801†	2.0	0.00092	mg/L	0.001259	0.00092 mg/L	0.001259	136.53%
V 292.402†	-23.4	-0.00015	mg/L	0.000052	-0.00015 mg/L	0.000052	35.12%
Zn 206.200†	-0.3	-0.00008	mg/L	0.000455	-0.00008 mg/L	0.000455	565.84%

Sequence No.: 13
Sample ID: YE33 J SWC

Autosampler Location: 381
Date Collected: 4/1/2014 4:36:30 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 J SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YE33 J SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2924072.1	98.75	%	0.109				0.11%
ScR 361.383	256426.0	104.3	%	0.40				0.38%
Ag 328.068†	-258.3	-0.00088	mg/L	0.000299	-0.00175	mg/L	0.000598	34.13%
Al 308.215†	191074.6	146.4	mg/L	0.32	292.8	mg/L	0.64	0.22%
As 188.979†	-302.8	0.09299	mg/L	0.003546	0.1860	mg/L	0.00709	3.81%
B 249.677†	192.3	0.03341	mg/L	0.001064	0.06682	mg/L	0.002128	3.18%
Ba 233.527†	2566.9	0.6439	mg/L	0.00281	1.288	mg/L	0.0056	0.44%
Be 313.042†	1101.0	0.00198	mg/L	0.000028	0.00396	mg/L	0.000057	1.43%
Ca 317.933†	448084.1	45.73	mg/L	0.097	91.45	mg/L	0.193	0.21%
Cd 228.802†	124.6	0.00560	mg/L	0.000079	0.01121	mg/L	0.000159	1.42%
Co 228.616†	3869.3	0.08156	mg/L	0.000126	0.1631	mg/L	0.00025	0.15%
Cr 267.716†	4198.2	0.8402	mg/L	0.00406	1.680	mg/L	0.0081	0.48%
Cu 324.752†	240905.2	0.8213	mg/L	0.00030	1.643	mg/L	0.0006	0.04%
Fe 273.955†	206986.6	180.0	mg/L	0.46	360.0	mg/L	0.93	0.26%
K 766.490†	16524.1	7.257	mg/L	0.0360	14.51	mg/L	0.072	0.50%
Mg 279.077†	62761.9	55.73	mg/L	0.045	111.5	mg/L	0.09	0.08%
Mn 257.610†	110790.6	3.483	mg/L	0.0111	6.966	mg/L	0.0221	0.32%
Mo 202.031†	80.7	0.00345	mg/L	0.000329	0.00690	mg/L	0.000657	9.53%
Na 589.592†	21529.5	1.615	mg/L	0.0046	3.230	mg/L	0.0092	0.28%
Na 330.237†	4.4	1.800	mg/L	0.0725	3.600	mg/L	0.1451	4.03%
Ni 231.604†	8791.5	2.602	mg/L	0.0075	5.204	mg/L	0.0150	0.29%
Pb 220.353†	2156.9	0.2806	mg/L	0.00077	0.5611	mg/L	0.00154	0.27%
Sb 206.836†	64.6	0.01673	mg/L	0.001499	0.03346	mg/L	0.002998	8.96%
Se 196.026†	33.3	0.02361	mg/L	0.001958	0.04723	mg/L	0.003916	8.29%
Si 288.158†	4356.7	2.501	mg/L	0.0171	5.001	mg/L	0.0342	0.68%
Sn 189.927†	-55.6	-0.00857	mg/L	0.001677	-0.01714	mg/L	0.003355	19.57%
Sr 421.552†	119218.0	0.1436	mg/L	0.00030	0.2871	mg/L	0.00061	0.21%
Ti 334.903†	129471.7	7.662	mg/L	0.0195	15.32	mg/L	0.039	0.25%
Tl 190.801†	-26.7	0.00606	mg/L	0.002676	0.01212	mg/L	0.005352	44.14%
V 292.402†	68873.8	0.4342	mg/L	0.00190	0.8684	mg/L	0.00379	0.44%
Zn 206.200†	1850.3	0.5427	mg/L	0.00191	1.085	mg/L	0.0038	0.35%

Sequence No.: 14
 Sample ID: YE33 K SWC
 Dilution: 2.000000X

Autosampler Location: 382
 Date Collected: 4/1/2014 4:40:32 PM
 Data Type: Original

Nebulizer Parameters: YE33 K SWC

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YE33 K SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2936227.2	99.16 %	0.485			0.49%
ScR 361.383	254080.2	103.4 %	0.52			0.50%
Ag 328.068†	-258.0	-0.00097 mg/L	0.000052	-0.00195 mg/L	0.000104	5.37%
Al 308.215†	199740.7	153.0 mg/L	0.10	306.1 mg/L	0.21	0.07%
As 188.979†	-300.2	0.07364 mg/L	0.000945	0.1473 mg/L	0.00189	1.28%
B 249.677†	394.1	0.06871 mg/L	0.002532	0.1374 mg/L	0.00506	3.68%
Ba 233.527†	2056.5	0.5108 mg/L	0.00413	1.022 mg/L	0.0083	0.81%
Be 313.042†	999.9	0.00180 mg/L	0.000046	0.00359 mg/L	0.000091	2.53%
Ca 317.933†	300373.7	30.65 mg/L	0.072	61.31 mg/L	0.144	0.24%
Cd 228.802†	97.4	0.00379 mg/L	0.000088	0.00758 mg/L	0.000177	2.33%
Co 228.616†	3041.8	0.06238 mg/L	0.000727	0.1248 mg/L	0.00145	1.17%
Cr 267.716†	3852.3	0.7713 mg/L	0.00548	1.543 mg/L	0.0110	0.71%
Cu 324.752†	279052.7	0.9505 mg/L	0.00767	1.901 mg/L	0.0153	0.81%
Fe 273.955†	204096.7	177.5 mg/L	0.29	355.0 mg/L	0.58	0.16%
K 766.490†	11095.8	4.873 mg/L	0.0268	9.746 mg/L	0.0535	0.55%
Mg 279.077†	59221.8	52.59 mg/L	0.076	105.2 mg/L	0.15	0.14%
Mn 257.610†	71055.4	2.233 mg/L	0.0023	4.467 mg/L	0.0046	0.10%
Mo 202.031†	54.6	0.00234 mg/L	0.000277	0.00467 mg/L	0.000554	11.87%
Na 589.592†	17995.3	1.350 mg/L	0.0054	2.699 mg/L	0.0109	0.40%
Na 330.237†	-2.7	1.448 mg/L	0.1303	2.896 mg/L	0.2606	9.00%
Ni 231.604†	5314.9	1.573 mg/L	0.0086	3.146 mg/L	0.0172	0.55%
Pb 220.353†	52.2	0.03633 mg/L	0.000777	0.07266 mg/L	0.001553	2.14%
Sb 206.836†	49.9	0.01247 mg/L	0.001732	0.02494 mg/L	0.003464	13.89%
Se 196.026†	34.7	0.02461 mg/L	0.002030	0.04921 mg/L	0.004059	8.25%
Si 288.158†	5811.9	3.333 mg/L	0.0210	6.666 mg/L	0.0421	0.63%
Sn 189.927†	-48.4	-0.00849 mg/L	0.001435	-0.01699 mg/L	0.002870	16.89%
Sr 421.552†	87902.0	0.1058 mg/L	0.00007	0.2117 mg/L	0.00014	0.07%
Ti 334.903†	118934.2	7.039 mg/L	0.0028	14.08 mg/L	0.006	0.04%
Tl 190.801†	-37.7	0.00099 mg/L	0.001775	0.00197 mg/L	0.003550	180.01%
V 292.402†	64513.6	0.4061 mg/L	0.00369	0.8121 mg/L	0.00738	0.91%
Zn 206.200†	1234.6	0.3625 mg/L	0.00140	0.7250 mg/L	0.00281	0.39%

Sequence No.: 15
 Sample ID: YE33 L SWC

Autosampler Location: 383
 Date Collected: 4/1/2014 4:44:32 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 L SWC

Analyte Back Pressure Flow
 All 219.0 kPa 0.75 L/min

Mean Data: YE33 L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2938885.5	99.25 %		0.531			0.54%
ScR 361.383	255147.0	103.8 %		0.62			0.60%
Ag 328.068†	-204.4	-0.00070 mg/L		0.000178	-0.00139 mg/L	0.000355	25.54%
Al 308.215†	186756.0	143.1 mg/L		0.16	286.2 mg/L	0.32	0.11%
As 188.979†	-330.4	0.08157 mg/L		0.001037	0.1631 mg/L	0.00207	1.27%
B 249.677†	321.9	0.05611 mg/L		0.001653	0.1122 mg/L	0.00331	2.95%
Ba 233.527†	2194.5	0.5478 mg/L		0.00486	1.096 mg/L	0.0097	0.89%
Be 313.042†	951.1	0.00170 mg/L		0.000011	0.00339 mg/L	0.000021	0.62%
Ca 317.933†	331590.4	33.84 mg/L		0.050	67.68 mg/L	0.100	0.15%
Cd 228.802†	135.7	0.00489 mg/L		0.000183	0.00977 mg/L	0.000367	3.75%
Co 228.616†	2909.5	0.05783 mg/L		0.000208	0.1157 mg/L	0.00042	0.36%
Cr 267.716†	4837.4	0.9676 mg/L		0.00195	1.935 mg/L	0.0039	0.20%
Cu 324.752†	294737.6	1.003 mg/L		0.0056	2.006 mg/L	0.0112	0.56%
Fe 273.955†	197963.4	172.1 mg/L		0.31	344.3 mg/L	0.62	0.18%
K 766.490†	10372.9	4.556 mg/L		0.0070	9.111 mg/L	0.0141	0.15%
Mg 279.077†	67251.7	59.74 mg/L		0.064	119.5 mg/L	0.13	0.11%
Mn 257.610†	72918.9	2.292 mg/L		0.0024	4.584 mg/L	0.0048	0.11%
Mo 202.031†	58.8	0.00250 mg/L		0.000218	0.00501 mg/L	0.000436	8.69%
Na 589.592†	20230.7	1.517 mg/L		0.0067	3.035 mg/L	0.0134	0.44%
Na 330.237†	-0.3	1.742 mg/L		0.1247	3.484 mg/L	0.2494	7.16%
Ni 231.604†	4678.6	1.385 mg/L		0.0065	2.770 mg/L	0.0130	0.47%
Pb 220.353†	678.6	0.1075 mg/L		0.00185	0.2149 mg/L	0.00370	1.72%
Sb 206.836†	60.2	0.01360 mg/L		0.003949	0.02721 mg/L	0.007897	29.02%
Se 196.026†	34.4	0.02441 mg/L		0.004810	0.04883 mg/L	0.009619	19.70%
Si 288.158†	5303.2	3.043 mg/L		0.0277	6.086 mg/L	0.0555	0.91%
Sn 189.927†	-53.3	-0.00935 mg/L		0.001507	-0.01870 mg/L	0.003013	16.11%
Sr 421.552†	112152.7	0.1350 mg/L		0.00017	0.2701 mg/L	0.00033	0.12%
Ti 334.903†	131254.1	7.769 mg/L		0.0027	15.54 mg/L	0.005	0.04%
Tl 190.801†	-31.6	0.00319 mg/L		0.002224	0.00639 mg/L	0.004447	69.62%
V 292.402†	61424.4	0.3868 mg/L		0.00219	0.7736 mg/L	0.00437	0.57%
Zn 206.200†	1128.5	0.3314 mg/L		0.00208	0.6628 mg/L	0.00416	0.63%

Sequence No.: 16

Sample ID: YE33 M SWC

Autosampler Location: 384

Date Collected: 4/1/2014 4:48:32 PM

Data Type: Original

Dilution: 2.000000X

Del

Nebulizer Parameters: YE33 M SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE33 M SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2924110.9	98.75 %	%	0.137			0.14%
ScR 361.383	254081.9	103.4 %	%	0.46			0.44%
Ag 328.068†	3.2	0.00044 mg/L	mg/L	0.000172	0.00087 mg/L	0.000344	39.43%
Al 308.215†	217708.1	166.8 mg/L	mg/L	0.39	333.6 mg/L	0.78	0.23%
As 188.979†	-329.3	0.1420 mg/L	mg/L	0.00293	0.2839 mg/L	0.00585	2.06%
B 249.677†	463.6	0.08074 mg/L	mg/L	0.004908	0.1615 mg/L	0.00982	6.08%
Ba 233.527†	3560.5	0.8848 mg/L	mg/L	0.00647	1.770 mg/L	0.0129	0.73%
Be 313.042†	1145.3	0.00204 mg/L	mg/L	0.000021	0.00409 mg/L	0.000043	1.04%
Ca 317.933†	491222.5	50.13 mg/L	mg/L	0.113	100.3 mg/L	0.23	0.23%
Cd 228.802†	260.6	0.02305 mg/L	mg/L	0.000119	0.04610 mg/L	0.000237	0.51%
Co 228.616†	5770.6	0.1224 mg/L	mg/L	0.00046	0.2448 mg/L	0.00092	0.38%
Cr 267.716†	46267.8	9.261 mg/L	mg/L	0.0008	18.52 mg/L	0.002	0.01%
Cu 324.752†	1758285.0	5.960 mg/L	mg/L	0.0024	11.92 mg/L	0.005	0.04%
Fe 273.955†	336731.7	292.8 mg/L	mg/L	0.97	585.6 mg/L	1.94	0.33%
K 766.490†	16643.8	7.310 mg/L	mg/L	0.0204	14.62 mg/L	0.041	0.28%
Mg 279.077†	59520.0	52.79 mg/L	mg/L	0.034	105.6 mg/L	0.07	0.06%
Mn 257.610†	92005.4	2.893 mg/L	mg/L	0.0078	5.786 mg/L	0.0155	0.27%
Mo 202.031†	397.5	0.01970 mg/L	mg/L	0.000247	0.03939 mg/L	0.000493	1.25%
Na 589.592†	31113.1	2.334 mg/L	mg/L	0.0080	4.667 mg/L	0.0159	0.34%
Na 330.237†	10.5	2.258 mg/L	mg/L	0.6890	4.516 mg/L	1.3781	30.52%
Ni 231.604†	57430.9	17.00 mg/L	mg/L	0.019	34.00 mg/L	0.039	0.11%
Pb 220.353†	29153.5	3.441 mg/L	mg/L	0.0137	6.882 mg/L	0.0274	0.40%
Sb 206.836†	548.0	0.06032 mg/L	mg/L	0.001845	0.1206 mg/L	0.00369	3.06%
Se 196.026†	32.0	0.02266 mg/L	mg/L	0.001970	0.04533 mg/L	0.003939	8.69%
Si 288.158†	4442.9	2.555 mg/L	mg/L	0.0311	5.110 mg/L	0.0622	1.22%
Sn 189.927†	242.4	0.07599 mg/L	mg/L	0.001430	0.1520 mg/L	0.00286	1.88%
Sr 421.552†	145393.8	0.1751 mg/L	mg/L	0.00004	0.3502 mg/L	0.00008	0.02%
Ti 334.903†	165932.0	9.819 mg/L	mg/L	0.0090	19.64 mg/L	0.018	0.09%
Tl 190.801†	-46.0	0.00649 mg/L	mg/L	0.002118	0.01297 mg/L	0.004237	32.66%
V 292.402†	70392.9	0.4710 mg/L	mg/L	0.00063	0.9421 mg/L	0.00126	0.13%
Zn 206.200†	6254.8	1.835 mg/L	mg/L	0.0104	3.671 mg/L	0.0208	0.57%

YE33 : 00229

Sequence No.: 17
 Sample ID: YE33 N SWC
 Dilution: 2.000000X

Autosampler Location: 385
 Date Collected: 4/1/2014 4:51:48 PM
 Data Type: Original

 Nebulizer Parameters: YE33 N SWC
 Analyte Back Pressure Flow
 All 219.0 kPa 0.75 L/min

Mean Data: YE33 N SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2919698.6	98.60 %		0.231			0.23%
ScR 361.383	253033.9	103.0 %		1.15			1.11%
Ag 328.068†	-206.1	-0.00067 mg/L		0.000370	-0.00134 mg/L	0.000740	55.06%
Al 308.215†	185397.4	142.1 mg/L		1.03	284.1 mg/L	2.07	0.73%
As 188.979†	-361.5	0.08134 mg/L		0.002953	0.1627 mg/L	0.00591	3.63%
B 249.677†	237.3	0.04130 mg/L		0.000602	0.08260 mg/L	0.001205	1.46%
Ba 233.527†	2235.6	0.5589 mg/L		0.01121	1.118 mg/L	0.0224	2.01%
Be 313.042†	937.2	0.00166 mg/L		0.000027	0.00332 mg/L	0.000053	1.61%
Ca 317.933†	379525.7	38.73 mg/L		0.125	77.46 mg/L	0.251	0.32%
Cd 228.802†	129.9	0.00409 mg/L		0.000041	0.00819 mg/L	0.000082	1.00%
Co 228.616†	3232.5	0.06499 mg/L		0.000130	0.1300 mg/L	0.00026	0.20%
Cr 267.716†	7161.5	1.433 mg/L		0.0161	2.865 mg/L	0.0321	1.12%
Cu 324.752†	244498.1	0.8329 mg/L		0.00204	1.666 mg/L	0.0041	0.25%
Fe 273.955†	196026.2	170.5 mg/L		1.08	340.9 mg/L	2.16	0.63%
K 766.490†	13343.7	5.860 mg/L		0.0294	11.72 mg/L	0.059	0.50%
Mg 279.077†	65082.5	57.81 mg/L		0.137	115.6 mg/L	0.27	0.24%
Mn 257.610†	78191.7	2.458 mg/L		0.0045	4.916 mg/L	0.0090	0.18%
Mo 202.031†	102.3	0.00467 mg/L		0.000117	0.00934 mg/L	0.000235	2.51%
Na 589.592†	29028.2	2.177 mg/L		0.0137	4.354 mg/L	0.0274	0.63%
Na 330.237†	10.5	2.355 mg/L		0.0711	4.711 mg/L	0.1422	3.02%
Ni 231.604†	2209.0	0.6539 mg/L		0.00709	1.308 mg/L	0.0142	1.08%
Pb 220.353†	41.0	0.03393 mg/L		0.000827	0.06786 mg/L	0.001654	2.44%
Sb 206.836†	78.2	0.01362 mg/L		0.000816	0.02724 mg/L	0.001632	5.99%
Se 196.026†	30.0	0.02128 mg/L		0.001327	0.04256 mg/L	0.002654	6.24%
Si 288.158†	3902.7	2.241 mg/L		0.0397	4.483 mg/L	0.0794	1.77%
Sn 189.927†	-60.8	-0.01075 mg/L		0.001424	-0.02149 mg/L	0.002847	13.25%
Sr 421.552†	132629.0	0.1597 mg/L		0.00067	0.3194 mg/L	0.00135	0.42%
Ti 334.903†	140178.8	8.297 mg/L		0.0440	16.59 mg/L	0.088	0.53%
Tl 190.801†	-29.2	0.00379 mg/L		0.006090	0.00758 mg/L	0.012180	160.73%
V 292.402†	63208.0	0.4001 mg/L		0.00076	0.8001 mg/L	0.00153	0.19%
Zn 206.200†	1122.9	0.3298 mg/L		0.00417	0.6595 mg/L	0.00834	1.26%

Sequence No.: 18
Sample ID: YE33 O SWC

Autosampler Location: 386
Date Collected: 4/1/2014 4:55:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 O SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE33 O SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2959265.3	99.93 %		0.773			0.77%
ScR 361.383	258754.8	105.3 %		0.93			0.88%
Ag 328.068†	-191.6	-0.00066 mg/L		0.000375	-0.00131 mg/L	0.000749	57.07%
Al 308.215†	199582.2	152.9 mg/L		0.71	305.9 mg/L	1.42	0.47%
As 188.979†	-346.4	0.07655 mg/L		0.002353	0.1531 mg/L	0.00471	3.07%
B 249.677†	272.8	0.04752 mg/L		0.000680	0.09505 mg/L	0.001359	1.43%
Ba 233.527†	2848.8	0.7199 mg/L		0.01155	1.440 mg/L	0.0231	1.60%
Be 313.042†	825.7	0.00145 mg/L		0.000059	0.00290 mg/L	0.000118	4.06%
Ca 317.933†	301614.2	30.78 mg/L		0.098	61.56 mg/L	0.196	0.32%
Cd 228.802†	150.2	0.00466 mg/L		0.000197	0.00932 mg/L	0.000394	4.22%
Co 228.616†	3015.0	0.06024 mg/L		0.000775	0.1205 mg/L	0.00155	1.29%
Cr 267.716†	12277.9	2.457 mg/L		0.0301	4.913 mg/L	0.0602	1.23%
Cu 324.752†	298314.6	1.015 mg/L		0.0135	2.030 mg/L	0.0270	1.33%
Fe 273.955†	192547.0	167.4 mg/L		1.37	334.9 mg/L	2.74	0.82%
K 766.490†	12291.7	5.398 mg/L		0.0552	10.80 mg/L	0.110	1.02%
Mg 279.077†	60066.3	53.35 mg/L		0.572	106.7 mg/L	1.14	1.07%
Mn 257.610†	82935.6	2.607 mg/L		0.0147	5.214 mg/L	0.0295	0.57%
Mo 202.031†	201.1	0.00988 mg/L		0.000534	0.01976 mg/L	0.001068	5.40%
Na 589.592†	27147.0	2.036 mg/L		0.0118	4.072 mg/L	0.0235	0.58%
Na 330.237†	16.0	2.569 mg/L		0.4125	5.138 mg/L	0.8251	16.06%
Ni 231.604†	2139.6	0.6333 mg/L		0.00720	1.267 mg/L	0.0144	1.14%
Pb 220.353†	102.1	0.04559 mg/L		0.000489	0.09117 mg/L	0.000978	1.07%
Sb 206.836†	120.8	0.01323 mg/L		0.004257	0.02647 mg/L	0.008513	32.17%
Se 196.026†	42.5	0.03024 mg/L		0.001905	0.06048 mg/L	0.003809	6.30%
Si 288.158†	6009.0	3.447 mg/L		0.0656	6.894 mg/L	0.1311	1.90%
Sn 189.927†	-52.9	-0.00956 mg/L		0.001512	-0.01913 mg/L	0.003025	15.81%
Sr 421.552†	123746.9	0.1490 mg/L		0.00067	0.2980 mg/L	0.00135	0.45%
Ti 334.903†	134155.9	7.940 mg/L		0.0285	15.88 mg/L	0.057	0.36%
Tl 190.801†	-33.3	0.00128 mg/L		0.002348	0.00257 mg/L	0.004697	182.95%
V 292.402†	58679.9	0.3754 mg/L		0.00417	0.7509 mg/L	0.00835	1.11%
Zn 206.200†	1094.2	0.3218 mg/L		0.00488	0.6437 mg/L	0.00977	1.52%

Sequence No.: 19

Autosampler Location: 387

Sample ID: YE33 P SWC

Date Collected: 4/1/2014 4:59:03 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 P SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YE33 P SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2960698.5	99.98 %		0.829			0.83%
ScR 361.383	256323.5	104.3 %		0.73			0.70%
Ag 328.068†	-253.9	-0.00098 mg/L		0.000222	-0.00197 mg/L	0.000445	22.62%
Al 308.215†	165704.6	127.0 mg/L		0.28	253.9 mg/L	0.55	0.22%
As 188.979†	-323.1	0.06765 mg/L		0.002861	0.1353 mg/L	0.00572	4.23%
B 249.677†	135.3	0.02351 mg/L		0.002822	0.04701 mg/L	0.005644	12.00%
Ba 233.527†	1873.7	0.4689 mg/L		0.00555	0.9378 mg/L	0.01110	1.18%
Be 313.042†	794.3	0.00141 mg/L		0.000030	0.00282 mg/L	0.000059	2.11%
Ca 317.933†	286579.5	29.25 mg/L		0.077	58.49 mg/L	0.155	0.26%
Cd 228.802†	87.6	0.00323 mg/L		0.000133	0.00645 mg/L	0.000265	4.11%
Co 228.616†	2760.3	0.05519 mg/L		0.000678	0.1104 mg/L	0.00136	1.23%
Cr 267.716†	2646.2	0.5292 mg/L		0.00272	1.058 mg/L	0.0054	0.51%
Cu 324.752†	231030.8	0.7862 mg/L		0.00403	1.572 mg/L	0.0081	0.51%
Fe 273.955†	160068.9	139.2 mg/L		0.83	278.4 mg/L	1.66	0.60%
K 766.490†	11038.4	4.848 mg/L		0.0114	9.696 mg/L	0.0228	0.24%
Mg 279.077†	54059.4	48.02 mg/L		0.177	96.04 mg/L	0.355	0.37%
Mn 257.610†	71152.1	2.237 mg/L		0.0093	4.473 mg/L	0.0185	0.41%
Mo 202.031†	49.3	0.00208 mg/L		0.000284	0.00417 mg/L	0.000568	13.63%
Na 589.592†	16819.3	1.261 mg/L		0.0063	2.523 mg/L	0.0127	0.50%
Na 330.237†	-11.3	1.119 mg/L		0.1960	2.238 mg/L	0.3919	17.51%
Ni 231.604†	3008.0	0.8903 mg/L		0.00690	1.781 mg/L	0.0138	0.78%
Pb 220.353†	-99.5	0.01360 mg/L		0.000295	0.02720 mg/L	0.000590	2.17%
Sb 206.836†	34.4	0.01063 mg/L		0.000669	0.02127 mg/L	0.001338	6.29%
Se 196.026†	28.7	0.02038 mg/L		0.006788	0.04076 mg/L	0.013576	33.31%
Si 288.158†	6989.8	4.007 mg/L		0.0353	8.013 mg/L	0.0706	0.88%
Sn 189.927†	-52.4	-0.00975 mg/L		0.000411	-0.01950 mg/L	0.000821	4.21%
Sr 421.552†	88530.9	0.1066 mg/L		0.00017	0.2132 mg/L	0.00035	0.16%
Ti 334.903†	122149.4	7.230 mg/L		0.0135	14.46 mg/L	0.027	0.19%
Tl 190.801†	-21.7	0.00431 mg/L		0.002055	0.00862 mg/L	0.004111	47.68%
V 292.402†	51356.8	0.3221 mg/L		0.00183	0.6443 mg/L	0.00367	0.57%
Zn 206.200†	1091.1	0.3205 mg/L		0.00215	0.6410 mg/L	0.00430	0.67%

YE33:00232

Sequence No.: 20

Sample ID: YE33 Q SWC

Autosampler Location: 388

Date Collected: 4/1/2014 5:03:03 PM

Data Type: Original

Dilution: 2.000000X

D-1

Nebulizer Parameters: YE33 Q SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE33 Q SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2940916.5	99.31	%	0.409				0.41%
ScR 361.383	254616.3	103.6	%	0.70				0.68%
Ag 328.068†	-47.0	0.00020	mg/L	0.000203	0.00039	mg/L	0.000407	103.58%
Al 308.215†	197063.7	151.0	mg/L	0.09	302.0	mg/L	0.17	0.06%
As 188.979†	-292.9	0.1149	mg/L	0.00201	0.2298	mg/L	0.00402	1.75%
B 249.677†	353.2	0.06144	mg/L	0.001165	0.1229	mg/L	0.00233	1.90%
Ba 233.527†	3248.4	0.8091	mg/L	0.00884	1.618	mg/L	0.0177	1.09%
Be 313.042†	1060.8	0.00191	mg/L	0.000048	0.00381	mg/L	0.000097	2.54%
Ca 317.933†	524112.3	53.49	mg/L	0.186	107.0	mg/L	0.37	0.35%
Cd 228.802†	-267.7	0.00954	mg/L	0.000169	0.01908	mg/L	0.000338	1.77%
Co 228.616†	5563.9	0.1198	mg/L	0.00119	0.2396	mg/L	0.00238	0.99%
Cr 267.716†	18798.5	3.764	mg/L	0.0362	7.528	mg/L	0.0724	0.96%
Cu 324.752†	1281540.4	4.345	mg/L	0.0084	8.690	mg/L	0.0169	0.19%
Fe 273.955†	290338.0	252.5	mg/L	0.67	504.9	mg/L	1.35	0.27%
K 766.490†	11592.4	5.091	mg/L	0.0572	10.18	mg/L	0.114	1.12%
Mg 279.077†	58822.6	52.19	mg/L	0.463	104.4	mg/L	0.93	0.89%
Mn 257.610†	92950.3	2.923	mg/L	0.0046	5.845	mg/L	0.0092	0.16%
Mo 202.031†	291.6	0.01419	mg/L	0.000226	0.02838	mg/L	0.000452	1.59%
Na 589.592†	22954.3	1.722	mg/L	0.0035	3.443	mg/L	0.0071	0.21%
Na 330.237†	5.7	1.797	mg/L	0.1792	3.593	mg/L	0.3584	9.97%
Ni 231.604†	64310.1	19.04	mg/L	0.052	38.07	mg/L	0.103	0.27%
Pb 220.353†	20685.3	2.443	mg/L	0.0141	4.886	mg/L	0.0281	0.58%
Sb 206.836†	342.4	0.06591	mg/L	0.002806	0.1318	mg/L	0.00561	4.26%
Se 196.026†	31.6	0.02239	mg/L	0.001294	0.04478	mg/L	0.002588	5.78%
Si 288.158†	4830.8	2.773	mg/L	0.0120	5.547	mg/L	0.0240	0.43%
Sn 189.927†	65.3	0.02645	mg/L	0.001022	0.05289	mg/L	0.002045	3.87%
Sr 421.552†	132288.3	0.1593	mg/L	0.00022	0.3186	mg/L	0.00044	0.14%
Ti 334.903†	139460.3	8.253	mg/L	0.0086	16.51	mg/L	0.017	0.10%
Tl 190.801†	-41.4	0.00643	mg/L	0.002350	0.01287	mg/L	0.004700	36.52%
V 292.402†	62358.2	0.3996	mg/L	0.00369	0.7993	mg/L	0.00739	0.92%
Zn 206.200†	3908.0	1.146	mg/L	0.0115	2.293	mg/L	0.0230	1.00%

Sequence No.: 21
 Sample ID: YE33 R SWC

Autosampler Location: 389
 Date Collected: 4/1/2014 5:06:20 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 R SWC

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YE33 R SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2942561.2	99.37	%	0.528			0.53%
ScR 361.383	252089.4	102.6	%	0.78			0.76%
Ag 328.068†	-354.1	-0.00133	mg/L	0.000315	-0.00266 mg/L	0.000629	23.64%
Al 308.215†	187877.3	144.0	mg/L	0.53	287.9 mg/L	1.06	0.37%
As 188.979†	-352.6	0.09377	mg/L	0.003112	0.1875 mg/L	0.00622	3.32%
B 249.677†	252.3	0.04389	mg/L	0.001397	0.08778 mg/L	0.002795	3.18%
Ba 233.527†	2184.6	0.5427	mg/L	0.00686	1.085 mg/L	0.0137	1.26%
Be 313.042†	998.4	0.00177	mg/L	0.000037	0.00354 mg/L	0.000073	2.07%
Ca 317.933†	472846.7	48.25	mg/L	0.194	96.51 mg/L	0.388	0.40%
Cd 228.802†	65.5	0.00199	mg/L	0.000053	0.00399 mg/L	0.000106	2.65%
Co 228.616†	3799.2	0.07864	mg/L	0.000644	0.1573 mg/L	0.00129	0.82%
Cr 267.716†	4766.7	0.9527	mg/L	0.00765	1.905 mg/L	0.0153	0.80%
Cu 324.752†	109641.2	0.3774	mg/L	0.00415	0.7547 mg/L	0.00830	1.10%
Fe 273.955†	216741.5	188.5	mg/L	0.17	376.9 mg/L	0.34	0.09%
K 766.490†	15948.7	7.005	mg/L	0.0186	14.01 mg/L	0.037	0.27%
Mg 279.077†	81420.0	72.33	mg/L	0.212	144.7 mg/L	0.42	0.29%
Mn 257.610†	91041.0	2.862	mg/L	0.0020	5.724 mg/L	0.0039	0.07%
Mo 202.031†	107.5	0.00479	mg/L	0.000436	0.00958 mg/L	0.000873	9.11%
Na 589.592†	34075.4	2.556	mg/L	0.0047	5.111 mg/L	0.0095	0.19%
Na 330.237†	16.0	2.597	mg/L	0.0984	5.193 mg/L	0.1969	3.79%
Ni 231.604†	2248.7	0.6656	mg/L	0.00645	1.331 mg/L	0.0129	0.97%
Pb 220.353†	-62.0	0.02127	mg/L	0.001259	0.04254 mg/L	0.002519	5.92%
Sb 206.836†	62.9	0.01534	mg/L	0.001404	0.03068 mg/L	0.002808	9.15%
Se 196.026†	35.8	0.02541	mg/L	0.005857	0.05081 mg/L	0.011714	23.05%
Si 288.158†	3566.4	2.050	mg/L	0.0287	4.101 mg/L	0.0574	1.40%
Sn 189.927†	-69.9	-0.01209	mg/L	0.000535	-0.02419 mg/L	0.001069	4.42%
Sr 421.552†	168724.1	0.2032	mg/L	0.00062	0.4063 mg/L	0.00123	0.30%
Ti 334.903†	143676.0	8.503	mg/L	0.0221	17.01 mg/L	0.044	0.26%
Tl 190.801†	-29.3	0.00581	mg/L	0.003180	0.01163 mg/L	0.006359	54.69%
V 292.402†	68568.8	0.4316	mg/L	0.00462	0.8633 mg/L	0.00924	1.07%
Zn 206.200†	1306.9	0.3835	mg/L	0.00369	0.7670 mg/L	0.00738	0.96%

Sequence No.: 22

Sample ID: YE33 S SWC

Autosampler Location: 390

Date Collected: 4/1/2014 5:10:20 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 S SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YE33 S SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2923148.1	98.71 %	0.770			0.78%
ScR 361.383	250762.5	102.0 %	1.03			1.01%
Ag 328.068†	-607.2	-0.00257 mg/L	0.000107	-0.00513 mg/L	0.000215	4.18%
Al 308.215†	171778.3	131.6 mg/L	0.68	263.2 mg/L	1.36	0.52%
As 188.979†	-333.9	0.09218 mg/L	0.003688	0.1844 mg/L	0.00738	4.00%
B 249.677†	279.9	0.04875 mg/L	0.001371	0.09750 mg/L	0.002743	2.81%
Ba 233.527†	1950.7	0.4848 mg/L	0.00724	0.9696 mg/L	0.01447	1.49%
Be 313.042†	966.5	0.00172 mg/L	0.000038	0.00344 mg/L	0.000077	2.23%
Ca 317.933†	496002.1	50.62 mg/L	0.151	101.2 mg/L	0.30	0.30%
Cd 228.802†	66.4	0.00211 mg/L	0.000174	0.00422 mg/L	0.000349	8.25%
Co 228.616†	3362.2	0.06844 mg/L	0.000545	0.1369 mg/L	0.00109	0.80%
Cr 267.716†	5403.2	1.081 mg/L	0.0113	2.161 mg/L	0.0226	1.05%
Cu 324.752†	100175.0	0.3445 mg/L	0.00407	0.6890 mg/L	0.00814	1.18%
Fe 273.955†	192181.1	167.1 mg/L	0.27	334.2 mg/L	0.54	0.16%
K 766.490†	13375.4	5.874 mg/L	0.0117	11.75 mg/L	0.023	0.20%
Mg 279.077†	63940.4	56.79 mg/L	0.174	113.6 mg/L	0.35	0.31%
Mn 257.610†	95688.9	3.008 mg/L	0.0051	6.016 mg/L	0.0102	0.17%
Mo 202.031†	263.5	0.01278 mg/L	0.000055	0.02557 mg/L	0.000111	0.43%
Na 589.592†	33763.6	2.532 mg/L	0.0152	5.065 mg/L	0.0305	0.60%
Na 330.237†	17.8	2.595 mg/L	0.2335	5.189 mg/L	0.4670	9.00%
Ni 231.604†	2106.2	0.6234 mg/L	0.00798	1.247 mg/L	0.0160	1.28%
Pb 220.353†	25.0	0.02962 mg/L	0.000233	0.05925 mg/L	0.000465	0.79%
Sb 206.836†	58.7	0.01204 mg/L	0.001554	0.02408 mg/L	0.003109	12.91%
Se 196.026†	36.5	0.02595 mg/L	0.004680	0.05190 mg/L	0.009361	18.04%
Si 288.158†	5432.1	3.116 mg/L	0.0293	6.233 mg/L	0.0585	0.94%
Sn 189.927†	-71.1	-0.01223 mg/L	0.000814	-0.02446 mg/L	0.001629	6.66%
Sr 421.552†	140412.0	0.1691 mg/L	0.00071	0.3382 mg/L	0.00143	0.42%
Ti 334.903†	138006.5	8.167 mg/L	0.0320	16.33 mg/L	0.064	0.39%
Tl 190.801†	-20.2	0.00761 mg/L	0.002654	0.01522 mg/L	0.005308	34.87%
V 292.402†	64513.5	0.4074 mg/L	0.00393	0.8148 mg/L	0.00787	0.97%
Zn 206.200†	1050.6	0.3086 mg/L	0.00444	0.6173 mg/L	0.00889	1.44%

Sequence No.: 23
 Sample ID: CV 14

Autosampler Location: 7
 Date Collected: 4/1/2014 5:14:21 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

 Mean Data: CV

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Units	Conc.		
ScA 357.253	2927060.0	98.85	%	0.381				0.39%
ScR 361.383	243895.1	99.25	%	0.416				0.42%
Ag 328.068†	216066.3	1.060	mg/L	0.0052	1.060	mg/L	0.0052	0.49%
Al 308.215†	2740.7	2.068	mg/L	0.0081	2.068	mg/L	0.0081	0.39%
As 188.979†	3580.4	2.108	mg/L	0.0022	2.108	mg/L	0.0022	0.10%
B 249.677†	5973.9	1.043	mg/L	0.0082	1.043	mg/L	0.0082	0.79%
Ba 233.527†	4130.5	1.081	mg/L	0.0036	1.081	mg/L	0.0036	0.34%
Be 313.042†	509111.0	1.006	mg/L	0.0042	1.006	mg/L	0.0042	0.42%
Ca 317.933†	21058.9	2.149	mg/L	0.0193	2.149	mg/L	0.0193	0.90%
Cd 228.802†	34528.1	1.021	mg/L	0.0045	1.021	mg/L	0.0045	0.44%
Co 228.616†	41073.3	1.014	mg/L	0.0020	1.014	mg/L	0.0020	0.19%
Cr 267.716†	5359.8	1.072	mg/L	0.0069	1.072	mg/L	0.0069	0.65%
Cu 324.752†	307813.6	1.041	mg/L	0.0044	1.041	mg/L	0.0044	0.42%
Fe 273.955†	2446.2	2.120	mg/L	0.0180	2.120	mg/L	0.0180	0.85%
K 766.490†	46264.3	20.32	mg/L	0.024	20.32	mg/L	0.024	0.12%
Mg 279.077†	2316.5	2.068	mg/L	0.0142	2.068	mg/L	0.0142	0.69%
Mn 257.610†	30966.7	0.9744	mg/L	0.00294	0.9744	mg/L	0.00294	0.30%
Mo 202.031†	18775.7	0.9670	mg/L	0.00221	0.9670	mg/L	0.00221	0.23%
Na 589.592†	694952.0	52.12	mg/L	0.039	52.12	mg/L	0.039	0.07%
Na 330.237†	1113.6	51.82	mg/L	0.568	51.82	mg/L	0.568	1.10%
Ni 231.604†	3642.7	1.078	mg/L	0.0043	1.078	mg/L	0.0043	0.40%
Pb 220.353†	17539.9	2.048	mg/L	0.0074	2.048	mg/L	0.0074	0.36%
Sb 206.836†	6687.2	2.082	mg/L	0.0091	2.082	mg/L	0.0091	0.44%
Se 196.026†	2875.3	2.064	mg/L	0.0025	2.064	mg/L	0.0025	0.12%
Si 288.158†	3476.7	1.995	mg/L	0.0249	1.995	mg/L	0.0249	1.25%
Sn 189.927†	3446.5	0.9662	mg/L	0.00204	0.9662	mg/L	0.00204	0.21%
Sr 421.552†	851353.0	1.025	mg/L	0.0006	1.025	mg/L	0.0006	0.06%
Ti 334.903†	16834.7	0.9955	mg/L	0.00044	0.9955	mg/L	0.00044	0.04%
Tl 190.801†	4537.0	2.061	mg/L	0.0131	2.061	mg/L	0.0131	0.63%
V 292.402†	159446.2	1.034	mg/L	0.0064	1.034	mg/L	0.0064	0.62%
Zn 206.200†	3629.9	1.064	mg/L	0.0063	1.064	mg/L	0.0063	0.59%

Sequence No.: 24

Autosampler Location: 1

Sample ID: CB 14

Date Collected: 4/1/2014 5:18:24 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2955331.7	99.80	%	0.704			0.71%
ScR 361.383	252925.5	102.9	%	0.85			0.82%
Ag 328.068†	-26.9	-0.00013	mg/L	0.000094	-0.00013	0.000094	71.04%
Al 308.215†	4.7	0.00362	mg/L	0.004835	0.00362	0.004835	133.53%
As 188.979†	1.8	0.00105	mg/L	0.000738	0.00105	0.000738	70.61%
B 249.677†	53.0	0.00927	mg/L	0.000549	0.00927	0.000549	5.92%
Ba 233.527†	-2.0	-0.00053	mg/L	0.000618	-0.00053	0.000618	117.57%
Be 313.042†	2.5	0.00001	mg/L	0.000022	0.00001	0.000022	440.12%
Ca 317.933†	3.8	0.00039	mg/L	0.001085	0.00039	0.001085	278.55%
Cd 228.802†	5.0	0.00015	mg/L	0.000070	0.00015	0.000070	48.04%
Co 228.616†	3.8	0.00009	mg/L	0.000105	0.00009	0.000105	114.86%
Cr 267.716†	3.2	0.00064	mg/L	0.001258	0.00064	0.001258	195.34%
Cu 324.752†	74.8	0.00025	mg/L	0.000049	0.00025	0.000049	19.44%
Fe 273.955†	-1.4	-0.00123	mg/L	0.001422	-0.00123	0.001422	116.07%
K 766.490†	2.5	0.00110	mg/L	0.011478	0.00110	0.011478	>999.9%
Mg 279.077†	-2.5	-0.00219	mg/L	0.005170	-0.00219	0.005170	236.29%
Mn 257.610†	2.6	0.00008	mg/L	0.000136	0.00008	0.000136	167.24%
Mo 202.031†	19.0	0.00098	mg/L	0.000546	0.00098	0.000546	55.72%
Na 589.592†	24.8	0.00186	mg/L	0.002447	0.00186	0.002447	131.51%
Na 330.237†	-0.1	-0.00551	mg/L	0.109259	-0.00551	0.109259	>999.9%
Ni 231.604†	0.7	0.00020	mg/L	0.001335	0.00020	0.001335	676.32%
Pb 220.353†	6.6	0.00077	mg/L	0.000401	0.00077	0.000401	52.21%
Sb 206.836†	21.8	0.00680	mg/L	0.002642	0.00680	0.002642	38.84%
Se 196.026†	6.5	0.00467	mg/L	0.001886	0.00467	0.001886	40.36%
Si 288.158†	5.0	0.00289	mg/L	0.006319	0.00289	0.006319	219.02%
Sn 189.927†	0.9	0.00025	mg/L	0.000339	0.00025	0.000339	136.15%
Sr 421.552†	-5.8	-0.00001	mg/L	0.000024	-0.00001	0.000024	349.94%
Ti 334.903†	16.1	0.00095	mg/L	0.000619	0.00095	0.000619	64.85%
Tl 190.801†	2.2	0.00100	mg/L	0.000710	0.00100	0.000710	71.11%
V 292.402†	-44.5	-0.00028	mg/L	0.000100	-0.00028	0.000100	35.17%
Zn 206.200†	0.2	0.00006	mg/L	0.000568	0.00006	0.000568	911.21%

Sequence No.: 25
Sample ID: YE43 MB SWC

Autosampler Location: 101
Date Collected: 4/1/2014 5:22:24 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE43 MB SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YE43 MB SWC

Analyte	Mean Corrected Intensity	Conc.	Units	Calib.	Std.Dev.	Conc.	Units	Sample	Std.Dev.	RSD
ScA 357.253	2996779.6	101.2	%		0.60					0.59%
ScR 361.383	254640.3	103.6	%		0.27					0.26%
Ag 328.068†	-30.9	-0.00015	mg/L		0.000319	-0.00030	mg/L		0.000638	210.70%
Al 308.215†	20.7	0.01589	mg/L		0.004836	0.03178	mg/L		0.009671	30.43%
As 188.979†	0.5	0.00036	mg/L		0.002194	0.00072	mg/L		0.004387	608.80%
B 249.677†	41.1	0.00719	mg/L		0.002261	0.01438	mg/L		0.004522	31.46%
Ba 233.527†	1.3	0.00035	mg/L		0.000573	0.00070	mg/L		0.001146	164.66%
Be 313.042†	-0.9	-0.00000	mg/L		0.000017	-0.00000	mg/L		0.000035	>999.9%
Ca 317.933†	153.7	0.01569	mg/L		0.000940	0.03137	mg/L		0.001880	5.99%
Cd 228.802†	1.5	0.00005	mg/L		0.000103	0.00009	mg/L		0.000207	226.32%
Co 228.616†	5.5	0.00013	mg/L		0.000058	0.00026	mg/L		0.000116	43.96%
Cr 267.716†	4.9	0.00098	mg/L		0.001082	0.00195	mg/L		0.002163	110.70%
Cu 324.752†	130.2	0.00044	mg/L		0.000080	0.00088	mg/L		0.000160	18.19%
Fe 273.955†	6.8	0.00590	mg/L		0.001042	0.01179	mg/L		0.002084	17.67%
K 766.490†	34.9	0.01533	mg/L		0.008709	0.03066	mg/L		0.017418	56.81%
Mg 279.077†	0.6	0.00056	mg/L		0.003962	0.00112	mg/L		0.007923	708.04%
Mn 257.610†	2.5	0.00008	mg/L		0.000032	0.00016	mg/L		0.000063	40.11%
Mo 202.031†	2.5	0.00013	mg/L		0.000056	0.00025	mg/L		0.000112	43.92%
Na 589.592†	152.7	0.01145	mg/L		0.004164	0.02290	mg/L		0.008328	36.36%
Na 330.237†	3.2	0.1513	mg/L		0.05244	0.3026	mg/L		0.10488	34.66%
Ni 231.604†	6.9	0.00203	mg/L		0.000583	0.00406	mg/L		0.001166	28.72%
Pb 220.353†	8.2	0.00096	mg/L		0.000411	0.00192	mg/L		0.000823	42.81%
Sb 206.836†	-4.4	-0.00138	mg/L		0.001031	-0.00275	mg/L		0.002062	74.85%
Se 196.026†	-0.5	-0.00033	mg/L		0.002513	-0.00067	mg/L		0.005025	753.17%
Si 288.158†	4.3	0.00248	mg/L		0.005378	0.00496	mg/L		0.010756	216.92%
Sn 189.927†	0.8	0.00022	mg/L		0.000894	0.00045	mg/L		0.001789	401.81%
Sr 421.552†	10.9	0.00001	mg/L		0.000047	0.00003	mg/L		0.000094	359.52%
Ti 334.903†	35.0	0.00207	mg/L		0.000308	0.00414	mg/L		0.000616	14.88%
Tl 190.801†	-2.8	-0.00127	mg/L		0.001710	-0.00255	mg/L		0.003420	134.39%
V 292.402†	-17.0	-0.00011	mg/L		0.000090	-0.00021	mg/L		0.000180	84.03%
Zn 206.200†	4.1	0.00119	mg/L		0.000148	0.00238	mg/L		0.000295	12.44%

Sequence No.: 26
Sample ID: YE33 T SWC

Autosampler Location: 102
Date Collected: 4/1/2014 5:26:40 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 T SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YE33 T SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2930544.4	98.96 %		0.411			0.42%
ScR 361.383	254254.4	103.5 %		0.54			0.52%
Ag 328.068†	-153.5	-0.00050 mg/L		0.000247	-0.00100 mg/L	0.000495	49.55%
Al 308.215†	161047.9	123.4 mg/L		0.45	246.8 mg/L	0.91	0.37%
As 188.979†	-279.4	0.07140 mg/L		0.001316	0.1428 mg/L	0.00263	1.84%
B 249.677†	191.1	0.03325 mg/L		0.000795	0.06650 mg/L	0.001589	2.39%
Ba 233.527†	2025.2	0.5079 mg/L		0.00331	1.016 mg/L	0.0066	0.65%
Be 313.042†	792.4	0.00141 mg/L		0.000015	0.00281 mg/L	0.000031	1.09%
Ca 317.933†	264712.4	27.01 mg/L		0.200	54.03 mg/L	0.399	0.74%
Cd 228.802†	63.6	0.00294 mg/L		0.000161	0.00588 mg/L	0.000323	5.49%
Co 228.616†	2819.7	0.05757 mg/L		0.000368	0.1151 mg/L	0.00074	0.64%
Cr 267.716†	7879.4	1.576 mg/L		0.0137	3.152 mg/L	0.0275	0.87%
Cu 324.752†	244351.4	0.8316 mg/L		0.00444	1.663 mg/L	0.0089	0.53%
Fe 273.955†	164351.7	142.9 mg/L		0.51	285.8 mg/L	1.02	0.36%
K 766.490†	12273.1	5.390 mg/L		0.0398	10.78 mg/L	0.080	0.74%
Mg 279.077†	57257.9	50.86 mg/L		0.171	101.7 mg/L	0.34	0.34%
Mn 257.610†	54222.2	1.704 mg/L		0.0072	3.408 mg/L	0.0144	0.42%
Mo 202.031†	88.7	0.00415 mg/L		0.000307	0.00830 mg/L	0.000614	7.41%
Na 589.592†	20284.0	1.521 mg/L		0.0094	3.043 mg/L	0.0189	0.62%
Na 330.237†	1.1	1.559 mg/L		0.2346	3.118 mg/L	0.4692	15.05%
Ni 231.604†	5025.2	1.487 mg/L		0.0153	2.975 mg/L	0.0306	1.03%
Pb 220.353†	172.7	0.04629 mg/L		0.000183	0.09259 mg/L	0.000366	0.40%
Sb 206.836†	83.6	0.01197 mg/L		0.000446	0.02394 mg/L	0.000893	3.73%
Se 196.026†	20.8	0.01466 mg/L		0.003480	0.02932 mg/L	0.006961	23.74%
Si 288.158†	2711.5	1.559 mg/L		0.0078	3.118 mg/L	0.0156	0.50%
Sn 189.927†	-45.8	-0.00827 mg/L		0.001552	-0.01654 mg/L	0.003104	18.77%
Sr 421.552†	105200.9	0.1267 mg/L		0.00036	0.2534 mg/L	0.00071	0.28%
Ti 334.903†	112570.7	6.663 mg/L		0.0222	13.33 mg/L	0.044	0.33%
Tl 190.801†	-27.0	0.00184 mg/L		0.002766	0.00367 mg/L	0.005533	150.56%
V 292.402†	54501.5	0.3468 mg/L		0.00197	0.6936 mg/L	0.00395	0.57%
Zn 206.200†	1100.0	0.3229 mg/L		0.00233	0.6459 mg/L	0.00465	0.72%

Sequence No.: 27
 Sample ID: YE33 D SWC

Autosampler Location: 103
 Date Collected: 4/1/2014 5:30:41 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE33 D SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

 Mean Data: YE33 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2970045.8	100.3	%	0.49				0.49%
ScR 361.383	256710.3	104.5	%	0.80				0.76%
Ag 328.068†	-169.8	-0.00061	mg/L	0.000108	-0.00121	mg/L	0.000217	17.90%
Al 308.215†	178807.2	137.0	mg/L	0.83	274.0	mg/L	1.66	0.60%
As 188.979†	-272.1	0.07770	mg/L	0.002421	0.1554	mg/L	0.00484	3.12%
B 249.677†	458.0	0.07989	mg/L	0.001096	0.1598	mg/L	0.00219	1.37%
Ba 233.527†	2171.4	0.5416	mg/L	0.00342	1.083	mg/L	0.0068	0.63%
Be 313.042†	829.1	0.00147	mg/L	0.000030	0.00295	mg/L	0.000059	2.01%
Ca 317.933†	215560.8	22.00	mg/L	0.108	44.00	mg/L	0.217	0.49%
Cd 228.802†	74.5	0.00249	mg/L	0.000150	0.00498	mg/L	0.000299	6.01%
Co 228.616†	2667.9	0.05353	mg/L	0.000583	0.1071	mg/L	0.00117	1.09%
Cr 267.716†	26975.6	5.398	mg/L	0.0294	10.80	mg/L	0.059	0.54%
Cu 324.752†	247696.6	0.8443	mg/L	0.00214	1.689	mg/L	0.0043	0.25%
Fe 273.955†	199074.0	173.1	mg/L	1.16	346.2	mg/L	2.33	0.67%
K 766.490†	12742.1	5.596	mg/L	0.0115	11.19	mg/L	0.023	0.21%
Mg 279.077†	55077.7	48.91	mg/L	0.285	97.82	mg/L	0.571	0.58%
Mn 257.610†	55463.2	1.743	mg/L	0.0114	3.486	mg/L	0.0227	0.65%
Mo 202.031†	47.3	0.00209	mg/L	0.000235	0.00419	mg/L	0.000470	11.22%
Na 589.592†	15154.3	1.137	mg/L	0.0059	2.273	mg/L	0.0117	0.52%
Na 330.237†	-3.5	1.440	mg/L	0.1537	2.880	mg/L	0.3075	10.67%
Ni 231.604†	3360.3	0.9947	mg/L	0.00619	1.989	mg/L	0.0124	0.62%
Pb 220.353†	-152.6	0.01750	mg/L	0.000355	0.03501	mg/L	0.000711	2.03%
Sb 206.836†	244.4	0.01264	mg/L	0.002125	0.02527	mg/L	0.004251	16.82%
Se 196.026†	33.4	0.02376	mg/L	0.003734	0.04752	mg/L	0.007468	15.72%
Si 288.158†	6802.0	3.902	mg/L	0.0219	7.804	mg/L	0.0437	0.56%
Sn 189.927†	-37.9	-0.00660	mg/L	0.000288	-0.01321	mg/L	0.000577	4.37%
Sr 421.552†	95629.8	0.1152	mg/L	0.00049	0.2303	mg/L	0.00099	0.43%
Ti 334.903†	116004.9	6.866	mg/L	0.0390	13.73	mg/L	0.078	0.57%
Tl 190.801†	-34.1	0.00048	mg/L	0.003120	0.00096	mg/L	0.006239	647.31%
V 292.402†	56564.2	0.3741	mg/L	0.00135	0.7482	mg/L	0.00270	0.36%
Zn 206.200†	962.3	0.2841	mg/L	0.00100	0.5682	mg/L	0.00201	0.35%

Sequence No.: 28
 Sample ID: YE33 B SWC

Autosampler Location: 104
 Date Collected: 4/1/2014 5:34:42 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 B SWC

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YE33 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2945750.1	99.48	%	0.286			0.29%
ScR 361.383	254658.8	103.6	%	1.08			1.05%
Ag 328.068†	-332.3	-0.00127	mg/L	0.000273	-0.00254 mg/L	0.000546	21.48%
Al 308.215†	176211.2	135.0	mg/L	0.95	270.0 mg/L	1.90	0.70%
As 188.979†	-301.2	0.08129	mg/L	0.005270	0.1626 mg/L	0.01054	6.48%
B 249.677†	388.1	0.06766	mg/L	0.001095	0.1353 mg/L	0.00219	1.62%
Ba 233.527†	2308.9	0.5781	mg/L	0.00418	1.156 mg/L	0.0084	0.72%
Be 313.042†	988.0	0.00177	mg/L	0.000040	0.00354 mg/L	0.000081	2.28%
Ca 317.933†	408469.5	41.68	mg/L	0.157	83.37 mg/L	0.314	0.38%
Cd 228.802†	63.7	0.00228	mg/L	0.000253	0.00456 mg/L	0.000507	11.12%
Co 228.616†	3203.2	0.06594	mg/L	0.000217	0.1319 mg/L	0.00043	0.33%
Cr 267.716†	7917.7	1.584	mg/L	0.0152	3.168 mg/L	0.0303	0.96%
Cu 324.752†	126942.6	0.4354	mg/L	0.00191	0.8708 mg/L	0.00382	0.44%
Fe 273.955†	195754.0	170.2	mg/L	0.79	340.4 mg/L	1.59	0.47%
K 766.490†	12526.1	5.501	mg/L	0.0397	11.00 mg/L	0.079	0.72%
Mg 279.077†	65129.3	57.85	mg/L	0.317	115.7 mg/L	0.63	0.55%
Mn 257.610†	85088.5	2.675	mg/L	0.0125	5.350 mg/L	0.0250	0.47%
Mo 202.031†	84.6	0.00371	mg/L	0.000280	0.00742 mg/L	0.000559	7.53%
Na 589.592†	24005.4	1.800	mg/L	0.0096	3.601 mg/L	0.0193	0.54%
Na 330.237†	10.6	2.081	mg/L	0.1566	4.161 mg/L	0.3132	7.53%
Ni 231.604†	3378.0	0.9999	mg/L	0.00842	2.000 mg/L	0.0168	0.84%
Pb 220.353†	-87.7	0.01805	mg/L	0.000310	0.03610 mg/L	0.000620	1.72%
Sb 206.836†	76.3	0.01032	mg/L	0.001434	0.02065 mg/L	0.002867	13.89%
Se 196.026†	34.4	0.02439	mg/L	0.005494	0.04878 mg/L	0.010989	22.53%
Si 288.158†	4452.3	2.556	mg/L	0.0179	5.112 mg/L	0.0357	0.70%
Sn 189.927†	-63.4	-0.01130	mg/L	0.002008	-0.02260 mg/L	0.004017	17.77%
Sr 421.552†	118963.4	0.1432	mg/L	0.00089	0.2865 mg/L	0.00178	0.62%
Ti 334.903†	123861.8	7.330	mg/L	0.0397	14.66 mg/L	0.079	0.54%
Tl 190.801†	-25.4	0.00541	mg/L	0.004201	0.01083 mg/L	0.008402	77.58%
V 292.402†	64137.7	0.4073	mg/L	0.00198	0.8146 mg/L	0.00397	0.49%
Zn 206.200†	1191.6	0.3500	mg/L	0.00418	0.6999 mg/L	0.00836	1.19%

Sequence No.: 29
 Sample ID: YE43 C SWC
 Dilution: 2.000000X

Autosampler Location: 105
 Date Collected: 4/1/2014 5:38:43 PM
 Data Type: Original

Nebulizer Parameters: YE43 C SWC

Analyte Back Pressure Flow
 All 219.0 kPa 0.75 L/min

Mean Data: YE43 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2919908.9	98.60	%	0.391			0.40%
ScR 361.383	250382.1	101.9	%	0.41			0.40%
Ag 328.068†	-377.0	-0.00140	mg/L	0.000174	-0.00279 mg/L	0.000349	12.49%
Al 308.215†	146262.0	112.1	mg/L	0.40	224.1 mg/L	0.79	0.35%
As 188.979†	441.5	0.3778	mg/L	0.00562	0.7557 mg/L	0.01125	1.49%
B 249.677†	301.3	0.05246	mg/L	0.001017	0.1049 mg/L	0.00203	1.94%
Ba 233.527†	1381.7	0.3435	mg/L	0.00058	0.6870 mg/L	0.00117	0.17%
Be 313.042†	1188.0	0.00222	mg/L	0.000018	0.00444 mg/L	0.000036	0.81%
Ca 317.933†	585926.8	59.79	mg/L	0.107	119.6 mg/L	0.21	0.18%
Cd 228.802†	-335.8	0.00210	mg/L	0.000079	0.00419 mg/L	0.000158	3.77%
Co 228.616†	3990.9	0.09001	mg/L	0.000513	0.1800 mg/L	0.00103	0.57%
Cr 267.716†	953.3	0.1906	mg/L	0.00009	0.3813 mg/L	0.00017	0.04%
Cu 324.752†	61534.3	0.2120	mg/L	0.00064	0.4240 mg/L	0.00128	0.30%
Fe 273.955†	122065.1	106.1	mg/L	0.85	212.3 mg/L	1.71	0.81%
K 766.490†	22430.2	9.851	mg/L	0.0103	19.70 mg/L	0.021	0.10%
Mg 279.077†	35744.8	31.74	mg/L	0.027	63.47 mg/L	0.055	0.09%
Mn 257.610†	34214.6	1.075	mg/L	0.0084	2.150 mg/L	0.0168	0.78%
Mo 202.031†	214.3	0.01011	mg/L	0.000108	0.02023 mg/L	0.000216	1.07%
Na 589.592†	1391143.6	104.3	mg/L	0.33	208.7 mg/L	0.66	0.32%
Na 330.237†	2205.0	103.1	mg/L	0.29	206.2 mg/L	0.58	0.28%
Ni 231.604†	49007.6	14.51	mg/L	0.030	29.01 mg/L	0.060	0.21%
Pb 220.353†	338.7	0.06429	mg/L	0.001568	0.1286 mg/L	0.00314	2.44%
Sb 206.836†	12.4	0.00536	mg/L	0.001494	0.01071 mg/L	0.002989	27.90%
Se 196.026†	36.5	0.02593	mg/L	0.003942	0.05186 mg/L	0.007885	15.20%
Si 288.158†	4919.7	2.820	mg/L	0.0148	5.639 mg/L	0.0295	0.52%
Sn 189.927†	-55.9	-0.00773	mg/L	0.001128	-0.01546 mg/L	0.002255	14.59%
Sr 421.552†	409308.2	0.4929	mg/L	0.00126	0.9857 mg/L	0.00251	0.26%
Ti 334.903†	60224.9	3.561	mg/L	0.0098	7.123 mg/L	0.0196	0.28%
Tl 190.801†	-7.2	0.00703	mg/L	0.001457	0.01406 mg/L	0.002913	20.72%
V 292.402†	55458.8	0.3510	mg/L	0.00187	0.7021 mg/L	0.00375	0.53%
Zn 206.200†	2118.2	0.6211	mg/L	0.00188	1.242 mg/L	0.0038	0.30%

Sequence No.: 30
Sample ID: YE43 D SWC

Autosampler Location: 106
Date Collected: 4/1/2014 5:42:46 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE43 D SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YE43 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2976862.2	100.5 %	%	0.47			0.47%
ScR 361.383	251925.9	102.5 %	%	0.22			0.22%
Ag 328.068†	-357.3	-0.00131 mg/L	mg/L	0.000236	-0.00262 mg/L	0.000471	17.99%
Al 308.215†	163661.0	125.4 mg/L	mg/L	0.22	250.8 mg/L	0.45	0.18%
As 188.979†	262.6	0.4184 mg/L	mg/L	0.00284	0.8367 mg/L	0.00568	0.68%
B 249.677†	95.3	0.01651 mg/L	mg/L	0.000993	0.03302 mg/L	0.001987	6.02%
Ba 233.527†	2739.0	0.6913 mg/L	mg/L	0.00331	1.383 mg/L	0.0066	0.48%
Be 313.042†	947.8	0.00168 mg/L	mg/L	0.000013	0.00335 mg/L	0.000025	0.75%
Ca 317.933†	528485.1	53.93 mg/L	mg/L	0.088	107.9 mg/L	0.18	0.16%
Cd 228.802†	198.6	0.00426 mg/L	mg/L	0.000220	0.00852 mg/L	0.000440	5.16%
Co 228.616†	3014.8	0.06087 mg/L	mg/L	0.000305	0.1217 mg/L	0.00061	0.50%
Cr 267.716†	1055.1	0.2127 mg/L	mg/L	0.00073	0.4253 mg/L	0.00147	0.35%
Cu 324.752†	87350.5	0.3013 mg/L	mg/L	0.00178	0.6027 mg/L	0.00356	0.59%
Fe 273.955†	191408.3	166.4 mg/L	mg/L	0.55	332.9 mg/L	1.10	0.33%
K 766.490†	14509.0	6.372 mg/L	mg/L	0.0119	12.74 mg/L	0.024	0.19%
Mg 279.077†	39320.0	34.88 mg/L	mg/L	0.070	69.76 mg/L	0.141	0.20%
Mn 257.610†	52970.0	1.665 mg/L	mg/L	0.0057	3.330 mg/L	0.0114	0.34%
Mo 202.031†	118.2	0.00525 mg/L	mg/L	0.000550	0.01051 mg/L	0.001100	10.47%
Na 589.592†	121149.1	9.086 mg/L	mg/L	0.0052	18.17 mg/L	0.010	0.06%
Na 330.237†	154.1	8.680 mg/L	mg/L	0.1071	17.36 mg/L	0.214	1.23%
Ni 231.604†	2027.4	0.6001 mg/L	mg/L	0.00326	1.200 mg/L	0.0065	0.54%
Pb 220.353†	3158.6	0.3921 mg/L	mg/L	0.00288	0.7842 mg/L	0.00575	0.73%
Sb 206.836†	57.1	0.02263 mg/L	mg/L	0.002747	0.04525 mg/L	0.005494	12.14%
Se 196.026†	27.4	0.01933 mg/L	mg/L	0.005385	0.03867 mg/L	0.010769	27.85%
Si 288.158†	5585.3	3.201 mg/L	mg/L	0.0099	6.402 mg/L	0.0198	0.31%
Sn 189.927†	-20.3	0.00231 mg/L	mg/L	0.001950	0.00463 mg/L	0.003900	84.27%
Sr 421.552†	1359606.9	1.637 mg/L	mg/L	0.0028	3.274 mg/L	0.0056	0.17%
Ti 334.903†	128222.6	7.588 mg/L	mg/L	0.0237	15.18 mg/L	0.047	0.31%
Tl 190.801†	-24.9	0.00566 mg/L	mg/L	0.003172	0.01132 mg/L	0.006343	56.02%
V 292.402†	70928.5	0.4454 mg/L	mg/L	0.00241	0.8908 mg/L	0.00481	0.54%
Zn 206.200†	2161.5	0.6339 mg/L	mg/L	0.00162	1.268 mg/L	0.0032	0.26%

Sequence No.: 31
Sample ID: YE43 E SWC

Autosampler Location: 107
Date Collected: 4/1/2014 5:46:49 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE43 E SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YE43 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2941501.6	99.33 %		0.538			0.54%
ScR 361.383	255181.9	103.8 %		0.89			0.86%
Ag 328.068†	-307.8	-0.00112 mg/L		0.000108	-0.00224 mg/L	0.000216	9.64%
Al 308.215†	144195.2	110.5 mg/L		0.26	221.0 mg/L	0.51	0.23%
As 188.979†	159.8	0.3515 mg/L		0.00537	0.7029 mg/L	0.01074	1.53%
B 249.677†	122.1	0.02117 mg/L		0.000690	0.04235 mg/L	0.001381	3.26%
Ba 233.527†	2648.3	0.6717 mg/L		0.00960	1.343 mg/L	0.0192	1.43%
Be 313.042†	762.9	0.00134 mg/L		0.000057	0.00268 mg/L	0.000114	4.27%
Ca 317.933†	483899.9	49.38 mg/L		0.099	98.76 mg/L	0.198	0.20%
Cd 228.802†	15.0	0.00263 mg/L		0.000139	0.00525 mg/L	0.000279	5.30%
Co 228.616†	3180.4	0.06482 mg/L		0.000295	0.1296 mg/L	0.00059	0.46%
Cr 267.716†	1270.3	0.2541 mg/L		0.00281	0.5082 mg/L	0.00561	1.10%
Cu 324.752†	53842.9	0.1866 mg/L		0.00094	0.3733 mg/L	0.00189	0.51%
Fe 273.955†	157796.3	137.2 mg/L		0.39	274.4 mg/L	0.78	0.29%
K 766.490†	15732.4	6.910 mg/L		0.0291	13.82 mg/L	0.058	0.42%
Mg 279.077†	48833.1	43.37 mg/L		0.025	86.73 mg/L	0.051	0.06%
Mn 257.610†	53309.0	1.676 mg/L		0.0043	3.351 mg/L	0.0085	0.25%
Mo 202.031†	108.3	0.00481 mg/L		0.000076	0.00962 mg/L	0.000151	1.57%
Na 589.592†	124585.5	9.344 mg/L		0.0297	18.69 mg/L	0.059	0.32%
Na 330.237†	169.9	9.442 mg/L		0.2458	18.88 mg/L	0.492	2.60%
Ni 231.604†	13203.6	3.908 mg/L		0.0428	7.816 mg/L	0.0857	1.10%
Pb 220.353†	571.7	0.08856 mg/L		0.001683	0.1771 mg/L	0.00337	1.90%
Sb 206.836†	13.8	0.00799 mg/L		0.002110	0.01599 mg/L	0.004220	26.39%
Se 196.026†	27.7	0.01965 mg/L		0.008329	0.03929 mg/L	0.016658	42.39%
Si 288.158†	4170.5	2.392 mg/L		0.0264	4.785 mg/L	0.0528	1.10%
Sn 189.927†	-37.8	-0.00322 mg/L		0.001360	-0.00644 mg/L	0.002721	42.27%
Sr 421.552†	350751.9	0.4224 mg/L		0.00059	0.8447 mg/L	0.00118	0.14%
Ti 334.903†	124609.7	7.374 mg/L		0.0043	14.75 mg/L	0.009	0.06%
Tl 190.801†	-21.3	0.00428 mg/L		0.001718	0.00856 mg/L	0.003436	40.14%
V 292.402†	54483.2	0.3411 mg/L		0.00177	0.6823 mg/L	0.00355	0.52%
Zn 206.200†	1508.3	0.4424 mg/L		0.00607	0.8847 mg/L	0.01215	1.37%

Sequence No.: 32
 Sample ID: YE43 F SWC

Autosampler Location: 108
 Date Collected: 4/1/2014 5:50:50 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE43 F SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

 Mean Data: YE43 F SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2983923.5	100.8	%	0.63			0.63%
ScR 361.383	257667.1	104.9	%	0.42			0.40%
Ag 328.068†	-386.4	-0.00151	mg/L	0.000141	-0.00302 mg/L	0.000281	9.32%
Al 308.215†	145737.2	111.7	mg/L	0.44	223.3 mg/L	0.88	0.39%
As 188.979†	-124.2	0.1342	mg/L	0.00288	0.2684 mg/L	0.00577	2.15%
B 249.677†	172.0	0.02991	mg/L	0.000438	0.05982 mg/L	0.000876	1.46%
Ba 233.527†	723.0	0.1682	mg/L	0.00076	0.3364 mg/L	0.00152	0.45%
Be 313.042†	1031.4	0.00186	mg/L	0.000013	0.00372 mg/L	0.000025	0.68%
Ca 317.933†	431126.6	44.00	mg/L	0.155	87.99 mg/L	0.309	0.35%
Cd 228.802†	21.0	0.00102	mg/L	0.000012	0.00204 mg/L	0.000025	1.20%
Co 228.616†	3170.8	0.06772	mg/L	0.000567	0.1354 mg/L	0.00113	0.84%
Cr 267.716†	712.8	0.1432	mg/L	0.00083	0.2864 mg/L	0.00166	0.58%
Cu 324.752†	67683.6	0.2337	mg/L	0.00130	0.4674 mg/L	0.00260	0.56%
Fe 273.955†	155423.6	135.1	mg/L	1.10	270.3 mg/L	2.19	0.81%
K 766.490†	18461.5	8.108	mg/L	0.0505	16.22 mg/L	0.101	0.62%
Mg 279.077†	39701.1	35.24	mg/L	0.092	70.48 mg/L	0.183	0.26%
Mn 257.610†	28893.9	0.9076	mg/L	0.00414	1.815 mg/L	0.0083	0.46%
Mo 202.031†	241.0	0.01173	mg/L	0.000282	0.02346 mg/L	0.000565	2.41%
Na 589.592†	253017.6	18.98	mg/L	0.078	37.95 mg/L	0.157	0.41%
Na 330.237†	387.1	19.23	mg/L	0.150	38.46 mg/L	0.299	0.78%
Ni 231.604†	4195.4	1.242	mg/L	0.0057	2.484 mg/L	0.0114	0.46%
Pb 220.353†	7.2	0.02249	mg/L	0.000630	0.04498 mg/L	0.001260	2.80%
Sb 206.836†	12.2	0.00816	mg/L	0.003251	0.01633 mg/L	0.006502	39.83%
Se 196.026†	23.3	0.01643	mg/L	0.004909	0.03286 mg/L	0.009818	29.88%
Si 288.158†	4184.8	2.399	mg/L	0.0169	4.799 mg/L	0.0339	0.71%
Sn 189.927†	-51.7	-0.00803	mg/L	0.001164	-0.01605 mg/L	0.002329	14.50%
Sr 421.552†	399087.5	0.4806	mg/L	0.00196	0.9611 mg/L	0.00392	0.41%
Ti 334.903†	99433.5	5.884	mg/L	0.0185	11.77 mg/L	0.037	0.31%
Tl 190.801†	-19.4	0.00452	mg/L	0.001780	0.00903 mg/L	0.003561	39.43%
V 292.402†	72761.5	0.4596	mg/L	0.00268	0.9192 mg/L	0.00535	0.58%
Zn 206.200†	1152.5	0.3381	mg/L	0.00216	0.6762 mg/L	0.00431	0.64%

Sequence No.: 33
Sample ID: YE43 G SWC

Autosampler Location: 109
Date Collected: 4/1/2014 5:54:50 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE43 G SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YE43 G SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2971932.0	100.4	%	1.38				1.38%
ScR 361.383	256229.0	104.3	%	0.17				0.16%
Ag 328.068†	-258.7	-0.00097	mg/L	0.000022	-0.00194	mg/L	0.000044	2.25%
Al 308.215†	114819.8	87.98	mg/L	0.555	176.0	mg/L	1.11	0.63%
As 188.979†	-113.4	0.08725	mg/L	0.000874	0.1745	mg/L	0.00175	1.00%
B 249.677†	376.5	0.06573	mg/L	0.001466	0.1315	mg/L	0.00293	2.23%
Ba 233.527†	581.9	0.1355	mg/L	0.00041	0.2710	mg/L	0.00081	0.30%
Be 313.042†	713.9	0.00129	mg/L	0.000017	0.00258	mg/L	0.000033	1.29%
Ca 317.933†	360124.3	36.75	mg/L	0.182	73.50	mg/L	0.364	0.49%
Cd 228.802†	48.8	0.00092	mg/L	0.000153	0.00185	mg/L	0.000306	16.60%
Co 228.616†	1582.3	0.03130	mg/L	0.000646	0.06260	mg/L	0.001292	2.06%
Cr 267.716†	523.5	0.1053	mg/L	0.00007	0.2106	mg/L	0.00014	0.07%
Cu 324.752†	56602.3	0.1954	mg/L	0.00252	0.3907	mg/L	0.00503	1.29%
Fe 273.955†	125124.1	108.8	mg/L	0.56	217.6	mg/L	1.13	0.52%
K 766.490†	20002.4	8.785	mg/L	0.0340	17.57	mg/L	0.068	0.39%
Mg 279.077†	31358.8	27.83	mg/L	0.149	55.67	mg/L	0.297	0.53%
Mn 257.610†	24505.4	0.7698	mg/L	0.00402	1.540	mg/L	0.0080	0.52%
Mo 202.031†	345.4	0.01722	mg/L	0.000252	0.03444	mg/L	0.000504	1.46%
Na 589.592†	260561.1	19.54	mg/L	0.107	39.09	mg/L	0.214	0.55%
Na 330.237†	407.6	19.87	mg/L	0.124	39.75	mg/L	0.249	0.63%
Ni 231.604†	314.9	0.09322	mg/L	0.000605	0.1864	mg/L	0.00121	0.65%
Pb 220.353†	20.8	0.01924	mg/L	0.000746	0.03849	mg/L	0.001492	3.88%
Sb 206.836†	10.2	0.00624	mg/L	0.001378	0.01248	mg/L	0.002756	22.09%
Se 196.026†	22.6	0.01604	mg/L	0.003470	0.03208	mg/L	0.006940	21.63%
Si 288.158†	5198.0	2.978	mg/L	0.0088	5.957	mg/L	0.0175	0.29%
Sn 189.927†	-51.1	-0.00902	mg/L	0.001643	-0.01804	mg/L	0.003287	18.22%
Sr 421.552†	357773.0	0.4308	mg/L	0.00253	0.8616	mg/L	0.00506	0.59%
Ti 334.903†	73985.2	4.378	mg/L	0.0281	8.756	mg/L	0.0562	0.64%
Tl 190.801†	-11.2	0.00610	mg/L	0.002393	0.01220	mg/L	0.004786	39.24%
V 292.402†	45867.6	0.2881	mg/L	0.00311	0.5762	mg/L	0.00623	1.08%
Zn 206.200†	621.7	0.1827	mg/L	0.00083	0.3654	mg/L	0.00167	0.46%

Sequence No.: 34
Sample ID: YE43MBSPK SWC

Autosampler Location: 110
Date Collected: 4/1/2014 5:58:50 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE43MBSPK SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YE43MBSPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2995383.7	101.2 %		0.53			0.52%
ScR 361.383	256828.4	104.5 %		0.58			0.55%
Ag 328.068†	109705.7	0.5385 mg/L		0.00429	1.077 mg/L	0.0086	0.80%
Al 308.215†	2693.7	2.057 mg/L		0.0086	4.113 mg/L	0.0173	0.42%
As 188.979†	3733.4	2.164 mg/L		0.0088	4.327 mg/L	0.0175	0.40%
B 249.677†	36.0	0.00521 mg/L		0.000527	0.01042 mg/L	0.001055	10.12%
Ba 233.527†	8334.1	2.182 mg/L		0.0127	4.363 mg/L	0.0254	0.58%
Be 313.042†	252588.6	0.4991 mg/L		0.00418	0.9982 mg/L	0.00837	0.84%
Ca 317.933†	101916.2	10.40 mg/L		0.080	20.80 mg/L	0.160	0.77%
Cd 228.802†	17705.3	0.5180 mg/L		0.00389	1.036 mg/L	0.0078	0.75%
Co 228.616†	20594.4	0.5092 mg/L		0.00412	1.018 mg/L	0.0082	0.81%
Cr 267.716†	2665.5	0.5321 mg/L		0.00149	1.064 mg/L	0.0030	0.28%
Cu 324.752†	146194.3	0.4947 mg/L		0.00403	0.9894 mg/L	0.00805	0.81%
Fe 273.955†	2438.0	2.117 mg/L		0.0085	4.233 mg/L	0.0170	0.40%
K 766.490†	23265.1	10.22 mg/L		0.029	20.44 mg/L	0.057	0.28%
Mg 279.077†	12115.9	10.78 mg/L		0.041	21.56 mg/L	0.081	0.38%
Mn 257.610†	15528.9	0.4887 mg/L		0.00405	0.9775 mg/L	0.00811	0.83%
Mo 202.031†	26.7	0.00121 mg/L		0.000547	0.00243 mg/L	0.001095	45.10%
Na 589.592†	139086.7	10.43 mg/L		0.055	20.86 mg/L	0.110	0.53%
Na 330.237†	240.5	10.99 mg/L		0.089	21.98 mg/L	0.179	0.81%
Ni 231.604†	1815.6	0.5365 mg/L		0.00297	1.073 mg/L	0.0059	0.55%
Pb 220.353†	17461.4	2.038 mg/L		0.0135	4.076 mg/L	0.0270	0.66%
Sb 206.836†	3.9	-0.00389 mg/L		0.001204	-0.00779 mg/L	0.002408	30.92%
Se 196.026†	3013.6	2.164 mg/L		0.0094	4.328 mg/L	0.0188	0.43%
Si 288.158†	3.1	0.00538 mg/L		0.001612	0.01076 mg/L	0.003223	29.94%
Sn 189.927†	-17.1	-0.00345 mg/L		0.000950	-0.00689 mg/L	0.001900	27.56%
Sr 421.552†	418854.5	0.5044 mg/L		0.00213	1.009 mg/L	0.0043	0.42%
Ti 334.903†	93.7	0.00471 mg/L		0.000422	0.00942 mg/L	0.000844	8.96%
Tl 190.801†	4493.2	2.045 mg/L		0.0044	4.089 mg/L	0.0087	0.21%
V 292.402†	79505.6	0.5156 mg/L		0.00400	1.031 mg/L	0.0080	0.78%
Zn 206.200†	1802.2	0.5282 mg/L		0.00234	1.056 mg/L	0.0047	0.44%

Sequence No.: 35
 Sample ID: CV 15

Autosampler Location: 7
 Date Collected: 4/1/2014 6:02:50 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

 Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2956935.5	99.85 %	0.409			0.41%
ScR 361.383	247870.8	100.9 %	0.19			0.19%
Ag 328.068†	214586.5	1.053 mg/L	0.0108	1.053 mg/L	0.0108	1.02%
Al 308.215†	2702.8	2.039 mg/L	0.0068	2.039 mg/L	0.0068	0.34%
As 188.979†	3550.1	2.089 mg/L	0.0105	2.089 mg/L	0.0105	0.50%
B 249.677†	5891.8	1.029 mg/L	0.0035	1.029 mg/L	0.0035	0.34%
Ba 233.527†	4091.5	1.071 mg/L	0.0024	1.071 mg/L	0.0024	0.23%
Be 313.042†	501248.0	0.9904 mg/L	0.00310	0.9904 mg/L	0.00310	0.31%
Ca 317.933†	20875.7	2.130 mg/L	0.0058	2.130 mg/L	0.0058	0.27%
Cd 228.802†	34187.7	1.011 mg/L	0.0077	1.011 mg/L	0.0077	0.77%
Co 228.616†	40698.2	1.005 mg/L	0.0089	1.005 mg/L	0.0089	0.89%
Cr 267.716†	5312.4	1.062 mg/L	0.0043	1.062 mg/L	0.0043	0.41%
Cu 324.752†	304870.5	1.031 mg/L	0.0117	1.031 mg/L	0.0117	1.14%
Fe 273.955†	2419.2	2.097 mg/L	0.0041	2.097 mg/L	0.0041	0.19%
K 766.490†	45879.7	20.15 mg/L	0.081	20.15 mg/L	0.081	0.40%
Mg 279.077†	2300.7	2.054 mg/L	0.0049	2.054 mg/L	0.0049	0.24%
Mn 257.610†	30521.5	0.9604 mg/L	0.00654	0.9604 mg/L	0.00654	0.68%
Mo 202.031†	18601.5	0.9581 mg/L	0.00413	0.9581 mg/L	0.00413	0.43%
Na 589.592†	687657.7	51.58 mg/L	0.088	51.58 mg/L	0.088	0.17%
Na 330.237†	1107.2	51.52 mg/L	0.225	51.52 mg/L	0.225	0.44%
Ni 231.604†	3625.6	1.073 mg/L	0.0046	1.073 mg/L	0.0046	0.43%
Pb 220.353†	17408.6	2.032 mg/L	0.0099	2.032 mg/L	0.0099	0.48%
Sb 206.836†	6618.8	2.061 mg/L	0.0103	2.061 mg/L	0.0103	0.50%
Se 196.026†	2851.5	2.047 mg/L	0.0057	2.047 mg/L	0.0057	0.28%
Si 288.158†	3446.6	1.977 mg/L	0.0268	1.977 mg/L	0.0268	1.35%
Sn 189.927†	3404.4	0.9544 mg/L	0.00415	0.9544 mg/L	0.00415	0.43%
Sr 421.552†	841695.5	1.014 mg/L	0.0026	1.014 mg/L	0.0026	0.26%
Ti 334.903†	16530.9	0.9775 mg/L	0.00541	0.9775 mg/L	0.00541	0.55%
Tl 190.801†	4518.8	2.053 mg/L	0.0113	2.053 mg/L	0.0113	0.55%
V 292.402†	158062.2	1.025 mg/L	0.0084	1.025 mg/L	0.0084	0.82%
Zn 206.200†	3615.9	1.060 mg/L	0.0034	1.060 mg/L	0.0034	0.32%

Sequence No.: 36

Autosampler Location: 1

Sample ID: CB 15

Date Collected: 4/1/2014 6:06:54 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2929412.7	98.93	%	0.172			0.17%
ScR 361.383	252560.3	102.8	%	0.45			0.44%
Ag 328.068†	15.0	0.00007	mg/L	0.000135	0.00007 mg/L	0.000135	183.77%
Al 308.215†	9.5	0.00730	mg/L	0.003073	0.00730 mg/L	0.003073	42.07%
As 188.979†	1.5	0.00091	mg/L	0.001533	0.00091 mg/L	0.001533	167.69%
B 249.677†	36.5	0.00638	mg/L	0.000473	0.00638 mg/L	0.000473	7.42%
Ba 233.527†	-0.1	-0.00002	mg/L	0.000985	-0.00002 mg/L	0.000985	>999.9%
Be 313.042†	3.6	0.00001	mg/L	0.000015	0.00001 mg/L	0.000015	213.54%
Ca 317.933†	1.2	0.00012	mg/L	0.000718	0.00012 mg/L	0.000718	577.09%
Cd 228.802†	2.2	0.00006	mg/L	0.000113	0.00006 mg/L	0.000113	182.95%
Co 228.616†	1.6	0.00004	mg/L	0.000089	0.00004 mg/L	0.000089	237.07%
Cr 267.716†	0.7	0.00015	mg/L	0.000883	0.00015 mg/L	0.000883	603.45%
Cu 324.752†	198.1	0.00067	mg/L	0.000167	0.00067 mg/L	0.000167	24.90%
Fe 273.955†	-0.7	-0.00061	mg/L	0.001118	-0.00061 mg/L	0.001118	184.72%
K 766.490†	29.0	0.01273	mg/L	0.006925	0.01273 mg/L	0.006925	54.41%
Mg 279.077†	0.9	0.00077	mg/L	0.002752	0.00077 mg/L	0.002752	357.11%
Mn 257.610†	2.5	0.00008	mg/L	0.000061	0.00008 mg/L	0.000061	78.56%
Mo 202.031†	16.0	0.00082	mg/L	0.000227	0.00082 mg/L	0.000227	27.58%
Na 589.592†	17.1	0.00128	mg/L	0.001564	0.00128 mg/L	0.001564	122.28%
Na 330.237†	2.0	0.09289	mg/L	0.324513	0.09289 mg/L	0.324513	349.36%
Ni 231.604†	0.6	0.00017	mg/L	0.000245	0.00017 mg/L	0.000245	141.59%
Pb 220.353†	0.2	0.00002	mg/L	0.000720	0.00002 mg/L	0.000720	>999.9%
Sb 206.836†	24.2	0.00756	mg/L	0.001270	0.00756 mg/L	0.001270	16.80%
Se 196.026†	4.2	0.00305	mg/L	0.002670	0.00305 mg/L	0.002670	87.65%
Si 288.158†	3.6	0.00207	mg/L	0.000642	0.00207 mg/L	0.000642	31.02%
Sn 189.927†	3.9	0.00108	mg/L	0.000799	0.00108 mg/L	0.000799	73.81%
Sr 421.552†	13.1	0.00002	mg/L	0.000051	0.00002 mg/L	0.000051	320.74%
Ti 334.903†	15.2	0.00090	mg/L	0.000175	0.00090 mg/L	0.000175	19.40%
Tl 190.801†	0.1	0.00004	mg/L	0.001047	0.00004 mg/L	0.001047	>999.9%
V 292.402†	-4.4	-0.00003	mg/L	0.000115	-0.00003 mg/L	0.000115	412.97%
Zn 206.200†	0.2	0.00005	mg/L	0.000602	0.00005 mg/L	0.000602	>999.9%

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 4-2-14

	Analyst <u>4314</u>	Peer <u>43</u>	Comment
Logbook:			
Analyst, Date, Method info	/	✓	
Sample ID's	/	✓	
Standard/QC solution ID's recorded	/	✓	
Prep codes	/	✓	
Dilution factors	/	✓	
Crossouts/Corrections/Deletions	/	✓	
Calibration:			
Blank & Standard intensities	/	✓	
Standard deviations	/	✓	
Curve fit	/	✓	
Calibration Verification:			
ICV/CCV	/	/	
ICB/CCB	/	/	
Samples:			
RSD's & SD's	/	/	
Internal Standards	/	✓	
Carry-over	/	/	
Method QC:			
CRI/CRA	/	✓	
ICSA/ICSAB	/	/	
Post Spikes/Serial Dilutions	—	—	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	/	/	
Matrix Spikes	/	/	
Matrix Duplicates	/	/	<u>YE42 - CAF</u>
Method Blanks	/	/	
Data Distribution:			
Requested elements/isotope identified	/	✓	
Correct samples identified for distribution	/	/	
Raw data match distributed data	/	/	
Data filename correct	/	/	
Necessary Analysts Notes and CAF's	/	/	<u>YE42</u>



IEC Date: 3-26-14

Analysis Date: 4-2-14

Analyst: EL

LR Date: 1-3-14

Page: 1 of 3

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1355
		↓ 2			C1331
		3			C1332
		4			C1333
		↓ 5			C1334
		ICV			C1377
		ORE ICB			C1357
		ICSA			C532
		ICSA3			C533
		CCV1			
		CCB1			
		YE41 MB	SWC	2	
		Nexion New CV			
		Elan New CV			
		YE33 M	SWC	5	
		↓ Q		↓	
		YE34 L			
		YE41 ADup		2	✓
		↓ A		↓	
		MSK			✓
		↓ MBSK	↓	↓	✓
		CCV2			
		CCB2			
		YE41 B	SWC	2	4-3-14

✓ H. 4-314

Nebulizer Parameters: Hg_ReAlign

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

4/2/2014 9:50:47 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.000 Slit adjustment: 0

Analysis Begun

Start Time: 4/2/2014 9:51:16 AM Plasma On Time: 4/2/2014 9:04:05 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: FAST-Verify-Install
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists elements from Ag to Zn and ScA/ScR with their respective calibration and processing details.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 4/2/2014 9:51:26 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/2/2014 10:20:25 AM

Plasma On Time: 4/2/2014 9:04:05 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140402

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 4/2/2014 10:20:26 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2772466.1	2103.51	0.08%	100.0	%
ScR 361.383	232891.1	1957.60	0.84%	100.0	%
Ag 328.068†	80.0	25.16	31.44%	[0.00]	mg/L
Al 308.215†	111.0	3.12	2.81%	[0.00]	mg/L
As 188.979†	-7.0	4.66	66.38%	[0.00]	mg/L
B 249.677†	39.9	6.03	15.10%	[0.00]	mg/L
Ba 233.527†	14.0	1.46	10.39%	[0.00]	mg/L
Be 313.042†	713.9	9.66	1.35%	[0.00]	mg/L
Ca 317.933†	-137.7	3.87	2.81%	[0.00]	mg/L
Cd 228.802†	294.8	3.40	1.15%	[0.00]	mg/L
Co 228.616†	-76.4	3.26	4.27%	[0.00]	mg/L
Cr 267.716†	-83.3	3.28	3.93%	[0.00]	mg/L
Cu 324.752†	4620.8	22.58	0.49%	[0.00]	mg/L
Fe 273.955†	50.2	1.13	2.24%	[0.00]	mg/L
K 766.490†	576.9	7.12	1.23%	[0.00]	mg/L
Mg 279.077†	66.6	4.26	6.39%	[0.00]	mg/L
Mn 257.610†	142.0	3.43	2.41%	[0.00]	mg/L
Mo 202.031†	55.6	5.11	9.18%	[0.00]	mg/L
Na 589.592†	-389.9	21.52	5.52%	[0.00]	mg/L
Na 330.237†	-150.3	3.98	2.65%	[0.00]	mg/L
Ni 231.604†	-16.5	2.24	13.60%	[0.00]	mg/L
Pb 220.353†	46.0	5.87	12.77%	[0.00]	mg/L
Sb 206.836†	70.8	6.47	9.14%	[0.00]	mg/L
Se 196.026†	-28.8	2.55	8.85%	[0.00]	mg/L
Si 288.158†	79.6	9.99	12.54%	[0.00]	mg/L
Sn 189.927†	-5.3	3.32	62.85%	[0.00]	mg/L
Sr 421.552†	175.5	13.04	7.43%	[0.00]	mg/L
Ti 334.903†	-33.7	6.71	19.92%	[0.00]	mg/L
Tl 190.801†	-38.1	4.89	12.85%	[0.00]	mg/L
V 292.402†	75.1	9.17	12.22%	[0.00]	mg/L
Zn 206.200†	11.6	0.80	6.94%	[0.00]	mg/L

=====
Sequence No.: 2

Autosampler Location: 2

Sample ID: STD2

Date Collected: 4/2/2014 10:24:26 AM

Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected	Calib
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Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2755849.7	12874.04	0.47%	99.40	%
ScR 361.383	231254.5	1326.90	0.57%	99.30	%
Ba 233.527†	40694.4	318.95	0.78%	[10]	mg/L
Cd 228.802†	319652.3	1045.06	0.33%	[10]	mg/L
Co 228.616†	403212.6	952.13	0.24%	[10]	mg/L
Cr 267.716†	50313.1	89.90	0.18%	[10]	mg/L
Cu 324.752†	2859347.7	5813.08	0.20%	[10]	mg/L
Mn 257.610†	306636.6	1145.19	0.37%	[10]	mg/L
V 292.402†	1536933.3	6815.20	0.44%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/2/2014 10:26:13 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2764689.1	19424.15	0.70%	99.72	%
ScR 361.383	235006.0	1627.16	0.69%	100.9	%
Ag 328.068†	201324.5	838.57	0.42%	[1.0]	mg/L
As 188.979†	17185.8	117.17	0.68%	[10]	mg/L
B 249.677†	56413.1	143.88	0.26%	[10]	mg/L
Be 313.042†	2434094.0	28226.98	1.16%	[5.0]	mg/L
Na 589.592†	661745.3	6229.63	0.94%	[50]	mg/L
Ni 231.604†	34724.2	247.64	0.71%	[10]	mg/L
Pb 220.353†	83248.1	487.64	0.59%	[10]	mg/L
Se 196.026†	13785.9	45.06	0.33%	[10]	mg/L
Sr 421.552†	4063212.3	43402.73	1.07%	[5]	mg/L
Tl 190.801†	21487.1	191.69	0.89%	[10]	mg/L
Zn 206.200†	34993.2	166.43	0.48%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/2/2014 10:28:30 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2775633.0	12971.86	0.47%	100.1	%
ScR 361.383	233105.3	1223.87	0.53%	100.1	%
Mo 202.031†	183453.5	995.01	0.54%	[10]	mg/L
Sb 206.836†	31171.9	212.41	0.68%	[10]	mg/L
Si 288.158†	17301.3	298.26	1.72%	[10]	mg/L
Sn 189.927†	33307.1	190.19	0.57%	[10]	mg/L
Ti 334.903†	164039.4	453.36	0.28%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/2/2014 10:30:44 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2611648.5	12427.50	0.48%	94.20	%
ScR 361.383	231455.2	136.70	0.06%	99.38	%
Al 308.215†	38028.1	270.97	0.71%	[30]	mg/L
Ca 317.933†	292885.8	727.39	0.25%	[30]	mg/L
Fe 273.955†	110594.9	825.71	0.75%	[100]	mg/L
K 766.490†	224083.8	429.38	0.19%	[100]	mg/L
Mg 279.077†	33618.8	196.60	0.58%	[30]	mg/L
Na 330.237†	2078.0	11.32	0.54%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	201300	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1268	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1719	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5641	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	4069	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	486800	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9763	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	31970	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40320	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5031	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	285900	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1106	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2241	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1121	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	30660	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18350	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13230	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	20.78	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3472	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8325	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3117	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1379	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1730	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3331	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	812600	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16400	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2149	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	153700	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3499	0.00000	1.000000	

=====
Analysis Begun

Start Time: 4/2/2014 10:37:00 AM

Plasma On Time: 4/2/2014 9:04:05 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0402.sif

Batch ID:

Results Data Set: I2140402

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Sequence No.: 1

Autosampler Location: 7

Sample ID: CV

Date Collected: 4/2/2014 10:37:01 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2759133.7	99.52 %	0.395			0.40%
ScR 361.383	228892.2	98.28 %	0.299			0.30%
Ag 328.068†	214359.3	1.065 mg/L	0.0005	1.065 mg/L	0.0005	0.05%
Al 308.215†	2643.7	2.053 mg/L	0.0113	2.053 mg/L	0.0113	0.55%
As 188.979†	3423.2	2.024 mg/L	0.0076	2.024 mg/L	0.0076	0.37%
B 249.677†	5758.0	1.020 mg/L	0.0082	1.020 mg/L	0.0082	0.81%
Ba 233.527†	4107.0	1.009 mg/L	0.0060	1.009 mg/L	0.0060	0.59%
Be 313.042†	475714.6	0.9769 mg/L	0.00464	0.9769 mg/L	0.00464	0.48%
Ca 317.933†	20543.9	2.104 mg/L	0.0185	2.104 mg/L	0.0185	0.88%
Cd 228.802†	33298.6	1.032 mg/L	0.0026	1.032 mg/L	0.0026	0.25%
Co 228.616†	40098.4	0.9926 mg/L	0.00189	0.9926 mg/L	0.00189	0.19%
Cr 267.716†	5170.0	1.027 mg/L	0.0077	1.027 mg/L	0.0077	0.75%
Cu 324.752†	283052.7	0.9897 mg/L	0.00351	0.9897 mg/L	0.00351	0.35%
Fe 273.955†	2316.4	2.088 mg/L	0.0199	2.088 mg/L	0.0199	0.95%
K 766.490†	45394.9	20.26 mg/L	0.052	20.26 mg/L	0.052	0.26%
Mg 279.077†	2277.7	2.039 mg/L	0.0128	2.039 mg/L	0.0128	0.63%
Mn 257.610†	29907.4	0.9758 mg/L	0.00468	0.9758 mg/L	0.00468	0.48%
Mo 202.031†	17930.6	0.9774 mg/L	0.00451	0.9774 mg/L	0.00451	0.46%
Na 589.592†	682262.0	51.55 mg/L	0.028	51.55 mg/L	0.028	0.05%
Na 330.237†	1087.1	52.28 mg/L	0.344	52.28 mg/L	0.344	0.66%
Ni 231.604†	3544.7	1.021 mg/L	0.0087	1.021 mg/L	0.0087	0.85%
Pb 220.353†	16744.6	2.013 mg/L	0.0054	2.013 mg/L	0.0054	0.27%
Sb 206.836†	6570.3	2.106 mg/L	0.0121	2.106 mg/L	0.0121	0.58%
Se 196.026†	2755.5	1.998 mg/L	0.0152	1.998 mg/L	0.0152	0.76%
Si 288.158†	3483.6	2.018 mg/L	0.0349	2.018 mg/L	0.0349	1.73%
Sn 189.927†	3337.0	1.004 mg/L	0.0065	1.004 mg/L	0.0065	0.65%
Sr 421.552†	826550.8	1.017 mg/L	0.0010	1.017 mg/L	0.0010	0.10%
Ti 334.903†	16503.8	1.005 mg/L	0.0011	1.005 mg/L	0.0011	0.10%
Tl 190.801†	4281.0	1.984 mg/L	0.0085	1.984 mg/L	0.0085	0.43%
V 292.402†	155574.8	1.016 mg/L	0.0010	1.016 mg/L	0.0010	0.10%
Zn 206.200†	3538.3	1.012 mg/L	0.0075	1.012 mg/L	0.0075	0.74%

Sequence No.: 2
Sample ID: FCB
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 1
Date Collected: 4/2/2014 10:41:04 AM
Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2791977.3	100.7	%	0.33			0.32%
ScR 361.383	235399.4	101.1	%	1.23			1.22%
Ag 328.068†	1.4	0.00001	mg/L	0.000142	0.00001 mg/L	0.000142	>999.9%
Al 308.215†	2.4	0.00183	mg/L	0.003652	0.00183 mg/L	0.003652	199.12%
As 188.979†	1.7	0.00100	mg/L	0.000576	0.00100 mg/L	0.000576	57.53%
B 249.677†	8.4	0.00149	mg/L	0.000561	0.00149 mg/L	0.000561	37.66%
Ba 233.527†	3.2	0.00079	mg/L	0.000363	0.00079 mg/L	0.000363	45.66%
Be 313.042†	27.2	0.00006	mg/L	0.000056	0.00006 mg/L	0.000056	100.41%
Ca 317.933†	5.1	0.00053	mg/L	0.001212	0.00053 mg/L	0.001212	230.31%
Cd 228.802†	7.4	0.00023	mg/L	0.000177	0.00023 mg/L	0.000177	78.25%
Co 228.616†	-0.5	-0.00001	mg/L	0.000158	-0.00001 mg/L	0.000158	>999.9%
Cr 267.716†	-2.4	-0.00047	mg/L	0.000789	-0.00047 mg/L	0.000789	167.22%
Cu 324.752†	151.1	0.00053	mg/L	0.000206	0.00053 mg/L	0.000206	38.93%
Fe 273.955†	-0.7	-0.00067	mg/L	0.000310	-0.00067 mg/L	0.000310	45.87%
K 766.490†	-30.7	-0.01370	mg/L	0.007129	-0.01370 mg/L	0.007129	52.04%
Mg 279.077†	-13.9	-0.01240	mg/L	0.005962	-0.01240 mg/L	0.005962	48.08%
Mn 257.610†	-2.3	-0.00008	mg/L	0.000117	-0.00008 mg/L	0.000117	152.99%
Mo 202.031†	21.1	0.00115	mg/L	0.000380	0.00115 mg/L	0.000380	33.12%
Na 589.592†	21.1	0.00159	mg/L	0.003756	0.00159 mg/L	0.003756	235.80%
Na 330.237†	-0.5	-0.02499	mg/L	0.021753	-0.02499 mg/L	0.021753	87.04%
Ni 231.604†	1.5	0.00043	mg/L	0.001129	0.00043 mg/L	0.001129	265.53%
Pb 220.353†	3.7	0.00044	mg/L	0.000690	0.00044 mg/L	0.000690	157.17%
Sb 206.836†	13.1	0.00422	mg/L	0.002735	0.00422 mg/L	0.002735	64.78%
Se 196.026†	1.3	0.00093	mg/L	0.004463	0.00093 mg/L	0.004463	482.46%
Si 288.158†	-10.8	-0.00624	mg/L	0.001496	-0.00624 mg/L	0.001496	23.96%
Sn 189.927†	2.8	0.00083	mg/L	0.000776	0.00083 mg/L	0.000776	93.41%
Sr 421.552†	62.8	0.00008	mg/L	0.000023	0.00008 mg/L	0.000023	30.32%
Ti 334.903†	10.1	0.00062	mg/L	0.000169	0.00062 mg/L	0.000169	27.40%
Tl 190.801†	4.6	0.00216	mg/L	0.001583	0.00216 mg/L	0.001583	73.39%
V 292.402†	19.1	0.00012	mg/L	0.000171	0.00012 mg/L	0.000171	139.00%
Zn 206.200†	-1.2	-0.00034	mg/L	0.000348	-0.00034 mg/L	0.000348	102.11%

Sequence No.: 3
Sample ID: CRI
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 301
Date Collected: 4/2/2014 10:45:04 AM
Data Type: Original

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2793064.3	100.7	%	1.22			1.21%
ScR 361.383	233527.5	100.3	%	0.63			0.63%
Ag 328.068†	575.0	0.00286	mg/L	0.000198	0.00286 mg/L	0.000198	6.94%
Al 308.215†	65.3	0.05140	mg/L	0.006033	0.05140 mg/L	0.006033	11.74%
As 188.979†	80.3	0.04690	mg/L	0.001757	0.04690 mg/L	0.001757	3.75%
B 249.677†	124.2	0.02201	mg/L	0.001146	0.02201 mg/L	0.001146	5.20%
Ba 233.527†	16.2	0.00397	mg/L	0.000181	0.00397 mg/L	0.000181	4.56%
Be 313.042†	421.6	0.00087	mg/L	0.000036	0.00087 mg/L	0.000036	4.15%
Ca 317.933†	474.3	0.04859	mg/L	0.000698	0.04859 mg/L	0.000698	1.44%
Cd 228.802†	86.7	0.00248	mg/L	0.000042	0.00248 mg/L	0.000042	1.68%
Co 228.616†	113.4	0.00280	mg/L	0.000100	0.00280 mg/L	0.000100	3.58%
Cr 267.716†	29.5	0.00586	mg/L	0.000981	0.00586 mg/L	0.000981	16.74%
Cu 324.752†	724.0	0.00253	mg/L	0.000116	0.00253 mg/L	0.000116	4.59%
Fe 273.955†	53.5	0.04838	mg/L	0.001455	0.04838 mg/L	0.001455	3.01%
K 766.490†	1099.2	0.4905	mg/L	0.01798	0.4905 mg/L	0.01798	3.67%
Mg 279.077†	49.2	0.04395	mg/L	0.002685	0.04395 mg/L	0.002685	6.11%
Mn 257.610†	28.8	0.00094	mg/L	0.000055	0.00094 mg/L	0.000055	5.81%
Mo 202.031†	90.4	0.00493	mg/L	0.000165	0.00493 mg/L	0.000165	3.34%
Na 589.592†	6720.5	0.5078	mg/L	0.00201	0.5078 mg/L	0.00201	0.40%
Na 330.237†	8.3	0.3957	mg/L	0.07843	0.3957 mg/L	0.07843	19.82%
Ni 231.604†	37.0	0.01066	mg/L	0.001078	0.01066 mg/L	0.001078	10.11%
Pb 220.353†	173.1	0.02081	mg/L	0.000816	0.02081 mg/L	0.000816	3.92%
Sb 206.836†	168.2	0.05398	mg/L	0.002011	0.05398 mg/L	0.002011	3.73%
Se 196.026†	65.5	0.04754	mg/L	0.003838	0.04754 mg/L	0.003838	8.07%
Si 288.158†	84.8	0.04904	mg/L	0.006283	0.04904 mg/L	0.006283	12.81%
Sn 189.927†	36.1	0.01087	mg/L	0.000919	0.01087 mg/L	0.000919	8.46%
Sr 421.552†	832.5	0.00102	mg/L	0.000027	0.00102 mg/L	0.000027	2.64%
Ti 334.903†	82.4	0.00502	mg/L	0.000266	0.00502 mg/L	0.000266	5.30%
Tl 190.801†	104.8	0.04877	mg/L	0.000255	0.04877 mg/L	0.000255	0.52%
V 292.402†	460.3	0.00302	mg/L	0.000127	0.00302 mg/L	0.000127	4.20%
Zn 206.200†	34.8	0.00995	mg/L	0.000800	0.00995 mg/L	0.000800	8.03%

Sequence No.: 4
 Sample ID: ICSA
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 4/2/2014 10:49:05 AM
 Data Type: Original

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2696903.8	97.27	%	0.916			0.94%
ScR 361.383	230535.0	98.99	%	1.075			1.09%
Ag 328.068†	-246.2	-0.00061	mg/L	0.000182	-0.00061 mg/L	0.000182	29.85%
Al 308.215†	256959.2	202.7	mg/L	0.31	202.7 mg/L	0.31	0.15%
As 188.979†	51.6	0.02142	mg/L	0.005492	0.02142 mg/L	0.005492	25.64%
B 249.677†	-52.7	-0.00934	mg/L	0.001384	-0.00934 mg/L	0.001384	14.82%
Ba 233.527†	115.0	-0.00266	mg/L	0.001205	-0.00266 mg/L	0.001205	45.39%
Be 313.042†	12.1	0.00002	mg/L	0.000025	0.00002 mg/L	0.000025	111.50%
Ca 317.933†	988929.5	101.3	mg/L	0.20	101.3 mg/L	0.20	0.20%
Cd 228.802†	50.8	-0.00030	mg/L	0.000089	-0.00030 mg/L	0.000089	29.27%
Co 228.616†	70.0	0.00172	mg/L	0.000136	0.00172 mg/L	0.000136	7.93%
Cr 267.716†	12.6	-0.00119	mg/L	0.001525	-0.00119 mg/L	0.001525	127.99%
Cu 324.752†	-2302.4	0.00024	mg/L	0.000262	0.00024 mg/L	0.000262	109.48%
Fe 273.955†	221463.7	200.2	mg/L	1.89	200.2 mg/L	1.89	0.95%
K 766.490†	38.7	0.01729	mg/L	0.004285	0.01729 mg/L	0.004285	24.78%
Mg 279.077†	116090.4	103.5	mg/L	1.57	103.5 mg/L	1.57	1.52%
Mn 257.610†	27.5	-0.00160	mg/L	0.000290	-0.00160 mg/L	0.000290	18.09%
Mo 202.031†	75.8	0.00256	mg/L	0.000413	0.00256 mg/L	0.000413	16.13%
Na 589.592†	220.0	0.01662	mg/L	0.002366	0.01662 mg/L	0.002366	14.23%
Na 330.237†	11.3	-0.07359	mg/L	0.253045	-0.07359 mg/L	0.253045	343.84%
Ni 231.604†	2.2	0.00064	mg/L	0.001891	0.00064 mg/L	0.001891	293.94%
Pb 220.353†	-383.5	-0.00488	mg/L	0.001629	-0.00488 mg/L	0.001629	33.37%
Sb 206.836†	67.9	0.02156	mg/L	0.001689	0.02156 mg/L	0.001689	7.84%
Se 196.026†	43.1	0.03129	mg/L	0.008508	0.03129 mg/L	0.008508	27.19%
Si 288.158†	-31.1	-0.00564	mg/L	0.005104	-0.00564 mg/L	0.005104	90.46%
Sn 189.927†	-105.0	-0.01927	mg/L	0.000154	-0.01927 mg/L	0.000154	0.80%
Sr 421.552†	4532.1	0.00558	mg/L <i>cat.</i>	0.000087	0.00558 mg/L	0.000087	1.55%
Ti 334.903†	148.2	0.00188	mg/L	0.000373	0.00188 mg/L	0.000373	19.80%
Tl 190.801†	-39.0	0.00488	mg/L	0.004261	0.00488 mg/L	0.004261	87.31%
V 292.402†	1205.4	-0.00345	mg/L	0.000292	-0.00345 mg/L	0.000292	8.48%
Zn 206.200†	10.8	0.00307	mg/L	0.000561	0.00307 mg/L	0.000561	18.30%

Sequence No.: 5

Autosampler Location: 303

Sample ID: ICSAB

Date Collected: 4/2/2014 10:53:20 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2720716.3	98.13	%	0.199			0.20%
ScR 361.383	231372.8	99.35	%	0.099			0.10%
Ag 328.068†	215521.3	1.071	mg/L	0.0038	1.071 mg/L	0.0038	0.36%
Al 308.215†	255182.9	201.3	mg/L	0.38	201.3 mg/L	0.38	0.19%
As 188.979†	1766.4	1.019	mg/L	0.0073	1.019 mg/L	0.0073	0.71%
B 249.677†	-37.7	-0.00866	mg/L	0.001168	-0.00866 mg/L	0.001168	13.48%
Ba 233.527†	4117.6	0.9809	mg/L	0.00357	0.9809 mg/L	0.00357	0.36%
Be 313.042†	480566.0	0.9869	mg/L	0.00497	0.9869 mg/L	0.00497	0.50%
Ca 317.933†	983900.2	100.8	mg/L	0.15	100.8 mg/L	0.15	0.15%
Cd 228.802†	32632.3	1.015	mg/L	0.0056	1.015 mg/L	0.0056	0.55%
Co 228.616†	37855.2	0.9386	mg/L	0.00190	0.9386 mg/L	0.00190	0.20%
Cr 267.716†	5009.6	0.9920	mg/L	0.00110	0.9920 mg/L	0.00110	0.11%
Cu 324.752†	298723.1	1.053	mg/L	0.0042	1.053 mg/L	0.0042	0.40%
Fe 273.955†	220582.2	199.4	mg/L	0.61	199.4 mg/L	0.61	0.30%
K 766.490†	16.5	0.00737	mg/L	0.003135	0.00737 mg/L	0.003135	42.53%
Mg 279.077†	111169.2	99.07	mg/L	0.069	99.07 mg/L	0.069	0.07%
Mn 257.610†	28595.5	0.9303	mg/L	0.00281	0.9303 mg/L	0.00281	0.30%
Mo 202.031†	71.4	0.00233	mg/L	0.000272	0.00233 mg/L	0.000272	11.70%
Na 589.592†	65.1	0.00492	mg/L	0.002944	0.00492 mg/L	0.002944	59.80%
Na 330.237†	14.4	-0.1908	mg/L	0.42861	-0.1908 mg/L	0.42861	224.62%
Ni 231.604†	3312.6	0.9541	mg/L	0.00462	0.9541 mg/L	0.00462	0.48%
Pb 220.353†	7744.5	0.9717	mg/L	0.00662	0.9717 mg/L	0.00662	0.68%
Sb 206.836†	3211.0	1.020	mg/L	0.0060	1.020 mg/L	0.0060	0.59%
Se 196.026†	1401.5	1.016	mg/L	0.0120	1.016 mg/L	0.0120	1.18%
Si 288.158†	-49.1	-0.01206	mg/L	0.003533	-0.01206 mg/L	0.003533	29.30%
Sn 189.927†	-100.3	-0.01732	mg/L	0.002266	-0.01732 mg/L	0.002266	13.09%
Sr 421.552†	4395.9	0.00541	mg/L	0.000007	0.00541 mg/L	0.000007	0.13%
Ti 334.903†	157.1	0.00227	mg/L	0.000050	0.00227 mg/L	0.000050	2.21%
Tl 190.801†	1999.9	0.9443	mg/L	0.00471	0.9443 mg/L	0.00471	0.50%
V 292.402†	150676.4	0.9734	mg/L	0.00326	0.9734 mg/L	0.00326	0.34%
Zn 206.200†	3298.4	0.9429	mg/L	0.00048	0.9429 mg/L	0.00048	0.05%

Sequence No.: 6
 Sample ID: CV/
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/2/2014 10:58:24 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2809518.7	101.3 %	0.19			0.19%
ScR 361.383	231461.9	99.39 %	0.346			0.35%
Ag 328.068†	207322.8	1.030 mg/L	0.0079	1.030 mg/L	0.0079	0.76%
Al 308.215†	2617.5	2.033 mg/L	0.0088	2.033 mg/L	0.0088	0.43%
As 188.979†	3311.0	1.958 mg/L	0.0092	1.958 mg/L	0.0092	0.47%
B 249.677†	5689.3	1.008 mg/L	0.0036	1.008 mg/L	0.0036	0.35%
Ba 233.527†	4103.8	1.008 mg/L	0.0054	1.008 mg/L	0.0054	0.53%
Be 313.042†	467703.3	0.9605 mg/L	0.01017	0.9605 mg/L	0.01017	1.06%
Ca 317.933†	20336.4	2.083 mg/L	0.0072	2.083 mg/L	0.0072	0.35%
Cd 228.802†	32342.4	1.003 mg/L	0.0064	1.003 mg/L	0.0064	0.63%
Co 228.616†	39138.1	0.9688 mg/L	0.00735	0.9688 mg/L	0.00735	0.76%
Cr 267.716†	5118.0	1.017 mg/L	0.0028	1.017 mg/L	0.0028	0.28%
Cu 324.752†	286862.1	1.003 mg/L	0.0075	1.003 mg/L	0.0075	0.75%
Fe 273.955†	2285.3	2.060 mg/L	0.0174	2.060 mg/L	0.0174	0.84%
K 766.490†	44617.6	19.91 mg/L	0.047	19.91 mg/L	0.047	0.23%
Mg 279.077†	2255.4	2.019 mg/L	0.0123	2.019 mg/L	0.0123	0.61%
Mn 257.610†	29267.7	0.9549 mg/L	0.00583	0.9549 mg/L	0.00583	0.61%
Mo 202.031†	17817.1	0.9712 mg/L	0.00446	0.9712 mg/L	0.00446	0.46%
Na 589.592†	671089.0	50.71 mg/L	0.224	50.71 mg/L	0.224	0.44%
Na 330.237†	1080.7	51.96 mg/L	0.129	51.96 mg/L	0.129	0.25%
Ni 231.604†	3508.3	1.011 mg/L	0.0055	1.011 mg/L	0.0055	0.54%
Pb 220.353†	16669.7	2.004 mg/L	0.0106	2.004 mg/L	0.0106	0.53%
Sb 206.836†	6393.0	2.049 mg/L	0.0106	2.049 mg/L	0.0106	0.52%
Se 196.026†	2671.8	1.937 mg/L	0.0105	1.937 mg/L	0.0105	0.54%
Si 288.158†	3409.6	1.975 mg/L	0.0235	1.975 mg/L	0.0235	1.19%
Sn 189.927†	3218.6	0.9680 mg/L	0.00627	0.9680 mg/L	0.00627	0.65%
Sr 421.552†	810763.4	0.9977 mg/L	0.00501	0.9977 mg/L	0.00501	0.50%
Ti 334.903†	16128.2	0.9819 mg/L	0.00574	0.9819 mg/L	0.00574	0.59%
Tl 190.801†	4178.0	1.937 mg/L	0.0092	1.937 mg/L	0.0092	0.48%
V 292.402†	150670.2	0.9845 mg/L	0.00798	0.9845 mg/L	0.00798	0.81%
Zn 206.200†	3504.4	1.002 mg/L	0.0058	1.002 mg/L	0.0058	0.57%

Sequence No.: 7
 Sample ID: CB/
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/2/2014 11:02:28 AM
 Data Type: Original

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2848791.2	102.8	%	0.34			0.33%
ScR 361.383	240348.5	103.2	%	0.79			0.77%
Ag 328.068†	-19.6	-0.00010	mg/L	0.000038	-0.00010 mg/L	0.000038	38.73%
Al 308.215†	0.0	0.00002	mg/L	0.007863	0.00002 mg/L	0.007863	>999.9%
As 188.979†	-0.7	-0.00041	mg/L	0.000858	-0.00041 mg/L	0.000858	211.13%
B 249.677†	6.9	0.00122	mg/L	0.000267	0.00122 mg/L	0.000267	21.83%
Ba 233.527†	-0.3	-0.00008	mg/L	0.000645	-0.00008 mg/L	0.000645	775.92%
Be 313.042†	22.6	0.00005	mg/L	0.000019	0.00005 mg/L	0.000019	40.94%
Ca 317.933†	2.7	0.00028	mg/L	0.001357	0.00028 mg/L	0.001357	483.88%
Cd 228.802†	7.4	0.00024	mg/L	0.000124	0.00024 mg/L	0.000124	52.82%
Co 228.616†	-0.2	-0.00001	mg/L	0.000217	-0.00001 mg/L	0.000217	>999.9%
Cr 267.716†	4.0	0.00080	mg/L	0.000370	0.00080 mg/L	0.000370	46.05%
Cu 324.752†	69.4	0.00024	mg/L	0.000275	0.00024 mg/L	0.000275	113.29%
Fe 273.955†	0.7	0.00063	mg/L	0.001991	0.00063 mg/L	0.001991	315.55%
K 766.490†	-21.3	-0.00953	mg/L	0.014169	-0.00953 mg/L	0.014169	148.72%
Mg 279.077†	-11.2	-0.01001	mg/L	0.007131	-0.01001 mg/L	0.007131	71.25%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000156	-0.00001 mg/L	0.000156	>999.9%
Mo 202.031†	10.9	0.00060	mg/L	0.000457	0.00060 mg/L	0.000457	76.67%
Na 589.592†	83.7	0.00632	mg/L	0.001088	0.00632 mg/L	0.001088	17.22%
Na 330.237†	1.4	0.06728	mg/L	0.241144	0.06728 mg/L	0.241144	358.41%
Ni 231.604†	1.7	0.00048	mg/L	0.001353	0.00048 mg/L	0.001353	280.33%
Pb 220.353†	0.1	0.00002	mg/L	0.000696	0.00002 mg/L	0.000696	>999.9%
Sb 206.836†	12.4	0.00397	mg/L	0.002194	0.00397 mg/L	0.002194	55.34%
Se 196.026†	0.6	0.00042	mg/L	0.000948	0.00042 mg/L	0.000948	226.45%
Si 288.158†	-14.2	-0.00820	mg/L	0.007390	-0.00820 mg/L	0.007390	90.17%
Sn 189.927†	2.4	0.00072	mg/L	0.000526	0.00072 mg/L	0.000526	72.61%
Sr 421.552†	43.1	0.00005	mg/L	0.000030	0.00005 mg/L	0.000030	57.39%
Ti 334.903†	12.7	0.00077	mg/L	0.000687	0.00077 mg/L	0.000687	88.86%
Tl 190.801†	-1.4	-0.00065	mg/L	0.002019	-0.00065 mg/L	0.002019	309.34%
V 292.402†	-3.8	-0.00002	mg/L	0.000035	-0.00002 mg/L	0.000035	166.26%
Zn 206.200†	-2.1	-0.00059	mg/L	0.000701	-0.00059 mg/L	0.000701	119.05%

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Analysis Begun

Start Time: 4/2/2014 11:38:58 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/2/2014 9:04:05 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0402.sif

Batch ID:

Results Data Set: I2140402

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 304

Sample ID: YE41 MB SWC

Date Collected: 4/2/2014 11:38:59 AM

Analyst: EL

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE41 MB SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE41 MB SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2768671.5	99.86	%	0.196			0.20%
ScR 361.383	235961.7	101.3	%	0.33			0.33%
Ag 328.068†	-32.8	-0.00016	mg/L	0.000148	-0.00033	0.000296	91.11%
Al 308.215†	10.3	0.00816	mg/L	0.002747	0.01632	0.005495	33.66%
As 188.979†	-3.9	-0.00225	mg/L	0.001071	-0.00450	0.002142	47.61%
B 249.677†	-2.5	-0.00044	mg/L	0.001044	-0.00089	0.002088	234.81%
Ba 233.527†	1.1	0.00027	mg/L	0.000475	0.00055	0.000951	174.00%
Be 313.042†	7.4	0.00002	mg/L	0.000010	0.00003	0.000020	67.69%
Ca 317.933†	99.4	0.01018	mg/L	0.001011	0.02037	0.002023	9.93%
Cd 228.802†	4.5	0.00015	mg/L	0.000047	0.00030	0.000095	31.08%
Co 228.616†	-3.7	-0.00009	mg/L	0.000142	-0.00019	0.000285	153.18%
Cr 267.716†	3.3	0.00065	mg/L	0.000758	0.00130	0.001517	116.42%
Cu 324.752†	206.3	0.00072	mg/L	0.000043	0.00144	0.000086	5.99%
Fe 273.955†	4.7	0.00428	mg/L	0.001541	0.00856	0.003082	36.01%
K 766.490†	-13.3	-0.00594	mg/L	0.007816	-0.01187	0.015631	131.67%
Mg 279.077†	-9.1	-0.00816	mg/L	0.006575	-0.01632	0.013150	80.56%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000030	-0.00003	0.000060	215.22%
Mo 202.031†	0.1	0.00001	mg/L	0.000051	0.00001	0.000101	708.08%
Na 589.592†	111.5	0.00842	mg/L	0.001205	0.01685	0.002410	14.31%
Na 330.237†	2.9	0.1381	mg/L	0.09575	0.2763	0.19151	69.32%
Ni 231.604†	-0.2	-0.00007	mg/L	0.000509	-0.00014	0.001019	742.55%
Pb 220.353†	1.7	0.00021	mg/L	0.001235	0.00042	0.002469	585.83%
Sb 206.836†	8.2	0.00263	mg/L	0.001318	0.00527	0.002636	50.06%
Se 196.026†	1.1	0.00079	mg/L	0.000871	0.00158	0.001742	110.30%
Si 288.158†	-2.3	-0.00136	mg/L	0.004184	-0.00272	0.008368	308.17%
Sn 189.927†	2.7	0.00082	mg/L	0.000819	0.00164	0.001637	99.73%
Sr 421.552†	18.7	0.00002	mg/L	0.000022	0.00005	0.000045	97.24%
Ti 334.903†	6.2	0.00038	mg/L	0.000147	0.00075	0.000294	38.93%
Tl 190.801†	5.4	0.00253	mg/L	0.002717	0.00507	0.005434	107.26%
V 292.402†	3.6	0.00003	mg/L	0.000087	0.00005	0.000175	342.90%
Zn 206.200†	1.2	0.00033	mg/L	0.000430	0.00067	0.000861	128.62%

Sequence No.: 2
 Sample ID: NEX NEW CV
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 305
 Date Collected: 4/2/2014 11:43:00 AM
 Data Type: Original

Nebulizer Parameters: NEX NEW CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: NEX NEW CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2803079.4	101.1	%	0.45			0.45%
ScR 361.383	237262.9	101.9	%	0.68			0.67%
Ag 328.068†	11041.8	0.05489	mg/L	0.000532	0.05489 mg/L	0.000532	0.97%
Al 308.215†	6519.7	5.142	mg/L	0.0257	5.142 mg/L	0.0257	0.50%
As 188.979†	107.1	0.06169	mg/L	0.003593	0.06169 mg/L	0.003593	5.82%
B 249.677†	-3.3	-0.00064	mg/L	0.001819	-0.00064 mg/L	0.001819	283.24%
Ba 233.527†	215.7	0.05220	mg/L	0.000755	0.05220 mg/L	0.000755	1.45%
Be 313.042†	23894.3	0.04907	mg/L	0.000230	0.04907 mg/L	0.000230	0.47%
Ca 317.933†	50689.2	5.192	mg/L	0.0186	5.192 mg/L	0.0186	0.36%
Cd 228.802†	1792.3	0.05575	mg/L	0.000245	0.05575 mg/L	0.000245	0.44%
Co 228.616†	2216.7	0.05497	mg/L	0.000156	0.05497 mg/L	0.000156	0.28%
Cr 267.716†	276.4	0.05459	mg/L	0.000931	0.05459 mg/L	0.000931	1.71%
Cu 324.752†	14994.3	0.05262	mg/L	0.000585	0.05262 mg/L	0.000585	1.11%
Fe 273.955†	5741.0	5.191	mg/L	0.0191	5.191 mg/L	0.0191	0.37%
K 766.490†	11597.6	5.176	mg/L	0.0430	5.176 mg/L	0.0430	0.83%
Mg 279.077†	5759.9	5.136	mg/L	0.0259	5.136 mg/L	0.0259	0.50%
Mn 257.610†	1615.6	0.05261	mg/L	0.000616	0.05261 mg/L	0.000616	1.17%
Mo 202.031†	933.0	0.05077	mg/L	0.000232	0.05077 mg/L	0.000232	0.46%
Na 589.592†	69609.3	5.260	mg/L	0.0309	5.260 mg/L	0.0309	0.59%
Na 330.237†	113.3	5.407	mg/L	0.2235	5.407 mg/L	0.2235	4.13%
Ni 231.604†	194.0	0.05587	mg/L	0.001312	0.05587 mg/L	0.001312	2.35%
Pb 220.353†	455.4	0.05578	mg/L	0.001020	0.05578 mg/L	0.001020	1.83%
Sb 206.836†	160.6	0.05099	mg/L	0.001158	0.05099 mg/L	0.001158	2.27%
Se 196.026†	132.3	0.09589	mg/L	0.002742	0.09589 mg/L	0.002742	2.86%
Si 288.158†	-16.8	-0.00884	mg/L	0.001648	-0.00884 mg/L	0.001648	18.64%
Sn 189.927†	-9.1	-0.00208	mg/L	0.000418	-0.00208 mg/L	0.000418	20.10%
Sr 421.552†	161.6	0.00020	mg/L	0.000033	0.00020 mg/L	0.000033	16.76%
Ti 334.903†	6.9	-0.00001	mg/L	0.000293	-0.00001 mg/L	0.000293	>999.9%
Tl 190.801†	119.7	0.05585	mg/L	0.002898	0.05585 mg/L	0.002898	5.19%
V 292.402†	8166.0	0.05310	mg/L	0.000195	0.05310 mg/L	0.000195	0.37%
Zn 206.200†	189.5	0.05415	mg/L	0.000856	0.05415 mg/L	0.000856	1.58%

Sequence No.: 3
 Sample ID: ELAN NEW CV
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 306
 Date Collected: 4/2/2014 11:47:00 AM
 Data Type: Original

Nebulizer Parameters: ELAN NEW CV

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: ELAN NEW CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2851362.2	102.8 %	0.39			0.38%
ScR 361.383	241650.7	103.8 %	0.47			0.46%
Ag 328.068†	10639.2	0.05289 mg/L	0.000563	0.05289 mg/L	0.000563	1.06%
Al 308.215†	6369.6	5.023 mg/L	0.0237	5.023 mg/L	0.0237	0.47%
As 188.979†	101.4	0.05840 mg/L	0.001238	0.05840 mg/L	0.001238	2.12%
B 249.677†	21.5	0.00375 mg/L	0.001488	0.00375 mg/L	0.001488	39.67%
Ba 233.527†	211.2	0.05111 mg/L	0.000484	0.05111 mg/L	0.000484	0.95%
Be 313.042†	23543.9	0.04835 mg/L	0.000223	0.04835 mg/L	0.000223	0.46%
Ca 317.933†	49746.3	5.095 mg/L	0.0136	5.095 mg/L	0.0136	0.27%
Cd 228.802†	1736.6	0.05402 mg/L	0.000332	0.05402 mg/L	0.000332	0.61%
Co 228.616†	2147.4	0.05325 mg/L	0.000402	0.05325 mg/L	0.000402	0.76%
Cr 267.716†	276.0	0.05452 mg/L	0.001480	0.05452 mg/L	0.001480	2.71%
Cu 324.752†	14415.4	0.05060 mg/L	0.000473	0.05060 mg/L	0.000473	0.94%
Fe 273.955†	5641.9	5.101 mg/L	0.0174	5.101 mg/L	0.0174	0.34%
K 766.490†	11260.0	5.025 mg/L	0.0215	5.025 mg/L	0.0215	0.43%
Mg 279.077†	5634.8	5.025 mg/L	0.0127	5.025 mg/L	0.0127	0.25%
Mn 257.610†	1570.3	0.05113 mg/L	0.000418	0.05113 mg/L	0.000418	0.82%
Mo 202.031†	911.5	0.04960 mg/L	0.000533	0.04960 mg/L	0.000533	1.07%
Na 589.592†	68110.3	5.146 mg/L	0.0172	5.146 mg/L	0.0172	0.33%
Na 330.237†	110.7	5.283 mg/L	0.1400	5.283 mg/L	0.1400	2.65%
Ni 231.604†	185.2	0.05335 mg/L	0.000724	0.05335 mg/L	0.000724	1.36%
Pb 220.353†	435.5	0.05337 mg/L	0.000356	0.05337 mg/L	0.000356	0.67%
Sb 206.836†	159.7	0.05069 mg/L	0.000720	0.05069 mg/L	0.000720	1.42%
Se 196.026†	129.9	0.09415 mg/L	0.000204	0.09415 mg/L	0.000204	0.22%
Si 288.158†	-18.6	-0.00991 mg/L	0.004120	-0.00991 mg/L	0.004120	41.59%
Sn 189.927†	-11.6	-0.00283 mg/L	0.000250	-0.00283 mg/L	0.000250	8.86%
Sr 421.552†	173.2	0.00021 mg/L	0.000002	0.00021 mg/L	0.000002	0.75%
Ti 334.903†	14.4	0.00046 mg/L	0.000273	0.00046 mg/L	0.000273	59.59%
Tl 190.801†	117.0	0.05460 mg/L	0.002737	0.05460 mg/L	0.002737	5.01%
V 292.402†	7902.9	0.05139 mg/L	0.000534	0.05139 mg/L	0.000534	1.04%
Zn 206.200†	184.9	0.05283 mg/L	0.000507	0.05283 mg/L	0.000507	0.96%

Sequence No.: 4
 Sample ID: YE33 M SWC
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 307
 Date Collected: 4/2/2014 11:51:00 AM
 Data Type: Original

 Nebulizer Parameters: YE33 M SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

 Mean Data: YE33 M SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2757688.3	99.47	%	0.547			0.55%
ScR 361.383	234262.1	100.6	%	0.84			0.84%
Ag 328.068†	18.3	0.00027	mg/L	0.000211	0.00133	0.001055	79.34%
Al 308.215†	89233.7	70.38	mg/L	0.159	351.9	0.79	0.23%
As 188.979†	-145.1	0.05876	mg/L	0.001744	0.2938	0.00872	2.97%
B 249.677†	170.3	0.03007	mg/L	0.001170	0.1504	0.00585	3.89%
Ba 233.527†	1539.6	0.3584	mg/L	0.00451	1.792	0.0226	1.26%
Be 313.042†	471.8	0.00088	mg/L	0.000013	0.00438	0.000065	1.49%
Ca 317.933†	203543.3	20.85	mg/L	0.027	104.2	0.14	0.13%
Cd 228.802†	107.6	0.00976	mg/L	0.000107	0.04881	0.000534	1.09%
Co 228.616†	2422.3	0.05136	mg/L	0.000199	0.2568	0.00100	0.39%
Cr 267.716†	19220.1	3.822	mg/L	0.0367	19.11	0.184	0.96%
Cu 324.752†	686709.9	2.406	mg/L	0.0050	12.03	0.025	0.21%
Fe 273.955†	136277.7	123.2	mg/L	0.65	616.1	3.26	0.53%
K 766.490†	6757.6	3.016	mg/L	0.0212	15.08	0.106	0.70%
Mg 279.077†	24558.3	21.84	mg/L	0.238	109.2	1.19	1.09%
Mn 257.610†	37335.9	1.217	mg/L	0.0048	6.086	0.0240	0.39%
Mo 202.031†	174.2	0.00917	mg/L	0.000679	0.04587	0.003396	7.40%
Na 589.592†	12894.6	0.9743	mg/L	0.00387	4.871	0.0193	0.40%
Na 330.237†	4.9	1.008	mg/L	0.0642	5.039	0.3212	6.37%
Ni 231.604†	24673.0	7.105	mg/L	0.0795	35.53	0.397	1.12%
Pb 220.353†	11740.3	1.427	mg/L	0.0141	7.135	0.0704	0.99%
Sb 206.836†	245.9	0.03344	mg/L	0.000145	0.1672	0.00072	0.43%
Se 196.026†	12.9	0.00920	mg/L	0.003375	0.04599	0.016873	36.69%
Si 288.158†	2829.2	1.640	mg/L	0.0151	8.201	0.0754	0.92%
Sn 189.927†	89.4	0.03026	mg/L	0.001355	0.1513	0.00677	4.48%
Sr 421.552†	59816.6	0.07361	mg/L	0.000160	0.3680	0.00080	0.22%
Ti 334.903†	69184.7	4.215	mg/L	0.0064	21.08	0.032	0.15%
Tl 190.801†	-20.7	0.00198	mg/L	0.000569	0.00990	0.002845	28.74%
V 292.402†	29172.0	0.1964	mg/L	0.00097	0.9818	0.00485	0.49%
Zn 206.200†	2621.4	0.7506	mg/L	0.00957	3.753	0.0478	1.27%

Sequence No.: 5
 Sample ID: YE33 Q SWC
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 308
 Date Collected: 4/2/2014 11:55:00 AM
 Data Type: Original

Nebulizer Parameters: YE33 Q SWC
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE33 Q SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2811294.3	101.4	%	0.13				0.13%
ScR 361.383	241862.2	103.9	%	0.47				0.45%
Ag 328.068†	-54.8	-0.00009	mg/L	0.000271	-0.00044	mg/L	0.001355	309.38%
Al 308.215†	84882.4	66.95	mg/L	0.405	334.8	mg/L	2.02	0.60%
As 188.979†	-129.6	0.05213	mg/L	0.004098	0.2607	mg/L	0.02049	7.86%
B 249.677†	122.8	0.02165	mg/L	0.000663	0.1082	mg/L	0.00331	3.06%
Ba 233.527†	1436.5	0.3347	mg/L	0.00125	1.673	mg/L	0.0063	0.37%
Be 313.042†	437.7	0.00082	mg/L	0.000024	0.00408	mg/L	0.000121	2.96%
Ca 317.933†	227401.0	23.29	mg/L	0.195	116.5	mg/L	0.97	0.84%
Cd 228.802†	-113.8	0.00401	mg/L	0.000221	0.02003	mg/L	0.001103	5.51%
Co 228.616†	2335.9	0.04998	mg/L	0.001283	0.2499	mg/L	0.00642	2.57%
Cr 267.716†	8095.3	1.610	mg/L	0.0150	8.051	mg/L	0.0748	0.93%
Cu 324.752†	505957.8	1.774	mg/L	0.0335	8.869	mg/L	0.1676	1.89%
Fe 273.955†	123403.1	111.6	mg/L	1.25	557.9	mg/L	6.23	1.12%
K 766.490†	4886.3	2.181	mg/L	0.0142	10.90	mg/L	0.071	0.65%
Mg 279.077†	25109.8	22.34	mg/L	0.207	111.7	mg/L	1.04	0.93%
Mn 257.610†	39577.4	1.290	mg/L	0.0139	6.451	mg/L	0.0694	1.08%
Mo 202.031†	134.7	0.00698	mg/L	0.000667	0.03492	mg/L	0.003337	9.56%
Na 589.592†	9851.6	0.7444	mg/L	0.00470	3.722	mg/L	0.0235	0.63%
Na 330.237†	7.3	1.048	mg/L	0.2155	5.242	mg/L	1.0773	20.55%
Ni 231.604†	28570.1	8.228	mg/L	0.0372	41.14	mg/L	0.186	0.45%
Pb 220.353†	8513.0	1.036	mg/L	0.0235	5.179	mg/L	0.1176	2.27%
Sb 206.836†	140.2	0.02761	mg/L	0.001123	0.1381	mg/L	0.00562	4.07%
Se 196.026†	16.5	0.01185	mg/L	0.005393	0.05927	mg/L	0.026963	45.49%
Si 288.158†	3232.7	1.872	mg/L	0.0164	9.360	mg/L	0.0819	0.87%
Sn 189.927†	16.2	0.00843	mg/L	0.000429	0.04216	mg/L	0.002144	5.09%
Sr 421.552†	56578.7	0.06962	mg/L	0.000548	0.3481	mg/L	0.00274	0.79%
Ti 334.903†	60605.2	3.693	mg/L	0.0322	18.46	mg/L	0.161	0.87%
Tl 190.801†	-15.8	0.00390	mg/L	0.002233	0.01952	mg/L	0.011166	57.20%
V 292.402†	25981.7	0.1675	mg/L	0.00370	0.8373	mg/L	0.01849	2.21%
Zn 206.200†	1693.1	0.4847	mg/L	0.00610	2.423	mg/L	0.0305	1.26%

Sequence No.: 6
 Sample ID: YE34 L SWC
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 309
 Date Collected: 4/2/2014 11:59:00 AM
 Data Type: Original

Nebulizer Parameters: YE34 L SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE34 L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2864460.3	103.3 %		0.55			0.53%
ScR 361.383	245204.7	105.3 %		1.06			1.01%
Ag 328.068†	-159.4	-0.00068 mg/L		0.000112	-0.00339 mg/L	0.000559	16.49%
Al 308.215†	179136.4	141.3 mg/L		0.50	706.5 mg/L	2.51	0.36%
As 188.979†	-148.5	0.04386 mg/L		0.002447	0.2193 mg/L	0.01224	5.58%
B 249.677†	194.4	0.03439 mg/L		0.001687	0.1720 mg/L	0.00844	4.91%
Ba 233.527†	1322.9	0.3022 mg/L		0.00503	1.511 mg/L	0.0251	1.66%
Be 313.042†	524.9	0.00096 mg/L		0.000023	0.00481 mg/L	0.000115	2.38%
Ca 317.933†	56337.3	5.771 mg/L		0.0251	28.85 mg/L	0.125	0.43%
Cd 228.802†	24.5	0.00162 mg/L		0.000122	0.00810 mg/L	0.000608	7.51%
Co 228.616†	1440.3	0.02878 mg/L		0.000903	0.1439 mg/L	0.00451	3.14%
Cr 267.716†	6536.7	1.302 mg/L		0.0194	6.508 mg/L	0.0971	1.49%
Cu 324.752†	131031.0	0.4641 mg/L		0.00997	2.321 mg/L	0.0498	2.15%
Fe 273.955†	162127.2	146.6 mg/L		1.48	733.0 mg/L	7.40	1.01%
K 766.490†	8152.6	3.638 mg/L		0.0237	18.19 mg/L	0.119	0.65%
Mg 279.077†	25805.3	22.94 mg/L		0.363	114.7 mg/L	1.82	1.58%
Mn 257.610†	24176.1	0.7873 mg/L		0.01253	3.937 mg/L	0.0626	1.59%
Mo 202.031†	0.9	-0.00004 mg/L		0.000234	-0.00021 mg/L	0.001169	546.01%
Na 589.592†	10939.9	0.8266 mg/L		0.00162	4.133 mg/L	0.0081	0.20%
Na 330.237†	7.3	1.240 mg/L		0.0814	6.200 mg/L	0.4072	6.57%
Ni 231.604†	5957.5	1.716 mg/L		0.0285	8.578 mg/L	0.1425	1.66%
Pb 220.353†	-94.2	0.01911 mg/L		0.000415	0.09555 mg/L	0.002076	2.17%
Sb 206.836†	82.3	0.01349 mg/L		0.001239	0.06747 mg/L	0.006197	9.18%
Se 196.026†	27.7	0.01988 mg/L		0.002001	0.09940 mg/L	0.010007	10.07%
Si 288.158†	852.3	0.4962 mg/L		0.01261	2.481 mg/L	0.0631	2.54%
Sn 189.927†	-15.8	-0.00333 mg/L		0.002188	-0.01663 mg/L	0.010939	65.77%
Sr 421.552†	40131.2	0.04938 mg/L		0.000195	0.2469 mg/L	0.00098	0.40%
Ti 334.903†	60929.8	3.714 mg/L		0.0123	18.57 mg/L	0.062	0.33%
Tl 190.801†	-21.8	0.00489 mg/L		0.001979	0.02444 mg/L	0.009895	40.49%
V 292.402†	46758.2	0.2993 mg/L		0.00642	1.496 mg/L	0.0321	2.15%
Zn 206.200†	721.1	0.2065 mg/L		0.00488	1.033 mg/L	0.0244	2.37%

Sequence No.: 7

Autosampler Location: 310

Sample ID: YE41 ADUP SWC

Date Collected: 4/2/2014 12:03:00 PM

Analyst: EL

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE41 ADUP SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE41 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2940111.9	106.0	%	0.49			0.46%
ScR 361.383	247616.4	106.3	%	0.80			0.75%
Ag 328.068†	199.0	0.00106	mg/L	0.000290	0.00212	0.000579	27.27%
Al 308.215†	152995.2	120.7	mg/L	0.48	241.4	0.95	0.40%
As 188.979†	8021.3	4.710	mg/L	0.0200	9.419	0.0401	0.43%
B 249.677†	164.0	0.02905	mg/L	0.000781	0.05810	0.001562	2.69%
Ba 233.527†	3689.9	0.8998	mg/L	0.00589	1.800	0.0118	0.65%
Be 313.042†	-493.6	-0.00103	mg/L	0.000020	-0.00207	0.000041	1.96%
Ca 317.933†	106868.2	10.95	mg/L	0.024	21.89	0.047	0.21%
Cd 228.802†	954.1	0.00817	mg/L	0.000401	0.01635	0.000803	4.91%
Co 228.616†	584.0	0.01179	mg/L	0.000190	0.02358	0.000379	1.61%
Cr 267.716†	96.0	0.01837	mg/L	0.000580	0.03674	0.001159	3.16%
Cu 324.752†	51805.5	0.1827	mg/L	0.00125	0.3655	0.00251	0.69%
Fe 273.955†	46862.5	42.37	mg/L	0.236	84.75	0.471	0.56%
K 766.490†	11316.1	5.050	mg/L	0.0225	10.10	0.045	0.44%
Mg 279.077†	24649.1	21.97	mg/L	0.072	43.94	0.145	0.33%
Mn 257.610†	12166.0	0.3958	mg/L	0.00170	0.7915	0.00340	0.43%
Mo 202.031†	73.5	0.00384	mg/L	0.000493	0.00768	0.000987	12.85%
Na 589.592†	58127.9	4.392	mg/L	0.0202	8.784	0.0405	0.46%
Na 330.237†	103.3	5.171	mg/L	0.2621	10.34	0.524	5.07%
Ni 231.604†	9502.7	2.737	mg/L	0.0276	5.473	0.0551	1.01%
Pb 220.353†	610.6	0.1015	mg/L	0.00134	0.2030	0.00269	1.32%
Sb 206.836†	9.5	0.00396	mg/L	0.003601	0.00792	0.007202	90.90%
Se 196.026†	47.4	0.03437	mg/L	0.001476	0.06874	0.002952	4.29%
Si 288.158†	6967.9	4.030	mg/L	0.0350	8.060	0.0700	0.87%
Sn 189.927†	45.0	0.01506	mg/L	0.000740	0.03011	0.001480	4.91%
Sr 421.552†	174829.1	0.2151	mg/L	0.00071	0.4303	0.00143	0.33%
Ti 334.903†	19898.1	1.212	mg/L	0.0018	2.424	0.0036	0.15%
Tl 190.801†	-10.0	0.00002	mg/L	0.002897	0.00004	0.005793	>999.9%
V 292.402†	4479.1	0.02619	mg/L	0.000110	0.05238	0.000219	0.42%
Zn 206.200†	664.0	0.1905	mg/L	0.00244	0.3810	0.00489	1.28%

Sequence No.: 8
 Sample ID: YE41 A SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 311
 Date Collected: 4/2/2014 12:07:00 PM
 Data Type: Original

 Nebulizer Parameters: YE41 A SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE41 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2936347.3	105.9	%	0.63			0.59%
ScR 361.383	249932.8	107.3	%	0.57			0.53%
Ag 328.068†	169.7	0.00092	mg/L	0.000172	0.00183	0.000343	18.75%
Al 308.215†	136407.0	107.6	mg/L	0.65	215.2	1.31	0.61%
As 188.979†	7987.5	4.684	mg/L	0.0460	9.369	0.0921	0.98%
B 249.677†	137.7	0.02438	mg/L	0.000724	0.04876	0.001448	2.97%
Ba 233.527†	3620.3	0.8833	mg/L	0.00201	1.767	0.0040	0.23%
Be 313.042†	-494.7	-0.00103	mg/L	0.000026	-0.00207	0.000053	2.54%
Ca 317.933†	106258.8	10.88	mg/L	0.042	21.77	0.083	0.38%
Cd 228.802†	956.7	0.00834	mg/L	0.000230	0.01669	0.000461	2.76%
Co 228.616†	564.4	0.01160	mg/L	0.000276	0.02319	0.000551	2.38%
Cr 267.716†	92.2	0.01770	mg/L	0.000171	0.03541	0.000342	0.96%
Cu 324.752†	50574.6	0.1783	mg/L	0.00247	0.3566	0.00495	1.39%
Fe 273.955†	43219.3	39.08	mg/L	0.204	78.16	0.407	0.52%
K 766.490†	10972.9	4.897	mg/L	0.0454	9.794	0.0908	0.93%
Mg 279.077†	22373.9	19.94	mg/L	0.062	39.88	0.125	0.31%
Mn 257.610†	11486.6	0.3737	mg/L	0.00145	0.7474	0.00289	0.39%
Mo 202.031†	69.1	0.00360	mg/L	0.000228	0.00719	0.000457	6.35%
Na 589.592†	57674.1	4.358	mg/L	0.0287	8.715	0.0574	0.66%
Na 330.237†	102.6	5.098	mg/L	0.0405	10.20	0.081	0.79%
Ni 231.604†	9351.9	2.693	mg/L	0.0093	5.386	0.0187	0.35%
Pb 220.353†	630.1	0.1007	mg/L	0.00097	0.2015	0.00193	0.96%
Sb 206.836†	12.5	0.00482	mg/L	0.002191	0.00964	0.004383	45.45%
Se 196.026†	49.5	0.03585	mg/L	0.002006	0.07170	0.004012	5.60%
Si 288.158†	8871.7	5.130	mg/L	0.0153	10.26	0.031	0.30%
Sn 189.927†	47.1	0.01567	mg/L	0.000514	0.03134	0.001028	3.28%
Sr 421.552†	172013.9	0.2117	mg/L	0.00130	0.4233	0.00259	0.61%
Ti 334.903†	17308.9	1.054	mg/L	0.0063	2.109	0.0126	0.60%
Tl 190.801†	0.8	0.00468	mg/L	0.002683	0.00937	0.005366	57.27%
V 292.402†	4189.2	0.02458	mg/L	0.000257	0.04915	0.000515	1.05%
Zn 206.200†	631.4	0.1814	mg/L	0.00051	0.3628	0.00102	0.28%

Sequence No.: 9
 Sample ID: YE41 ASPK SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 312
 Date Collected: 4/2/2014 12:11:00 PM
 Data Type: Original

Nebulizer Parameters: YE41 ASPK SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE41 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2903444.9	104.7	%	0.70			0.66%
ScR 361.383	242933.0	104.3	%	1.00			0.95%
Ag 328.068†	102222.3	0.5080	mg/L	0.00348	1.016 mg/L	0.0070	0.69%
Al 308.215†	170436.4	134.4	mg/L	0.68	268.9 mg/L	1.35	0.50%
As 188.979†	11553.3	6.773	mg/L	0.0456	13.55 mg/L	0.091	0.67%
B 249.677†	161.9	0.02767	mg/L	0.000398	0.05535 mg/L	0.000795	1.44%
Ba 233.527†	11669.7	2.860	mg/L	0.0368	5.720 mg/L	0.0735	1.29%
Be 313.042†	233204.4	0.4789	mg/L	0.00101	0.9578 mg/L	0.00202	0.21%
Ca 317.933†	203262.4	20.82	mg/L	0.142	41.64 mg/L	0.283	0.68%
Cd 228.802†	16960.8	0.4988	mg/L	0.00285	0.9977 mg/L	0.00571	0.57%
Co 228.616†	19504.4	0.4803	mg/L	0.00365	0.9606 mg/L	0.00731	0.76%
Cr 267.716†	2549.6	0.5049	mg/L	0.00507	1.010 mg/L	0.0101	1.00%
Cu 324.752†	196472.4	0.6888	mg/L	0.00476	1.378 mg/L	0.0095	0.69%
Fe 273.955†	52756.4	47.70	mg/L	0.218	95.40 mg/L	0.435	0.46%
K 766.490†	32545.8	14.52	mg/L	0.091	29.05 mg/L	0.181	0.62%
Mg 279.077†	38216.1	34.07	mg/L	0.238	68.14 mg/L	0.477	0.70%
Mn 257.610†	28369.4	0.9244	mg/L	0.00700	1.849 mg/L	0.0140	0.76%
Mo 202.031†	95.3	0.00487	mg/L	0.000284	0.00974 mg/L	0.000569	5.84%
Na 589.592†	191986.3	14.51	mg/L	0.071	29.01 mg/L	0.143	0.49%
Na 330.237†	310.9	15.02	mg/L	0.399	30.04 mg/L	0.799	2.66%
Ni 231.604†	11651.3	3.355	mg/L	0.0282	6.709 mg/L	0.0564	0.84%
Pb 220.353†	16243.7	1.983	mg/L	0.0074	3.966 mg/L	0.0148	0.37%
Sb 206.836†	31.5	0.00685	mg/L	0.001984	0.01371 mg/L	0.003967	28.95%
Se 196.026†	2786.4	2.021	mg/L	0.0103	4.041 mg/L	0.0206	0.51%
Si 288.158†	7144.4	4.136	mg/L	0.0318	8.272 mg/L	0.0637	0.77%
Sn 189.927†	210.6	0.06609	mg/L	0.000377	0.1322 mg/L	0.00075	0.57%
Sr 421.552†	576554.5	0.7095	mg/L	0.00292	1.419 mg/L	0.0058	0.41%
Ti 334.903†	23941.8	1.458	mg/L	0.0068	2.916 mg/L	0.0137	0.47%
Tl 190.801†	3725.5	1.735	mg/L	0.0092	3.469 mg/L	0.0184	0.53%
V 292.402†	71818.4	0.4660	mg/L	0.00372	0.9320 mg/L	0.00745	0.80%
Zn 206.200†	2385.1	0.6826	mg/L	0.00467	1.365 mg/L	0.0093	0.68%

Sequence No.: 10
 Sample ID: YE41 MBSPK SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 313
 Date Collected: 4/2/2014 12:15:01 PM
 Data Type: Original

Nebulizer Parameters: YE41 MBSPK SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE41 MBSPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2804144.4	101.1	%	0.30			0.30%
ScR 361.383	238062.9	102.2	%	0.99			0.97%
Ag 328.068†	113118.7	0.5621	mg/L	0.00642	1.124 mg/L	0.0128	1.14%
Al 308.215†	2825.0	2.221	mg/L	0.0183	4.442 mg/L	0.0365	0.82%
As 188.979†	3707.3	2.156	mg/L	0.0230	4.312 mg/L	0.0459	1.07%
B 249.677†	4.8	-0.00026	mg/L	0.000554	-0.00052 mg/L	0.001109	213.16%
Ba 233.527†	8927.0	2.193	mg/L	0.0163	4.386 mg/L	0.0326	0.74%
Be 313.042†	255888.1	0.5255	mg/L	0.00172	1.051 mg/L	0.0034	0.33%
Ca 317.933†	104897.7	10.74	mg/L	0.057	21.49 mg/L	0.113	0.53%
Cd 228.802†	17644.8	0.5413	mg/L	0.00336	1.083 mg/L	0.0067	0.62%
Co 228.616†	21179.1	0.5250	mg/L	0.00403	1.050 mg/L	0.0081	0.77%
Cr 267.716†	2802.8	0.5559	mg/L	0.00498	1.112 mg/L	0.0100	0.90%
Cu 324.752†	148753.2	0.5203	mg/L	0.00492	1.041 mg/L	0.0098	0.95%
Fe 273.955†	2478.9	2.238	mg/L	0.0236	4.476 mg/L	0.0472	1.05%
K 766.490†	24167.8	10.79	mg/L	0.068	21.57 mg/L	0.136	0.63%
Mg 279.077†	12658.1	11.29	mg/L	0.093	22.59 mg/L	0.186	0.82%
Mn 257.610†	15792.5	0.5154	mg/L	0.00119	1.031 mg/L	0.0024	0.23%
Mo 202.031†	24.7	0.00118	mg/L	0.000235	0.00236 mg/L	0.000470	19.91%
Na 589.592†	145676.2	11.01	mg/L	0.036	22.01 mg/L	0.072	0.33%
Na 330.237†	243.6	11.50	mg/L	0.176	23.00 mg/L	0.351	1.53%
Ni 231.604†	1920.2	0.5521	mg/L	0.00267	1.104 mg/L	0.0053	0.48%
Pb 220.353†	17700.1	2.127	mg/L	0.0137	4.254 mg/L	0.0275	0.65%
Sb 206.836†	15.5	-0.00040	mg/L	0.003170	-0.00081 mg/L	0.006340	785.72%
Se 196.026†	2982.9	2.163	mg/L	0.0279	4.326 mg/L	0.0558	1.29%
Si 288.158†	-7.1	-0.00030	mg/L	0.004566	-0.00060 mg/L	0.009133	>999.9%
Sn 189.927†	-20.4	-0.00475	mg/L	0.000254	-0.00951 mg/L	0.000507	5.34%
Sr 421.552†	438178.3	0.5392	mg/L	0.00174	1.078 mg/L	0.0035	0.32%
Ti 334.903†	53.7	0.00241	mg/L	0.000400	0.00482 mg/L	0.000800	16.60%
Tl 190.801†	4559.2	2.117	mg/L	0.0171	4.234 mg/L	0.0341	0.81%
V 292.402†	81175.7	0.5304	mg/L	0.00571	1.061 mg/L	0.0114	1.08%
Zn 206.200†	1888.8	0.5401	mg/L	0.00779	1.080 mg/L	0.0156	1.44%

Sequence No.: 11
 Sample ID: CV ✓
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/2/2014 12:19:01 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2738991.3	98.79 %	0.241			0.24%
ScR 361.383	232914.5	100.0 %	0.48			0.48%
Ag 328.068†	216992.5	1.078 mg/L	0.0033	1.078 mg/L	0.0033	0.31%
Al 308.215†	2653.5	2.060 mg/L	0.0145	2.060 mg/L	0.0145	0.70%
As 188.979†	3487.6	2.061 mg/L	0.0006	2.061 mg/L	0.0006	0.03%
B 249.677†	5771.8	1.022 mg/L	0.0021	1.022 mg/L	0.0021	0.20%
Ba 233.527†	4173.5	1.025 mg/L	0.0012	1.025 mg/L	0.0012	0.11%
Be 313.042†	480405.4	0.9866 mg/L	0.00472	0.9866 mg/L	0.00472	0.48%
Ca 317.933†	20635.3	2.114 mg/L	0.0042	2.114 mg/L	0.0042	0.20%
Cd 228.802†	33713.3	1.045 mg/L	0.0022	1.045 mg/L	0.0022	0.21%
Co 228.616†	40987.0	1.015 mg/L	0.0018	1.015 mg/L	0.0018	0.18%
Cr 267.716†	5217.4	1.036 mg/L	0.0031	1.036 mg/L	0.0031	0.29%
Cu 324.752†	300044.9	1.049 mg/L	0.0024	1.049 mg/L	0.0024	0.23%
Fe 273.955†	2309.5	2.081 mg/L	0.0093	2.081 mg/L	0.0093	0.45%
K 766.490†	45346.5	20.24 mg/L	0.105	20.24 mg/L	0.105	0.52%
Mg 279.077†	2293.7	2.053 mg/L	0.0062	2.053 mg/L	0.0062	0.30%
Mn 257.610†	29730.1	0.9700 mg/L	0.00566	0.9700 mg/L	0.00566	0.58%
Mo 202.031†	18706.5	1.020 mg/L	0.0025	1.020 mg/L	0.0025	0.25%
Na 589.592†	679967.1	51.38 mg/L	0.302	51.38 mg/L	0.302	0.59%
Na 330.237†	1091.1	52.47 mg/L	0.046	52.47 mg/L	0.046	0.09%
Ni 231.604†	3592.3	1.035 mg/L	0.0035	1.035 mg/L	0.0035	0.34%
Pb 220.353†	17515.8	2.105 mg/L	0.0061	2.105 mg/L	0.0061	0.29%
Sb 206.836†	6665.7	2.137 mg/L	0.0060	2.137 mg/L	0.0060	0.28%
Se 196.026†	2813.4	2.040 mg/L	0.0062	2.040 mg/L	0.0062	0.30%
Si 288.158†	3473.3	2.012 mg/L	0.0263	2.012 mg/L	0.0263	1.31%
Sn 189.927†	3382.2	1.017 mg/L	0.0023	1.017 mg/L	0.0023	0.22%
Sr 421.552†	822616.1	1.012 mg/L	0.0058	1.012 mg/L	0.0058	0.57%
Ti 334.903†	16480.3	1.003 mg/L	0.0058	1.003 mg/L	0.0058	0.58%
Tl 190.801†	4393.4	2.036 mg/L	0.0040	2.036 mg/L	0.0040	0.20%
V 292.402†	157841.0	1.031 mg/L	0.0037	1.031 mg/L	0.0037	0.36%
Zn 206.200†	3567.3	1.020 mg/L	0.0028	1.020 mg/L	0.0028	0.28%

Sequence No.: 12
 Sample ID: CB ✓
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/2/2014 12:23:03 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2734922.6	98.65 %		0.565			0.57%
ScR 361.383	231479.6	99.39 %		0.643			0.65%
Ag 328.068†	3.7	0.00002 mg/L		0.000172	0.00002 mg/L	0.000172	943.56%
Al 308.215†	6.7	0.00524 mg/L		0.002045	0.00524 mg/L	0.002045	39.05%
As 188.979†	1.5	0.00088 mg/L		0.000088	0.00088 mg/L	0.000088	9.97%
B 249.677†	8.9	0.00158 mg/L		0.001774	0.00158 mg/L	0.001774	112.58%
Ba 233.527†	-0.2	-0.00005 mg/L		0.000283	-0.00005 mg/L	0.000283	544.11%
Be 313.042†	1.0	0.00000 mg/L		0.000033	0.00000 mg/L	0.000033	>999.9%
Ca 317.933†	-5.7	-0.00059 mg/L		0.000109	-0.00059 mg/L	0.000109	18.64%
Cd 228.802†	7.8	0.00024 mg/L		0.000075	0.00024 mg/L	0.000075	31.10%
Co 228.616†	-3.4	-0.00009 mg/L		0.000061	-0.00009 mg/L	0.000061	71.29%
Cr 267.716†	1.7	0.00034 mg/L		0.000963	0.00034 mg/L	0.000963	280.45%
Cu 324.752†	358.8	0.00125 mg/L		0.000196	0.00125 mg/L	0.000196	15.60%
Fe 273.955†	0.0	0.00004 mg/L		0.000445	0.00004 mg/L	0.000445	>999.9%
K 766.490†	8.7	0.00387 mg/L		0.003270	0.00387 mg/L	0.003270	84.41%
Mg 279.077†	-4.9	-0.00439 mg/L		0.003256	-0.00439 mg/L	0.003256	74.16%
Mn 257.610†	3.9	0.00013 mg/L		0.000051	0.00013 mg/L	0.000051	39.63%
Mo 202.031†	15.8	0.00086 mg/L		0.000147	0.00086 mg/L	0.000147	17.03%
Na 589.592†	29.1	0.00220 mg/L		0.004357	0.00220 mg/L	0.004357	198.38%
Na 330.237†	-4.0	-0.1920 mg/L		0.17108	-0.1920 mg/L	0.17108	89.11%
Ni 231.604†	0.1	0.00003 mg/L		0.000683	0.00003 mg/L	0.000683	>999.9%
Pb 220.353†	6.4	0.00076 mg/L		0.000324	0.00076 mg/L	0.000324	42.41%
Sb 206.836†	24.7	0.00792 mg/L		0.001561	0.00792 mg/L	0.001561	19.71%
Se 196.026†	3.5	0.00251 mg/L		0.002213	0.00251 mg/L	0.002213	88.23%
Si 288.158†	-11.4	-0.00661 mg/L		0.003878	-0.00661 mg/L	0.003878	58.70%
Sn 189.927†	5.0	0.00149 mg/L		0.000638	0.00149 mg/L	0.000638	42.70%
Sr 421.552†	42.7	0.00005 mg/L		0.000022	0.00005 mg/L	0.000022	41.50%
Ti 334.903†	5.2	0.00032 mg/L		0.000317	0.00032 mg/L	0.000317	99.51%
Tl 190.801†	-2.1	-0.00096 mg/L		0.003040	-0.00096 mg/L	0.003040	317.31%
V 292.402†	22.9	0.00015 mg/L		0.000067	0.00015 mg/L	0.000067	44.12%
Zn 206.200†	2.4	0.00069 mg/L		0.000415	0.00069 mg/L	0.000415	60.07%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YE33

0-28-14

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET

DATE: 3/27/14 (B)

ANALYST: KE 7:32

Analytical Balance: 1123230597

Drying Ovens: 12

Muffle Furnace: N/A

Batch drying time		CV-02		CV-02		CV-02		CV-02		CV-02		CV-02		CV-02	
record times as mm/dd/yy hh:mm	KE	3/27/14 6:48 KE	10.0000	3/27/14 5:34 KE	10.0000	3/28/14 5:22 KE	10.0000	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02
date/time in oven	KE	10.0000	Cal. OK!	10.0000	Cal. OK!	10.0000	Cal. OK!	Cal. OK!	Cal. OK!	Cal. OK!	Cal. OK!	Cal. OK!	Cal. OK!	Cal. OK!	Cal. OK!
date/time out	KE	3/28/2014 4:56	21.4	3/28/2014 4:56	21.4	3/28/2014 4:56	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4
elapsed hrs =	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4
Cal Wt (g)	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places	record weights to 4 places
SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)	dry wt (g)	TS (%)	ASH WT 550C (grams)	Ash Wt (g)	TVS (mg/kg)	TVS (%)					
Blank			1.0948	1.0947	0.00										
YE33 A1		7.0448	1.1119	6.6991	5.59	94.17%									
YE33 A1 dup		7.3046	1.1510	6.8305	5.68	92.30%									

RPD = 2.01%										
SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)	dry wt (g)	TS (%)	ASH WT 550C (grams)	Ash Wt (g)	TVS (mg/kg)	TVS (%)
YE33 B1		7.9257	1.1378	7.5819	6.44	94.94%				
YE33 C1		7.7200	1.1449	7.0887	5.94	90.40%				
YE33 D1		8.1960	1.1616	7.4573	6.30	89.50%				
YE33 E1		8.5735	1.1452	8.1236	6.98	93.94%				
YE33 F1		8.3970	1.1703	7.9084	6.74	93.24%				
YE33 G1		7.4449	1.1897	7.0506	5.86	93.70%				
YE33 H1		7.3515	1.1456	6.7339	5.59	90.05%				
YE33 I 1		8.2286	1.1615	7.8498	6.69	94.64%				
YE33 J 1		8.9299	1.1599	8.5281	7.37	94.83%				
YE33 K1		7.5063	1.1870	6.8989	5.71	90.39%				
YE33 L1		8.8987	1.1884	8.3348	7.15	92.69%				
YE33 M1		8.0656	1.1237	7.5763	6.45	92.95%				
YE33 N1		7.7732	1.1267	7.4170	6.29	94.64%				
YE33 O1		8.0140	1.1599	7.6017	6.44	93.98%				
YE33 P1		8.7380	1.1587	7.7453	6.59	86.90%				
YE33 Q1		7.5147	1.1258	7.0842	5.96	93.26%				
YE33 R1		7.4731	1.1785	7.2154	6.04	95.91%				
YE33 S1		7.0659	1.0876	6.7964	5.71	95.49%				
YE33 T1		8.4495	1.1573	7.6370	6.48	88.86%				



Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL / VOLATILE SOLIDS (TS/TVS) BENCHSHEET

① 3 27-14 ②

Analyst: <u>AD</u>		Date: <u>3-27-14</u>	Oven ID: <u>072</u>	Muffle ID: <u>N/A</u>	Balance ID: <u>1123230597</u>	
Time in Oven: <u>7.32</u>		Time Out of Oven: <u>12.000</u>		Elapsed Time (> 12 Hrs):		
Dry at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places		TVS (mg/kg dry weight) calculated as: Final Ash Weight (g) = (Minimum Ash Weight - Tare Weight) TVS (mg/kg) = (Dry Weight - Ash Weight) / (Dry Weight) * 1,000,000 If Ash Weight > Dry Weight then "Check for Error" If Dry Weight - Ash Weight < 0.001 < (1/Dry Weight) * 1,000,000				
Sample ID	Dish #	CV-02	CV-02	CV-02	CV-02	
Cal Weight ID	Date & Time:	CV-02	CV-02	CV-02	CV-02	
Cal Weight (10.0000):		CV-02	CV-02	CV-02	CV-02	
Sample	Tare	Dry Weight 104°C	Dry Weight 550°C	Dry Weight	Ash Weight 550°C	
1	2	3	grams	1	2	
3	4	5	6	7	8	
BLANK						
Y833	5823	1.0948	1.0947			
A1	5724	7.0448	6.6991			Rocky Clay & Sand
B1	25	7.2046	6.8200	6.9305		Sand & Rocks
C1	26	7.9257	7.0887	7.5819		clay Sand & Rocks
D1	27	2.7200	2.0887			
E1	28	8.1960	7.4523			
F1	29	8.5235	8.1236			
G1	30	8.3970	7.9084			
H1	31	7.4449	7.0506			Sand & Rocks
I1	32	7.3515	6.7339			
J1	33	8.2286	7.8498			
K1	34	8.9299	8.5281			Soil Sand & Rocks
L1	35	7.5063	6.8989			Sand & Rocks
M1	36	8.8987	8.3348			Soil Sand & Rocks
N1	37	8.0654	7.5763			Sand & Rocks
O1	38	7.7732	7.4170			
P1	39	8.0140	7.5500	7.6017		Clay Sand & Rocks
Q1	40	8.7380	7.7453			Sand & Rocks
R1	41	7.5747	7.0842			Soil Sand & Rocks
S1	42	7.4731	7.2154			Sand & Rocks
T1	43	7.0659	6.7964			
U1	44	8.4495	7.6370			

2200 : 00277

Handwritten signature/initials

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time 4/4/14 16:30	Date / Time: 4/5/14 17:19
REAGENTS	Analyst: CC/RR	Analyst: RR
Sulfuric acid: C001409 Diphenylcarbazide: C001179	EQUIPMENT	pH Meter ID: ACCUMET Electrode ID: 1320016P 16 Balance ID: 19350128 Spec ID: #1

CALIBRATION Curve Standard					
ARI ID: C000892	stock	0.0709	g K2Cr2O7	500	mL pH2 = 50.1 mg/L Cr+6
Date Prepared: 4/5/2014	Intermediate	5	mL Stock to	50	mL pH2 = 5.01 mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL					
mL intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs	
		1	2		
0.0	0.00	0.000		0.000	= blank abs
0.1	0.01	0.008		0.008	0.010 95%
0.5	0.05	0.040		0.040	0.049 98%
1.0	0.10	0.082		0.082	0.101 101%
5.0	0.50	0.408		0.408	0.503 100%
10.0	1.00	0.812		0.812	1.002 100%

Regression Data
 Conc = (abs-intercept)/slope
 intercept = 0.0002
 slope = 0.8105
 r = 1.000
 Comment: Calibration OK!
 maxabs = 0.812

Calibration Verification Standard					
Source	ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6	
intermediate	ml stock to	mL DI =		mg/L Cr+6	
CVS =	0.050 ml stock to	200	mL DI =	0.25	mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)					
Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6 as K2Cr2O7	
DQL Intermediate	Dilute 0.1 mL stock to	10	10	mg/L Cr+6 as K2Cr2O8	
DQL Standard	Dilute 0.40 mL Int to	100	0.04	mg/L Cr+6 as K2Cr2O8	
Insoluble Chk	source = Fisher 053150/ B002310	16.088%		percent Cr+6 as PbCrO4	

SAMPLE DATA
 mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	sample pH adjusted dilution: 40 mL adjusted to 50				Spectrophotometric Data				Conc (mg/L)	NOTES
	dilution	ABS @ 540nm	Background	Extract mg/L	dilution	ABS @ 540nm	Background	Extract mg/L		
ICB	1	0.000		0.000			0.000	< 0.01	Blk OK	
ICV	1	0.201		0.248			0.248	0.248	99.08%	
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	ABS @ 540nm	Background	Extract mg/L	mg/kg dry wt	
Prep Blk	100.00%	2.503	0.100	1.250	1	0.000		0.000	< 0.4	Blk OK
Prep Chk Sol	100.00%	2.504	0.100	1.250	1	0.314		0.484	19.326	96.8%
	Sol Spk at	0.05	mL Solstk =	0.05				19.97	mg/kg	
Prep Chk Insol	100.00%	2.502	0.100	1.250	20	0.563		0.868	694	100.8%
	Insol Spk at	10.7	mg PbCrO4 =	1.721				688	mg/kg	
YE33 A4	94.17%	2.504	0.100	1.250	50	0.297		0.458	970.5	
YE33 A4 dup	94.17%	2.504	0.100	1.250	50	0.222		0.342	725.2	RPD = 28.9
soluble-ms	94.17%	2.506	0.100	1.250	100	0.354		0.546	2342.0	%rec = 126.6
	Sol Spk at	2.5	mL Solstk =	2.5				1059.4	mg/kg	
insoluble-ms	94.17%	2.504	0.100	1.250	100	0.387		0.597	2532.7	%rec = 136.9
	Insol Spk at	16.7	mg PbCrO4 =	2.687				1141	mg/kg	
YE33 B1	94.94%	2.507	0.100	1.250	1	0.028		0.043	1.8	
YE33 C1	90.40%	2.514	0.100	1.250	1	0.228		0.351	15.5	
YE33 D1	89.50%	2.513	0.100	1.250	1	0.185		0.285	12.7	
CCB					1	0.000		0.000	< 0.01	Blk OK
CCV					1	0.201		0.248	0.248	99.08%
YE33 E1	93.94%	2.540	0.100	1.250	1	0.366		0.564	23.6	
YE33 F1	93.24%	2.508	0.100	1.250	1	0.231		0.356	15.2	
YE33 G1	93.70%	2.523	0.100	1.250	1	0.250		0.385	16.3	
YE33 H1	90.05%	2.536	0.100	1.250	1	0.129		0.199	8.7	
YE33 I1	94.64%	2.504	0.100	1.250	1	0.108		0.166	7.0	
YE33 J1	94.83%	2.517	0.100	1.250	1	0.034		0.052	2.2	
YE33 K1	90.39%	2.516	0.100	1.250	1	0.007		0.010	0.5	
YE33 L1	92.69%	2.513	0.100	1.250	1	0.588		0.907	38.9	

YE33 M1	92.95%	2.561	0.100	1.250	1	0.231	0.356	15.0	
YE33 N1	94.64%	2.504	0.100	1.250	1	0.063	0.097	4.1	
CCB					1	0.000	0.000	< 0.01	Blk OK
CCV					1	0.201	0.248	0.248	99.08%
YE33 O1	93.98%	2.509	0.100	1.250	1	0.168	0.259	11.0	
YE33 P1	86.90%	2.517	0.100	1.250	1	0.046	0.071	3.2	
YE33 Q1	93.26%	2.542	0.100	1.250	1	0.237	0.365	15.4	
YE33 R1	95.91%	2.501	0.100	1.250	1	0.071	0.109	4.5	
YE33 S1	95.49%	2.545	0.100	1.250	1	0.082	0.126	5.2	
YE33 T1	88.86%	2.546	0.100	1.250	1	0.064	0.098	4.3	
YE33 A1	94.17%	2.504	0.100	1.250	20	0.712	1.098	931.1	
YE33 A1 dup	94.17%	2.504	0.100	1.250	20	0.537	0.828	702.2	RPD = 28
soluble ms	94.17%	2.506	0.100	1.250	50	0.648	0.999	2116.7	%rec = 111.9
Sol Spk at		2.5	mL Solstk = 2.5		mg Cr+6		1059.4	mg/kg	
insoluble ms	94.17%	2.501	0.100	1.250	50	0.706	1.089	2310.9	%rec = 121
Insol Spk at		16.7	mg PbCrO4 = 2.687		mg Cr+6		1141	mg/kg	
CCB					1	0.001	0.001	< 0.01	Blk OK
CCV					1	0.201	0.248	0.248	99.08%
YE33 A1	94.17%	2.504	0.100	1.250	20	0.711	1.096	929.8	
YE33 A1 dup	94.17%	2.504	0.100	1.250	20	0.563	0.868	736.2	RPD = 23.2
CCB					1	0.001	0.001	< 0.01	Blk OK
CCV					1	0.201	0.248	0.248	99.08%



HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time: 4/4/14 16:50	Date / Time: 4/5/14 17:19
REAGENTS	Analyst: CC/ER	Analyst: RL
Sulfuric acid: C00409	EQUIPMENT	pH Meter ID: ACCUMET
Diphenylcarbazine: C001179		Electrode ID: 13200169 16
		Balance ID: 19350125
		Spec ID: #1

CALIBRATION

Curve Standard

ARI ID: C000892 stock 0.0709 g K2Cr2O7 500 mL pH2 = 50.1 mg/L Cr+6
 Date Prepared: 4/5/14 Intermediate 5 mL Stock to 50 mL pH2 = 5.01 mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL

mL intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs	
		1	2		
0.0	0.00	0.000			= blank abs
0.1	0.01	0.008			#VALUE!
0.5	0.05	0.040			#VALUE!
1.0	0.10	0.082			#VALUE!
5.0	0.50	0.408			#VALUE!
10.0	1.00	0.812			#VALUE!

Regression Data
 Conc = (abs-intercept)/slope
 intercept =
 slope =
 r =
 Comment:
 maxabs =

Calibration Verification Standard

Source	ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6
intermediate	ml stock to	mL DI =	mg/L Cr+6
CVS =	0.050 ml stock to	200 mL DI =	0.25 mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)

Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6 as K2Cr2O7
DQL Intermediate	Dilute 0.1 mL stock to	10	10 mg/L Cr+6 as K2Cr2O8
DQL Standard	Dilute 0.40 mL Int to	100	0.04 mg/L Cr+6 as K2Cr2O8
Insoluble Chk	source = Fisher 053150/ B002310	16.088%	percent Cr+6 as PbCrO4

SAMPLE DATA

mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	sample pH adjusted dilution: 40 mL adjusted to 50				Spectrophotometric Data				Conc (mg/L)	NOTES
	dilution	ABS @ 540nm	Background	Extract mg/L	dilution	ABS @ 540nm	Background	Extract mg/L		
ICB	1	0.000								
ICV	1	0.201								
	Extraction Data									
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	ABS @ 540nm	Background	Extract mg/L	mg/kg dry wt	
Prep Blk	100.00%	2.5	0.100	1.250	1	0.000				
Prep Chk Sol	100.00%	2.5	0.100	1.250	1	0.314				
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6			20.00	mg/kg	
Prep Chk Insol	100.00%	2.5	0.100	1.250	20	0.563				
	Insol Spk at	0.125	mg PbCrO4 =	2.011	mg Cr+6			804	mg/kg	
YES A'	94.17	2.504	0.100	1.250	50	0.297				
BP		2.504	0.100	1.250	50	0.222				
Sol		2.506	0.100	1.250	100	0.354				
Insol		2.501	0.100	1.250	100	0.387				
B'	94.94	2.507	0.100	1.250	1	0.028				
C'	90.40	2.514	0.100	1.250	1	0.228				
D'	89.50	2.513	0.100	1.250	1	0.185				
CCB					1	0.000				
CCV					1	0.101				
YES E'	93.94	2.540	0.100	1.250	1	0.360				
F'	93.24	2.508	0.100	1.250	1	0.231				
G'	93.70	2.529	0.100	1.250	1	0.250				
H'	90.05	2.590	0.100	1.250	1	0.129				
I'	94.64	2.504	0.100	1.250	1	0.108				
J'	94.89	2.517	0.100	1.250	1	0.084				
K'	90.39	2.516	0.100	1.250	1	0.007				
L'	92.69	2.513	0.100	1.250	1	0.588				
M'	92.45	2.501	0.100	1.250	1	0.231				
N'	94.64	2.504	0.100	1.250	1	0.063				

CCB						1	0.000			
CCV						1	0.201			
YES3	O'	93.48	2.509	0.100	1.250	1	0.168			
	P'	86.90	2.517	0.100	1.250	1	0.046			
	Q'	93.76	2.542	0.100	1.250	1	0.237			
	R'	95.91	2.501	0.100	1.250	1	0.071			
	S'	95.19	2.545	0.100	1.250	1	0.082			
	T'	88.56	2.546	0.100	1.250	1	0.064			
	A'	94.17	2.504	0.100	1.250	20	+0.712			
	rip		2.504	0.100	1.250	20	+0.537			
	soil		2.506	0.100	1.250	50	+0.643			
	msol		2.501	0.100	1.250	50	+0.706			
CCB						1	0.001			
CCV						1	0.201			
YES3	A'	94.17	2.504	0.100	1.250	20	+0.711			
	rip		2.504	0.100	1.250	20	+0.563			
CCB			2.5	0.100	1.250	1	0.001			
CCV			2.5	0.100	1.250	1	0.201			
			2.5	0.100	1.250	1				
			2.5	0.100	1.250	1				
			2.5	0.100	1.250	1				
			2.5	0.100	1.250	1				
			2.5	0.100	1.250	1				
			2.5	0.100	1.250	1				
CCB						1				
CCV						1				

**Hexavalent Chromium
3060 Alkaline Digestion Protocol**

Date: 04/04/14 10:30
Analyst: EL/EL

1) Digest

Balance ID: 19350128

Sample	2.5	g	
soluble spike (K2Cr2O7)	0.05	mL	use 1000 mg/L LCS = 0.5 mg/L = 20ppm solid
insoluble spike (PbCrO4)	10-20	mg PbCrO4	PbCrO4 = 16.888% Cr
optional trivalent spike (Cr(III)-6H2O)	5	mg Cr(III)-6H2O	Cr(III)-6H2O = 19.500% Cr
ID: C001345 Alk-CO3 Digest Soln	50	mL	20 g NaOH + 30 g Na2CO3, dilute to 1 liter (pH >11.5)
ID: B002852 MgCl2	0.4	g	anhydrous powder
ID: C001352 1M Phosphate buffer	0.5	mL	87.09 g K2HPO4 + 68.04 g KH2PO4 to 1 liter
mix	5	minutes	
heat (90-95 °C)	60	minutes	Set Block temp to 115 °C (AIM Prgm #3)

2) Transfer to filtration funnel (3X10 mL rinses) and filter (0.45µm membrane)

3) Neutralize filtrate to pH 7.5 ±0.5

ID: 5M Nitric acid dropwise Soluble Spike: _____ ERA # 160412 / B001620 _____

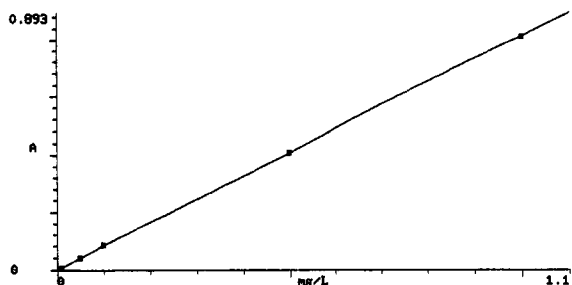
4) Dilute to 100 mL

reagent water Insoluble Spike: _____ Fisher: 053150 / B002310 _____

Sample	Client ID	grams	mL	Notes
Dig Blank		2.5 03	100	Temp: _____ °C pH: _____
Blk Spk	Soluble (K2Cr2O7)	2.5 04	100	added 0.05 mL 1000 ppm stock
Blk Spk	Insoluble (PbCrO4)	2.5 02	100	added 10.7 mg PbCrO4
YE33 A1		2.5 04	100	sand, pebbles, & larger rocks
YE33 A1 dup		2.5 04	100	
YE33 A1 sol spk		2.5 06	100	added 2.5 mL 1000 ppm stock
YE33 A1 insol spk		2.5 01	100	added 10.7 mg PbCrO4
YE33 B1		2.5 07	100	
YE33 C1		2.5 14	100	
YE33 D1		2.5 13	100	
YE33 E1		2.5 40	100	
YE33 F1		2.5 08	100	
YE33 G1		2.5 23	100	
YE33 H1		2.5 36	100	
YE33 I1		2.5 04	100	
YE33 J1		2.5 17	100	
YE33 K1		2.5 16	100	
YE33 L1		2.5 13	100	
YE33 M1		2.5 61	100	
YE33 N1		2.5 04	100	
YE33 O1		2.5 09	100	
YE33 P1		2.5 17	100	
YE33 Q1		2.5 42	100	
YE33 R1		2.5 01	100	
YE33 S1		2.5 45	100	
YE33 T1		2.5 46	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 17:19 5Apr14
 Test Name CHROME 6
 Date Standards Measured 5Apr14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.813
 Intercept 0.000184
 Std Dev 0.001
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.040
0.100	0.082
0.500	0.408
1.000	0.812

PK
4/5/14

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C 17:21 5Apr14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On

ID#	Abs 540nm
1	0.000

2 0.201

3 0.001

4 0.314

5 0.563

6 0.297

7 0.222

8 0.354

9 0.387

10 0.028

11 0.228

12 0.185

13 0.000

14 0.201

15 0.366

16 0.231

17 0.250

18 0.129

19 0.108

20 0.034

21 0.007

22 0.588

23 0.231

24 0.063

25 0.000

26 0.201

27 0.168

28 0.046

29 0.237

30 0.071

31 0.082

32 0.064

33 0.712

34 0.537

35 0.648

36 0.706

37 0.001

38 0.201

39 0.711

40 0.563

41 0.001

42 0.201



Criteria Flagged:

ARI Job No.: YE33

Unacceptable Blank:

Date of Event: 4/5/14

Unacceptable Duplicate:

Client ID: GeoEngineers

Unacceptable Spike:

Method/Element: Cx6+

Unacceptable Reference:

Prep Code: _____

Details of Problem/Recommended Corrective Action:

Duplicate Sails @ 23%

Samples Affected: A

Corrective Action Taken:

rep recolored with similar results. Analyst notes that the sample is comprised of sand, pebbles, and larger rocks. That said, it ~~was~~ is difficult to obtain a properly homogeneous sample. Reporting as is with a lack of homogeneity. All other control is within acceptable limits.

Analyst Initials: AK

Supervisor: JGC

Date: 4/5/14

Date: 4/7/14

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Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

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Signature *zc*

April-07-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 11, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YE34

Dear Ian:

Please find enclosed the Chain-of-Custody records (COCs), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro", written over a faint circular stamp or watermark.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YE34

Enclosures

Chain of Custody Documentation

ARI Job ID: YE34

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 254 Turn-around Requested: _____
 ARI Client Company: GeoEngineers Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00 Samplers: Paul Robinette

Date: 3/25/14
 Page: 11 of 14
 No. of Coolers: 2 Cooler Temps: 0.5, 5.8

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200.7/6010C	Hold	
BEI-SB11-0.5-1	3/24	1408	S	1	X				
BEI-SB11-3-3.5		1409		1	X				
BEI-SB11-5-5.5		1413		1	X				
BEI-SB11-7-7.5		1414		1	X				
BEI-SB11-9-9.5		1415		1	X				
BEI-SB11-11-11.5		1421		1	X				
BEI-SB11-13-13.5		1422		1	X				
BEI-SB11-14.5-14		1423		1	X				
Comments/Special Instructions					Relinquished by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)		
1 Metals include: chromium, nickel, lead					Paul Robinette	Paul Robinette	Rich Markon		
2 Dissolved Nickel not field filtered					Company: GeoEngineers	Company: ARI	Company:		
Date & Time: 3/25/14 13:15					Date & Time: 3/25/14 13:15	Date & Time: 3/25/14 13:15	Date & Time:		

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under-PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: VE34
 Turn-around Requested:
 Date: 3/24/14
 Page: 12 of 14
 No. of Coolers: 2
 Cooler Temps: 0555

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ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**

Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold	
BEI-SB12-0.5-1	3/24	1430	S	1	X		X		
BEI-SB12-3-3.5	}	1437	}	}	X		X		
BEI-SB12-5-5.5		1440			X		X		
BEI-SB12-7-7.5		1441			X		X		
BEI-SB12-9-9.5	}	1442	}	}			X		
BEI-SB12-11-11.5		1445					X		
BEI-SB12-13-13.5	}	1446	}	}			X		
BEI-SB12-14.5-15		1447					X		
Comments/Special Instructions					Relinquished by: (Signature) <u>Paul Robinette</u>				
1 Metals include: chromium, nickel, lead					Received by: (Signature) _____				
2 Dissolved Nickel not field filtered					Printed Name: <u>PAUL ROBINETTE</u>				
					Company: <u>BEI</u>				
					Date & Time: <u>3/25/14 19:15</u>				
					Relinquished by: (Signature) _____				
					Printed Name: <u>RICH WILSON</u>				
					Company: <u>ARI</u>				
					Date & Time: <u>3/25/14 1305</u>				

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **430** Turn-around Requested: _____
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Date: **3/24/14**
 Page: **13** of **14**
 No. of Coolers: **2** Cooler Temps: **-0.5, 5.8**

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 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No Containers	Analysis Requested					Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Other		
GEI-SB13-05-1	3/24	1503	S	1	X		X			
GEI-SB13-3-3.5	}	1504	}	}	X		X			
GEI-SB13-5-5.5		1507			X		X			
GEI-SB13-7-7.5	}	1508	}	}	X		X			
GEI-SB13-9-9.5		1509								
GEI-SB13-11-11.5	}	1513	}	}			X			
GEI-SB13-13-13.5		1514								X
GEI-SB13-14.5-15		1515					X			
Comments/Special Instructions	Received by <i>Paul Robinette</i> (Signature)				Received by _____ (Signature)					
1 Metals include: chromium, nickel, lead	Printed Name Paul Robinette				Printed Name Rich Wilson					
2 Dissolved Nickel not field filtered	Company GEI				Company ARI					
	Date & Time 3/25/14 13:15				Date & Time 3/25/14 13:05					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

YES 34: 000005

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 7634 Turn-around Requested: _____
 ARI Client Company: GeoEngineers Phone: 253-383-4940
 Client Contact: Ian Young

Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No Containers
GEI-SB14-0.5-1	3/24	1526	S	1
GEI-SB14-3-3.5	}	1527	}	}
GEI-SB14-5-5.5		1530		
GEI-SB14-7-7.5		1531		
GEI-SB14-9-9.5		1532		
GEI-SB14-11-11.5		1537		
GEI-SB14-13-13.5	}	1538	}	}
GEI-SB14-14.5-15		1539		

Date: 3/24/14
 Page: 14 of 14
 No. of Coolers: 1
 Cooler Temps: 0558

Analysis Requested					Notes/Comments
Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C			
X		X			
X		X			
X		X			
X		X			
			X		
			X		
			X		
			X		

Comments/Special Instructions
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by (Signature): Paul Robinette
 Printed Name: Paul Robinette
 Company: GEI
 Date & Time: 3/25/14 13:15

Received by (Signature): _____
 Printed Name: _____
 Company: _____
 Date & Time: _____

Relinquished by (Signature): _____
 Printed Name: _____
 Company: _____
 Date & Time: _____

Received by (Signature): _____
 Printed Name: _____
 Company: _____
 Date & Time: _____

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Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: Geotechnical
 COC No(s): _____ (NA)
 Assigned ARI Job No: YE34

Project Name: Aladden Plating
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
 Time: 1400 -5 5.8
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 122912224
 Cooler Accepted by: _____ Date: 3/25/14 Time: 1315

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: NA
 Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____
 Samples Logged by: JIM Date: 3/26/14 Time: 1051

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

Small Air Bubbles -2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm	Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YE34



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YE34

Sample Receipt

Thirty-two soil samples were received on March 25, 2014 under ARI job YE34. The cooler temperatures measured by IR thermometer following ARI SOP were -0.5 and 5.8°C. Select samples were archived upon receipt. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recovery of chromium fell outside the control limit low for sample **GEI-SB11-0.5-1**. A post digestion spike was performed and the recovery was within control limits. All relevant data have been flagged with an "N" qualifier on the appropriate Form V. No further corrective action was taken.

The duplicate RPDs of chromium, lead, and nickel were outside the control limit for sample **GEI-SB11-0.5-1**. All relevant data have been flagged with a "*" qualifier on the Form VI. No further corrective action was taken.

General Chemistry Parameters (Hexavalent Chromium)

The sample and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The SRM percent recoveries were within control limits.

The matrix spike percent recovery of soluble hexavalent chromium fell outside the control limits low. All other quality control parameters were met for this analysis. No corrective action was taken.

The replicate RPDs were within the control limit.

Sample ID Cross Reference Report



ARI Job No: YE34
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. GEI-SB11-0.5-1	YE34A	14-5493	Soil	03/24/14 14:08	03/25/14 13:15
2. GEI-SB11-3-3.5	YE34B	14-5494	Soil	03/24/14 14:09	03/25/14 13:15
3. GEI-SB11-5-5.5	YE34C	14-5495	Soil	03/24/14 14:13	03/25/14 13:15
4. GEI-SB11-7-7.5	YE34D	14-5496	Soil	03/24/14 14:14	03/25/14 13:15
5. GEI-SB12-0.5-1	YE34E	14-5497	Soil	03/24/14 14:36	03/25/14 13:15
6. GEI-SB12-3-3.5	YE34F	14-5498	Soil	03/24/14 14:37	03/25/14 13:15
7. GEI-SB12-5-5.5	YE34G	14-5499	Soil	03/24/14 14:40	03/25/14 13:15
8. GEI-SB12-7-7.5	YE34H	14-5500	Soil	03/24/14 14:41	03/25/14 13:15
9. GEI-SB13-0.5-1	YE34I	14-5501	Soil	03/24/14 15:03	03/25/14 13:15
10. GEI-SB13-3-3.5	YE34J	14-5502	Soil	03/24/14 15:04	03/25/14 13:15
11. GEI-SB13-5-5.5	YE34K	14-5503	Soil	03/24/14 15:07	03/25/14 13:15
12. GEI-SB13-7-7.5	YE34L	14-5504	Soil	03/24/14 15:08	03/25/14 13:15
13. GEI-SB14-0.5-1	YE34M	14-5505	Soil	03/24/14 15:26	03/25/14 13:15
14. GEI-SB14-3-3.5	YE34N	14-5506	Soil	03/24/14 15:27	03/25/14 13:15
15. GEI-SB14-5-5.5	YE34O	14-5507	Soil	03/24/14 15:30	03/25/14 13:15
16. GEI-SB14-7-7.5	YE34P	14-5508	Soil	03/24/14 15:31	03/25/14 13:15
17. GEI-SB11-9-9.5	YE34Q	14-5509	Soil	03/24/14 14:15	03/25/14 13:15
18. GEI-SB11-11-11.5	YE34R	14-5510	Soil	03/24/14 14:21	03/25/14 13:15
19. GEI-SB11-13-13.5	YE34S	14-5511	Soil	03/24/14 14:22	03/25/14 13:15
20. GEI-SB11-14.5-15	YE34T	14-5512	Soil	03/24/14 14:23	03/25/14 13:15
21. GEI-SB12-9-9.5	YE34U	14-5513	Soil	03/24/14 14:42	03/25/14 13:15
22. GEI-SB12-11-11.5	YE34V	14-5514	Soil	03/24/14 14:45	03/25/14 13:15
23. GEI-SB12-13-13.5	YE34W	14-5515	Soil	03/24/14 14:46	03/25/14 13:15
24. GEI-SB12-14.5-15	YE34X	14-5516	Soil	03/24/14 14:47	03/25/14 13:15
25. GEI-SB13-9-9.5	YE34Y	14-5517	Soil	03/24/14 15:09	03/25/14 13:15
26. GEI-SB13-11-11.5	YE34Z	14-5518	Soil	03/24/14 15:13	03/25/14 13:15
27. GEI-SB13-13-13.5	YE34AA	14-5519	Soil	03/24/14 15:14	03/25/14 13:15
28. GEI-SB13-14.5-15	YE34AB	14-5520	Soil	03/24/14 15:15	03/25/14 13:15
29. GEI-SB14-9-9.5	YE34AC	14-5521	Soil	03/24/14 15:32	03/25/14 13:15
30. GEI-SB14-11-11.5	YE34AD	14-5522	Soil	03/24/14 15:37	03/25/14 13:15
31. GEI-SB14-13-13.5	YE34AE	14-5523	Soil	03/24/14 15:38	03/25/14 13:15
32. GEI-SB14-14.5-15	YE34AF	14-5524	Soil	03/24/14 15:39	03/25/14 13:15



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	RPD	Blank Spike / LCS %R	RPD
Met 6010C (EPA 6010C) in Solid								
Preservation: Cool <6°C								
Container: Glass WM, Clear, 4 oz			Minimum Sample Weight: 100 g			Hold Time: 180 days		
Aluminum	0.757	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Antimony	0.628	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Arsenic	0.333	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Barium	0.133	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Beryllium	0.0160	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Boron	0.739	2.00 mg/kg		20	75 - 125	20	80 - 120	20
Cadmium	0.0180	0.200 mg/kg		20	75 - 125	20	80 - 120	20
Calcium	1.13	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Chromium	0.124	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Cobalt	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Copper	0.0920	0.200 mg/kg		20	75 - 125	20	80 - 120	20
Iron	0.750	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Lead	0.155	2.00 mg/kg		20	75 - 125	20	80 - 120	20
Magnesium	0.961	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Manganese	0.0280	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Molybdenum	0.0790	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Nickel	0.386	1.00 mg/kg		20	75 - 125	20	80 - 120	20
Potassium	6.57	50.0 mg/kg		20	75 - 125	20	80 - 120	20
Selenium	0.499	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Silver	0.0430	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Sodium	1.14	50.0 mg/kg		20	75 - 125	20	80 - 120	20
Sodium-1	114	5000 mg/kg		20	75 - 125	20	80 - 120	20
Strontium	0.00900	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Thallium	0.310	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Tin	0.141	1.00 mg/kg		20	75 - 125	20	80 - 120	20
Titanium	0.211	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Vanadium	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Zinc	0.145	1.00 mg/kg		20	75 - 125	20	80 - 120	20



Spike Recovery Control Limits for Conventional Wet Chemistry Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YE34

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB11-0.5-1	YE34A	14-5493	
GEI-SB11-0.5-1D	YE34ADUP	14-5493	
GEI-SB11-0.5-1S	YE34ASPK	14-5493	
GEI-SB11-3-3.5	YE34B	14-5494	
PBS	YE34MB1	14-5494	
LCSS	YE34MB1SPK	14-5494	
GEI-SB11-5-5.5	YE34C	14-5495	
GEI-SB11-7-7.5	YE34D	14-5496	
GEI-SB12-0.5-1	YE34E	14-5497	
GEI-SB12-3-3.5	YE34F	14-5498	
GEI-SB12-5-5.5	YE34G	14-5499	
GEI-SB12-7-7.5	YE34H	14-5500	
GEI-SB13-0.5-1	YE34I	14-5501	
GEI-SB13-3-3.5	YE34J	14-5502	
GEI-SB13-5-5.5	YE34K	14-5503	
GEI-SB13-7-7.5	YE34L	14-5504	
GEI-SB14-0.5-1	YE34M	14-5505	
GEI-SB14-3-3.5	YE34N	14-5506	
GEI-SB14-5-5.5	YE34O	14-5507	
GEI-SB14-7-7.5	YE34P	14-5508	

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn

Date: 4/4/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB11-0.5-1**
SAMPLE

Lab Sample ID: YE34A

LIMS ID: 14-5493

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	51.5	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	37	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	970	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB11-3-3.5**
SAMPLE

Lab Sample ID: YE34B

LIMS ID: 14-5494

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	26.6	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	438	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB11-5-5.5**
SAMPLE

Lab Sample ID: YE34C

LIMS ID: 14-5495

Matrix: Soil

Data Release Authorized 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 93.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	26.7	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	306	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB11-7-7.5
SAMPLE**

Lab Sample ID: YE34D

LIMS ID: 14-5496

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 86.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.31	0.6	670	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.15	2	2	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.34	1	257	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

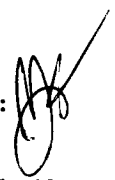
Page 1 of 1

Sample ID: **GEI-SB12-0.5-1**
SAMPLE

Lab Sample ID: YE34E

LIMS ID: 14-5497

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	63.2	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	16	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	499	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation



INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: GEI-SB12-3-3.5
SAMPLE

Lab Sample ID: YE34F

LIMS ID: 14-5498

Matrix: Soil

Data Release Authorized

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	29.4	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	65	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

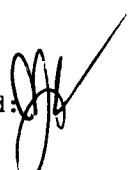
Page 1 of 1

**Sample ID: GEI-SB12-5-5.5
SAMPLE**

Lab Sample ID: YE34G

LIMS ID: 14-5499

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	34.8	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	93	

Reported in mg/kg-dry (ppm).


U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS
Page 1 of 1

Sample ID: GEI-SB12-7-7.5
SAMPLE

Lab Sample ID: YE34H
LIMS ID: 14-5500
Matrix: Soil
Data Release Authorized: 
Reported: 04/04/14

QC Report No: YE34-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 88.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.30	0.6	744	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.15	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.34	1	171	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

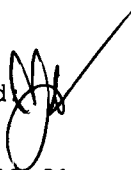
Page 1 of 1

Sample ID: **GEI-SB13-0.5-1**
SAMPLE

Lab Sample ID: YE34I

LIMS ID: 14-5501

Matrix: Soil

Data Release Authorized 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	148	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	40	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	834	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB13-3-3.5
SAMPLE**

Lab Sample ID: YE34J

LIMS ID: 14-5502

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	34.2	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	63	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ


LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB13-5-5.5
SAMPLE**

Lab Sample ID: YE34K
LIMS ID: 14-5503
Matrix: Soil
Data Release Authorized 
Reported: 04/04/14

QC Report No: YE34-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 92.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	30.3	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	135	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB13-7-7.5**
SAMPLE

Lab Sample ID: YE34L

LIMS ID: 14-5504

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 72.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/02/14	7440-47-3	Chromium	0.89	2	431	
3050B	03/28/14	6010C	04/02/14	7439-92-1	Lead	0.43	7	7	U
3050B	03/28/14	6010C	04/02/14	7440-02-0	Nickel	0.99	3	568	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ


LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB14-0.5-1**
SAMPLE

Lab Sample ID: YE34M
LIMS ID: 14-5505
Matrix: Soil
Data Release Authorized: 
Reported: 04/04/14

QC Report No: YE34-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 90.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.28	0.5	343	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	70	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.31	1	904	

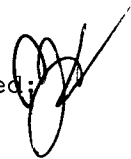
Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB14-3-3.5**
SAMPLE

Lab Sample ID: YE34N
LIMS ID: 14-5506
Matrix: Soil
Data Release Authorized: 
Reported: 04/04/14

QC Report No: YE34-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 94.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	43.5	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	133	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

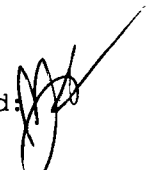
Page 1 of 1

Sample ID: **GEI-SB14-5-5.5**
SAMPLE

Lab Sample ID: YE340

LIMS ID: 14-5507

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.26	0.5	102	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	10	
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.29	1	145	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB14-7-7.5**
SAMPLE

Lab Sample ID: YE34P

LIMS ID: 14-5508

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 86.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.29	0.5	198	
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.14	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.32	1	3,010	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB11-0.5-1
MATRIX SPIKE

Lab Sample ID: YE34A

LIMS ID: 14-5493

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	51.5	85.5	50.1	67.9%	N
Lead	6010C	37	219	200	91.0%	
Nickel	6010C	970	908	50.1	-124%	H

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: GEI-SB11-0.5-1
DUPLICATE**

Lab Sample ID: YE34A

LIMS ID: 14-5493

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	51.5	26.8	63.1%	+/- 20%	*
Lead	6010C	37	16	79.2%	+/- 20%	*
Nickel	6010C	970	755	24.9%	+/- 20%	*

Reported in mg/kg-dry

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE34LCS

LIMS ID: 14-5494

Matrix: Soil

Data Release Authorized: 

Reported: 04/04/14

QC Report No: YE34-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	54.3	50.0	109%	
Lead	6010C	213	200	106%	
Nickel	6010C	54	50	108%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE34MB

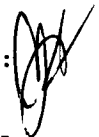
QC Report No: YE34-GeoEngineers

LIMS ID: 14-5494

Project: Aladden Plating

Matrix: Soil

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 04/04/14

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	03/28/14	6010C	04/01/14	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	03/28/14	6010C	04/01/14	7439-92-1	Lead	0.13	2	2	U
3050B	03/28/14	6010C	04/01/14	7440-02-0	Nickel	0.30	1	1	U

Reported in mg/kg (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation



Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040171	1000.0	1055.36	105.5	1000.0	1041.67	104.2	1060.96	106.1	1041.89	104.2	1049.81	105.0	1064.49	106.4
Lead	PB	ICP	IP040171	2000.0	1989.07	99.5	2000.0	1987.64	99.4	2025.28	101.3	1987.92	99.4	1996.90	99.8	1985.53	99.3
Nickel	NI	ICP	IP040171	1000.0	1039.89	104.0	1000.0	1026.30	102.6	1049.94	105.0	1029.73	103.0	1037.39	103.7	1057.29	105.7

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP040171	1000.0	1069.76	107.0	1049.41	104.9	1039.41	103.9	1049.55	105.0				
Lead	PB	ICP	IP040171	2000.0	2082.73	104.1	2050.34	102.5	1998.30	99.9	2027.19	101.4				
Nickel	NI	ICP	IP040171	1000.0	1067.23	106.7	1048.50	104.9	1039.30	103.9	1055.13	105.5				

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040271	1000.0	1027.06	102.7	1000.0	1016.73	101.7	1036.47	103.6						
Lead	PB	ICP	IP040271	2000.0	2012.54	100.6	2000.0	2003.50	100.2	2105.12	105.3						
Nickel	NI	ICP	IP040271	1000.0	1021.09	102.1	1000.0	1010.60	101.1	1034.78	103.5						

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE34



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IF040171	5.0		5.60	112.0	4.89	97.8								
Lead	PB	ICP	IF040171	20.0		20.16	100.8	20.53	102.7								
Nickel	NI	ICP	IF040171	10.0		10.53	105.3	9.41	94.1								
Chromium	CR	ICP	IF040271	5.0		5.86	117.2										
Lead	PB	ICP	IF040271	20.0		20.81	104.1										
Nickel	NI	ICP	IF040271	10.0		10.66	106.6										

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE34

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Chromium	CR	ICP	IP040171	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Lead	PB	ICP	IP040171	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Nickel	NI	ICP	IP040171	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP040171	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP040171	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP040171	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

Calibration Blanks



ANALYTICAL
RESOURCES
INCORPORATED

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C	
Chromium	CR	ICP	IP040271	10.0	5.0	5.0	5.0	U	5.0	U	5.0	U							
Lead	PB	ICP	IP040271	3.0	20.0	20.0	20.0	U	20.0	U	20.0	U							
Nickel	NI	ICP	IP040271	40.0	10.0	10.0	10.0	U	10.0	U	10.0	U							

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040171

SDG: YE34

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	200350.9	199935.3	100.0	198445.9	199238.7	99.6			
Antimony	1000	1000	21.7	1007.1	100.7	19.9	1014.9	101.5			
Arsenic	1000	1000	23.4	1021.5	102.2	20.4	1031.8	103.2			
Barium	1000	1000	-1.9	997.5	99.8	-2.0	1010.9	101.1			
Beryllium	1000	1000	0.1	984.2	98.4	0.1	991.3	99.1			
Boron			-7.4	-5.6		-6.6	-6.5				
Cadmium	1000	1000	-0.2	1008.2	100.8	-0.2	1012.1	101.2			
Calcium	100000	100000	101106.5	100907.9	100.9	101959.2	102708.8	102.7			
Chromium	1000	1000	-0.5	999.7	100.0	-1.4	1015.6	101.6			
Cobalt	1000	1000	2.1	935.1	93.5	2.2	946.7	94.7			
Copper	1000	1000	0.3	1035.5	103.6	0.8	1040.3	104.0			
Iron	200000	200000	199871.8	200486.4	100.2	199811.4	202065.4	101.0			
Lead	1000	1000	-1.3	970.5	97.1	-3.5	975.8	97.6			
Magnesium	100000	100000	102554.1	98843.6	98.8	102303.4	100006.5	100.0			
Manganese	1000	1000	-1.3	973.0	97.3	-1.4	938.0	93.8			
Molybdenum			2.4	2.4		2.3	2.0				
Nickel	1000	1000	1.7	954.8	95.5	0.7	979.7	98.0			
Potassium			39.5	45.7		53.5	40.1				
Selenium	1000	1000	34.0	1027.0	102.7	37.1	1034.6	103.5			
Silicon			-3.7	-10.6		13.6	1.4				
Silver	1000	1000	-0.7	1052.2	105.2	-0.6	1063.2	106.3			
Sodium			10.2	6.2		12.8	12.1				
Strontium			5.5	5.4		5.5	5.4				
Thallium	1000	1000	5.8	936.8	93.7	2.8	944.5	94.5			
Tin			-13.5	-16.6		-16.0	-15.6				
Titanium			2.3	2.1		1.7	1.8				
Vanadium	1000	1000	-1.3	971.8	97.2	-1.6	983.0	98.3			
Zinc	1000	1000	2.8	950.2	95.0	3.6	968.4	96.8			

YE34 : 00042

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040271

SDG: YE34

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	202712.6	201297.0	100.6						
Antimony	1000	1000	21.6	1020.5	102.1						
Arsenic	1000	1000	21.4	1018.9	101.9						
Barium	1000	1000	-2.7	980.9	98.1						
Beryllium	1000	1000	0.0	986.9	98.7						
Boron			-9.3	-8.7							
Cadmium	1000	1000	-0.3	1014.6	101.5						
Calcium	100000	100000	101295.1	100779.9	100.8						
Chromium	1000	1000	-1.2	992.0	99.2						
Cobalt	1000	1000	1.7	938.6	93.9						
Copper	1000	1000	0.2	1053.2	105.3						
Iron	200000	200000	200247.6	199444.1	99.7						
Lead	1000	1000	-4.9	971.7	97.2						
Magnesium	100000	100000	103455.3	99067.2	99.1						
Manganese	1000	1000	-1.6	930.3	93.0						
Molybdenum			2.6	2.3							
Nickel	1000	1000	0.6	954.1	95.4						
Potassium			17.3	7.4							
Selenium	1000	1000	31.3	1015.6	101.6						
Silicon			-5.6	-12.1							
Silver	1000	1000	-0.6	1071.4	107.1						
Sodium			16.6	4.9							
Strontium			5.6	5.4							
Thallium	1000	1000	4.9	944.3	94.4						
Tin			-19.3	-17.3							
Titanium			1.9	2.3							
Vanadium	1000	1000	-3.4	973.4	97.3						
Zinc	1000	1000	3.1	942.9	94.3						

YE34 : 00040

Post Digest Spike Sample Recovery



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

ANALYSIS METHOD: ICP

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	RUNID	SPIKED SAMPLE RESULT C	SAMPLE RESULT C	SPIKE ADDED	MATRIX	%R
Chromium	GEI-SB11-0.5-1A	YE34APOST	IP040171	2011.12	1030.64	1000	Soil	98.0

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE34

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FZ
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1504760	0.000000	-1.1418810	1.4701580	0.000000	-0.0444180
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1015620
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0105370	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	0.0956050	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.0031370	0.000000	-0.1731660	0.000000	0.000000	-0.0479580
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572290	0.000000	0.000000
Lead	220.35	-0.3197610	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	0.0487330
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.6154620	-1.2018020	0.000000	0.7453470
Manganese	257.61	0.0085510	0.000000	0.000000	0.000000	0.0051490	0.000000	0.000000	0.000000	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0154460	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.8483140	0.000000	-0.6093380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0065610	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.0801700	0.000000	5.8939530	0.4135750	0.000000	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1855780	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.1006900	0.000000	0.000000	0.1910190	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0251090
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.0126620	0.000000	0.000000	-0.2680380	0.000000	0.000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

IEC DATE: 2/19/2014

SDG: YE34

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.0000000	0.0000000	0.0000000	2.0154950	0.0000000	14.6504130	0.0000000
Antimony	206.84	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7865220	0.0000000	-3.6308690	0.0000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.0000000	0.0000000	0.0000000	-35.7069030	0.0000000	0.0000000	0.0000000
Barium	233.53	0.000000	0.000000	0.0000000	0.1263190	0.0000000	0.0000000	0.0000000	0.0000000	0.2049710	0.0000000
Beryllium	313.04	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0109650	0.0000000	0.2471980	0.0000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.000000	0.000000	0.0000000	-0.9924980	0.0000000	0.0000000	0.0000000	0.0000000	0.0519140	0.0000000
Calcium	317.93	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0714330	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3711990	0.0000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.0000000	0.0000000	1.7865010	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0084138	0.0000000	0.3207980	0.0000000	0.0000000	0.0000000	0.1968290	0.0000000	0.0000000	0.0000000
Iron	273.96	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.0715790	0.0000000
Lead	220.35	0.000000	0.000000	0.0000000	0.1183620	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0068080	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.0238460	0.0000000
Molybdenum	202.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.000000	0.000000	0.0000000	0.0000000	0.0000000	-0.5233870	0.0000000	0.4243640	0.0000000	0.0000000
Potassium	766.49	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6221340	0.0000000
Silicon	288.16	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2593400	0.0000000
Sodium	589.59	0.000000	0.000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.000000	0.000000	-1.6229180	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.6063050	0.0000000
Tin	189.93	0.000000	0.000000	0.0000000	0.0000000	-0.0356520	-0.5555490	-0.1890930	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.0000000	0.0000000	0.0000000	0.5783020	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.0000000	-0.0717780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: SWC

SDG: YE34

PREPDATE: 3/28/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB11-0.5-1	YE34A	1.098	0.0	50.0
GEI-SB11-0.5-1D	YE34ADUP	1.099	0.0	50.0
GEI-SB11-0.5-1S	YE34ASPK	1.095	0.0	50.0
GEI-SB11-3-3.5	YE34B	1.074	0.0	50.0
GEI-SB11-5-5.5	YE34C	1.071	0.0	50.0
GEI-SB11-7-7.5	YE34D	1.009	0.0	50.0
GEI-SB12-0.5-1	YE34E	1.067	0.0	50.0
GEI-SB12-3-3.5	YE34F	1.048	0.0	50.0
GEI-SB12-5-5.5	YE34G	1.095	0.0	50.0
GEI-SB12-7-7.5	YE34H	1.009	0.0	50.0
GEI-SB13-0.5-1	YE34I	1.058	0.0	50.0
GEI-SB13-3-3.5	YE34J	1.019	0.0	50.0
GEI-SB13-5-5.5	YE34K	1.091	0.0	50.0
GEI-SB13-7-7.5	YE34L	1.043	0.0	50.0
GEI-SB14-0.5-1	YE34M	1.054	0.0	50.0
PBS	YE34MB1	1.000	0.0	50.0
LCSS	YE34MB1SPK	1.000	0.0	50.0
GEI-SB14-3-3.5	YE34N	1.091	0.0	50.0
GEI-SB14-5-5.5	YE34O	1.091	0.0	50.0
GEI-SB14-7-7.5	YE34P	1.068	0.0	50.0

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE34
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040171
 METHOD: ICP
 START DATE: 4/1/2014
 END DATE: 4/1/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN				
S0			1.00	0825										X												X											
S2			1.00	0829										X													X										
S3			1.00	0830										X												X											
S4			1.00	0833																																	
S5			1.00	0835																																	
ICV			1.00	0842										X											X												
ICB			1.00	0846										X										X													
ZZZZZZ			1.00	0850										X										X													
ICSA			1.00	0854										X										X													
ICSAB			1.00	0858										X										X													
CCV			1.00	0903										X										X													
CCB			1.00	0907										X										X													
CRI			1.00	0912										X										X													
ZZZZZZ			2.00	0917										X										X													
ZZZZZZ			2.00	0921										X										X													
ZZZZZZ			2.00	0925										X										X													
ZZZZZZ			5.00	0929										X										X													
ZZZZZZ			1.00	0933										X										X													
ZZZZZZ			1.00	0937										X										X													
ZZZZZZ			1.00	0941										X										X													
ZZZZZZ			1.00	0945										X										X													
CCV			1.00	0949										X										X													
CCB			1.00	0953										X										X													
ZZZZZZ			1.00	0957										X										X													
ZZZZZZ			1.00	1001										X										X													
ZZZZZZ			5.00	1005										X										X													
ZZZZZZ			1.00	1009										X										X													
ZZZZZZ			1.00	1014										X										X													
ZZZZZZ			1.00	1018										X										X													
ZZZZZZ			1.00	1022										X										X													
ZZZZZZ			1.00	1026										X										X													
CCV			1.00	1030										X										X													
CCB			1.00	1034										X										X													
CRI			1.00	1038										X										X													
ICSA			1.00	1042										X										X													

YE34 : 00049



Analysis Run Log

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE34
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040171
 METHOD: ICP
 START DATE: 4/1/2014
 END DATE: 4/1/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
ICSAB	ICSABF	1.00	1046																																
CCV	CCV4	1.00	1051																					X	X										
CCB	CCB4	1.00	1055																				X	X											
ZZZZZZ	YE32MB1	2.00	1059																				X	X											
ZZZZZZ	YE32B	2.00	1104																																
ZZZZZZ	YE32C	2.00	1108																																
ZZZZZZ	YE32D	2.00	1112																																
ZZZZZZ	YE32E	2.00	1116																																
ZZZZZZ	YE32ADUP	2.00	1121																																
ZZZZZZ	YE32A	2.00	1125																																
ZZZZZZ	YE32ASPK	2.00	1129																																
ZZZZZZ	ZZZZZZ	2.00	1133																																
ZZZZZZ	YE32MB1SPK	2.00	1137																																
CCV	CCV5	1.00	1141																				X	X											
CCB	CCB5	1.00	1145																				X	X											
ZZZZZZ	YE32F	2.00	1149																																
ZZZZZZ	YE32G	2.00	1153																																
ZZZZZZ	YE32H	2.00	1157																																
ZZZZZZ	YE32I	2.00	1201																																
ZZZZZZ	YE32J	2.00	1204																																
ZZZZZZ	YE32K	2.00	1208																																
ZZZZZZ	YE32L	2.00	1211																																
ZZZZZZ	YE32M	2.00	1215																																
ZZZZZZ	YE32N	2.00	1219																																
ZZZZZZ	YE32O	2.00	1223																																
CCV	CCV6	1.00	1227																				X	X											
CCB	CCB6	1.00	1231																				X	X											
ZZZZZZ	YE32E	2.00	1235																																
ZZZZZZ	YE32P	2.00	1239																																
ZZZZZZ	YE32Q	2.00	1243																																
ZZZZZZ	YE32R	2.00	1247																																
ZZZZZZ	YE32S	2.00	1251																																
ZZZZZZ	YE32T	2.00	1255																																
GEI-SB11-3-3.5	YE34B	2.00	1259																				X	X											
GEI-SB11-5-5.5	YE34C	2.00	1303																				X	X											

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE34
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040171
 METHOD: ICP
 START DATE: 4/1/2014
 END DATE: 4/1/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
GEI-SB11-7-7.5	YE34D	2.00	1307																					X											X
LCSS	YE34MB1SPK	2.00	1311																					X											X
CCV	CCV7	1.00	1315																				X												X
CCB	CCB7	1.00	1319																				X												X
PBS	YE34MB1	2.00	1323																				X												X
GEI-SB12-0.5-1	YE34E	2.00	1327																				X												X
GEI-SB12-3-3.5	YE34F	2.00	1331																				X												X
GEI-SB12-7-7.5	YE34H	2.00	1335																				X												X
GEI-SB13-0.5-1	YE34I	2.00	1339																				X												X
GEI-SB13-3-3.5	YE34J	2.00	1343																				X												X
GEI-SB11-0.5-1D	YE34ADUP	2.00	1347																				X												X
GEI-SB11-0.5-1	YE34A	2.00	1351																				X												X
GEI-SB11-0.5-1S	YE34ASP	2.00	1355																				X												X
GEI-SB11-0.5-1A	YE34APOST	2.00	1359																				X												X
CCV	CCV8	1.00	1403																				X												X
CCB	CCB8	1.00	1407																				X												X
GEI-SB13-5-5.5	YE34K	2.00	1411																				X												X
GEI-SB13-7-7.5	YE34L	2.00	1415																				X												X
GEI-SB14-0.5-1	YE34M	2.00	1419																				X												X
GEI-SB14-3-3.5	YE34N	2.00	1423																				X												X
GEI-SB14-5-5.5	YE34O	2.00	1427																				X												X
GEI-SB14-7-7.5	YE34P	2.00	1431																				X												X
GEI-SB12-5-5.5	YE34G	2.00	1435																				X												X
ZZZZZ	YE33C	2.00	1439																				X												X
GEI-SB11-0.5-1S	YE34ASP	2.00	1443																				X												X
ZZZZZ	YE33MB1SPK	2.00	1447																				X												X
CCV	CCV9	1.00	1451																				X												X
CCB	CCB9	1.00	1455																				X												X

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE34
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040271
 METHOD: ICP
 START DATE: 4/2/2014
 END DATE: 4/2/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
S0		1.00	1020											X																				X	
S2		1.00	1024											X																				X	
S3		1.00	1026											X																				X	
S4		1.00	1028																																
S5		1.00	1030																																
ICV		1.00	1037											X																				X	
ICB		1.00	1041											X																				X	
CRI		1.00	1045											X																				X	
ICSA		1.00	1049											X																				X	
ICSAB		1.00	1053											X																				X	
CCV		1.00	1058											X																				X	
CCB		1.00	1102											X																				X	
ZZZZZZ		2.00	1138																																
ZZZZZZ		1.00	1143																																
ZZZZZZ		1.00	1147																																
ZZZZZZ		5.00	1151																																
ZZZZZZ		5.00	1155																																
GEI-SB13-7-7.5		5.00	1159																																X
ZZZZZZ		2.00	1203																																
ZZZZZZ		2.00	1207																																
ZZZZZZ		2.00	1211																																
ZZZZZZ		2.00	1215																																
CCV		1.00	1219											X																				X	
CCB		1.00	1223											X																				X	

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YE34

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/09/14

A handwritten signature in black ink, appearing to be a stylized name or set of initials.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB11-0.5-1
ARI ID: 14-5493 YE34A


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.424	< 0.424 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	92.56

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/09/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB11-3-3.5
ARI ID: 14-5494 YE34B


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.416	< 0.416 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.88

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/09/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB11-5-5.5
ARI ID: 14-5495 YE34C

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.422	< 0.422 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.08

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be a stylized 'M' or similar character.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB11-7-7.5
ARI ID: 14-5496 YE34D

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.447	11.9
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	89.18

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'M' or 'MA', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB12-0.5-1
ARI ID: 14-5497 YE34E


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.414	< 0.414 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	92.87

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/09/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB12-3-3.5
ARI ID: 14-5498 YE34F

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.415	< 0.415 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.61

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'J. J.', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB12-5-5.5
ARI ID: 14-5499 YE34G

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.410	< 0.410 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.56

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'JK' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB12-7-7.5
ARI ID: 14-5500 YE34H

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.442	10.7
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	90.40

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'G. J. ...', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB13-0.5-1
ARI ID: 14-5501 YE34I


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.421	< 0.421 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.61

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONAL
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/09/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB13-3-3.5
ARI ID: 14-5502 YE34J

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.413	< 0.413 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.74

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'JG' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB13-5-5.5
ARI ID: 14-5503 YE34K

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.419	< 0.419 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	93.99

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'JW', is written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB13-7-7.5
ARI ID: 14-5504 YE34L


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.525	7.67
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	74.64

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/09/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB14-0.5-1
ARI ID: 14-5505 YE34M


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.431	< 0.431 U
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	91.01

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/09/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB14-3-3.5
ARI ID: 14-5506 YE34N

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.418	0.794
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	95.76

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'JK' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB14-5-5.5
ARI ID: 14-5507 YE340

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.422	3.00
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	94.39

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONAL
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be a stylized name.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB14-7-7.5
ARI ID: 14-5508 YE34P

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/05/14 040514#1	SW7196A	mg/kg	0.436	3.23
Total Solids	03/27/14 032714#1	SM2540G	Percent	0.01	88.56

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

MS/MSD RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'JW' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YE34A Client ID: GEI-SB11-0.5-1						
Hexavalent Chromium	04/05/14	mg/kg	< 0.424	1.81	21.0	8.6%
Hexavalent Chromium	04/05/14	mg/kg	< 0.424	822	912	90.1%

REPLICATE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/09/14


A handwritten signature in black ink, appearing to be 'JG' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: YE34A Client ID: GEI-SB11-0.5-1					
Hexavalent Chromium	04/05/14	mg/kg	< 0.424	< 0.425	NA
Total Solids	03/27/14	Percent	92.56	92.72	0.2%

METHOD BLANK RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/09/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank	QC ID
Hexavalent Chromium	04/05/14	mg/kg	< 0.400 U	PREP
Total Solids	03/27/14	Percent	< 0.01 U	ICB

STANDARD REFERENCE RESULTS-CONVENTIONALS
YE34-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/09/14

A handwritten signature in black ink, appearing to be 'GJ' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Soluble Hexavalent Chromium	04/05/14	mg/kg	19.5	20.0	97.5%
Insoluble Hexavalent Chromium	04/05/14	mg/kg	632	662	95.5%
Soil Hexavalent Chrome					

Total Solids

ARI Job ID: YE34

Solids Data Entry Report
Date: 04/01/14

Checked by: (A) Date: 4/01/14
Data Analyst: DM

Solids Determination performed on 03/31/14 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
YE34	A	GEI-SB11-0.5-1	0.962	10.340	9.516	91.21
YE34	B	GEI-SB11-3-3.5	0.986	10.404	9.873	94.36
YE34	C	GEI-SB11-5-5.5	1.013	10.423	9.832	93.72
YE34	D	GEI-SB11-7-7.5	1.032	10.881	9.548	86.47
YE34	E	GEI-SB12-0.5-1	1.033	10.678	9.848	91.39
YE34	F	GEI-SB12-3-3.5	0.965	10.639	10.166	95.11
YE34	G	GEI-SB12-5-5.5	0.962	10.395	9.866	94.39
YE34	H	GEI-SB12-7-7.5	1.004	10.374	9.303	88.57
YE34	I	GEI-SB13-0.5-1	1.010	10.682	9.927	92.19
YE34	J	GEI-SB13-3-3.5	0.995	10.045	9.530	94.31
YE34	K	GEI-SB13-5-5.5	0.994	10.483	9.785	92.64
YE34	L	GEI-SB13-7-7.5	0.993	10.932	8.195	72.46
YE34	M	GEI-SB14-0.5-1	0.997	10.473	9.577	90.54
YE34	N	GEI-SB14-3-3.5	0.983	10.038	9.574	94.88
YE34	O	GEI-SB14-5-5.5	1.033	10.647	10.100	94.31
YE34	P	GEI-SB14-7-7.5	1.007	10.523	9.266	86.79

YE34 : 00075



Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 57 Balance ID: 06755

Samples in Oven: Date: 3-31-14 Time: 1120 Temp: 105°C Analyst: DM

Removed from Oven: Date: 4-01-14 Time: 0645 Temp: 102°C Analyst: DM

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs ¹
YE34 A	0.962	10.340	9.516	-	✓
" B	0.986	10.404	9.873	-	✓
" C	1.013	10.423	9.832	-	✓
" D	1.032	10.861	9.548	-	✓
" E	1.033	10.678	9.848	-	✓
" F	0.965	10.639	10.166	-	✓
" G	0.962	10.395	9.844	-	✓
" H	1.004	10.374	9.303	-	✓
" I	1.010	10.662	9.927	-	✓
" J	0.995	10.045	9.530	-	✓
" K	0.994	10.483	9.786	-	✓
" L	0.993	10.932	8.195	-	✓
" M	0.997	10.473	9.677	-	✓
" N	0.983	10.038	9.574	-	✓
" O	1.033	10.647	10.100	-	✓
" P	1.007	10.523	9.244	-	✓
YE43 A	1.059	10.483	8.128	-	✓
" B	1.011	10.833	9.037	-	✓
" C	1.035	10.441	6.983	-	✓
" D	0.995	10.878	9.344	-	✓
" E	0.996	10.198	8.569	-	✓
" F	1.008	10.720	6.637	-	✓
" G	0.992	10.206	5.105	-	✓

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YE34



SPIKING LOG

Sample ID YES4 ASPK, MBSPK
YES2 ASPK, MBSPK

Analyst: DM Final Volume 50
Date: 3:26.14 Final Volume (Hg): _____

Prepcode:	ICP Routine	ICP No	GFA
Spike Solution:	SWZ		GFA
Standard No.:	0045		
Vol Added (mL):	1.0		
Ag	50		2.0
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50 ✓	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50 ✓	50	
Pb	200 ✓		10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Tl		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

YES4 : 00078



Digestion Log

Analyst: DM Date: 3-28-14 Time: 1125
 Matrix: Soil Block ID: #A Block Temp: 90°C Thermometer: MP40

ARI Sample ID	Btl #	pH<2	Prep Code: <u>Std</u>		Prep Code:		Comments
			Initial Wt (g) -Vol(mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YESH A	1	—	1.098	50.0			
" ADUP	1	—	1.099				
" PEPE	1	—	1.095				
" B	1	—	1.074				
" C	1	—	1.071				
" D	1	—	1.009				
" E	1	—	1.067				
" F	1	—	1.048				
" G	1	—	1.095				
" H	1	—	1.009				
" I	1	—	1.058				
" J	1	—	1.019				
" K	1	—	1.091				
" L	1	—	1.043				
" M	1	—	1.054				
" N	1	—	1.091				
" O	1	—	1.091				
" P	1	—	1.068				
" MBI	—	—	—	↓			
" MBIPK	—	—	—	50.0			
3-28-14 DM							

Chemical/Reagent ID: HNO₃ : C1312
5061F C2062

H2O2 : B2059
Page 26048

HCl : C0083

Tube Lot #
1309271
Version 005
1/10/12

YESH : 00079



Corrective Actions Inorganic Analyses

Criteria Flagged: Unacceptable Blank: <input type="checkbox"/> Unacceptable Duplicate: <input checked="" type="checkbox"/> Unacceptable Spike: <input checked="" type="checkbox"/> Unacceptable Reference: <input type="checkbox"/>	ARI Job No.: <u>YE34</u> Date of Event: <u>4-1-14</u> Client ID: <u>Geo Engineers</u> Method/Element: <u>ICP</u> Prep Code: <u>SWC</u>
Details of Problem/Recommended Corrective Action: <u>A/ADUP: Cr, Ni, Pb ↑ RPD (Numbers attached)</u> <u>A/ASPK: Cr ↓</u> 	
Samples Affected: _____ 	
Corrective Action Taken: _____ <div style="text-align: right; margin-right: 50px;"><i>Send</i></div>	

Analyst Initials: _____

Date: _____

Supervisor: ed

Date: 4-2-14

YE34

APOST
1.006mg/L => 98% rec.

STL

MATRIX DUPLICATE AND MATRIX SPIKE WORKSHEET (FOR SAMPLES >5 IDL)									
DUPLICATION:		SPIKE RECOVERY:		SPIKE RECOVERY:		SPIKE RECOVERY:			
DUP	BKGD	VOLUME	SPIKE	BKGD					
VOLUME	100	100	100	100					
SAMP WT	1.099	1.098	SAMP WT	1.095	1.098				
ELEMENT	DUP	BKGD	% RPD	ELEMENT	SPIKE	BKGD	SPK'D CONC	% RECOV	
	mg/L				mg/L	mg/L	mg/L		
Ag			#DIV/0!	Ag			0.5	0.0	
Al			#DIV/0!	Al			2	0.0	
As			#DIV/0!	As			2	0.0	
B			#DIV/0!	B			0.5	0.0	
Ba			#DIV/0!	Ba			2	0.0	
Be			#DIV/0!	Be			0.5	0.0	
Ca			#DIV/0!	Ca			10	0.0	
Cd			#DIV/0!	Cd			0.5	0.0	
Co			#DIV/0!	Co			0.5	0.0	
Cr	0.2688	0.5153	62.96	Cr	0.8544	0.5153	0.5	68.1	
Cu			#DIV/0!	Cu			0.5	0.0	
Fe			#DIV/0!	Fe			2	0.0	
K			#DIV/0!	K			10	0.0	
Mg			#DIV/0!	Mg			10	0.0	
Mn			#DIV/0!	Mn			0.5	0.0	
Mo			#DIV/0!	Mo			0.5	0.0	
Na			#DIV/0!	Na			10	0.0	
Ni	7.569	9.718	24.95	Ni	9.071	9.718	0.5	-124.1	
Pb	0.1629	0.3713	78.10	Pb	2.192	0.3713	2	91.1	
Sb			#DIV/0!	Sb			2	0.0	
Se			#DIV/0!	Se			2	0.0	
Si			#DIV/0!	Si			10	0.0	
Sn			#DIV/0!	Sn			0.5	0.0	
Sr			#DIV/0!	Sr			0.5	0.0	
Ti			#DIV/0!	Ti			2	0.0	
Tl			#DIV/0!	Tl			2	0.0	
V			#DIV/0!	V			0.5	0.0	
Zn			#DIV/0!	Zn			0.5	0.0	

TABLE 6

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YE34

Metals Data Review Checklist

Method: (ICP) ICP-MS GFA CVA

Analysis Date: 4-1-14

I2	Analyst BA ^{C-AA} 4/2/14	Peer 4/3/14	Comment
Logbook:			
Analyst, Date, Method info	✓	/	
Sample ID's	✓	/	
Standard/QC solution ID's recorded	✓	/	
Prep codes	✓	/	
Dilution factors	✓	/	
Crossouts/Corrections/Deletions	✓	/	
Calibration:			
Blank & Standard intensities	✓	/	
Standard deviations	✓	/	
Curve fit	✓	/	
Calibration Verification:			
ICV/CCV	✓	/	See log
ICB/CCB	✓	/	↓
Samples:			
RSD's & SD's	✓	/	See log
Internal Standards	✓	/	↓
Carry-over	✓	/	↓
Method QC:			
CRI/CRA	✓	/	
ICSA/ICSAB	✓	/	
Post Spikes/Serial Dilutions	✓	/	YE34
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	/	
Matrix Spikes	✓	/	YE34
Matrix Duplicates	✓	/	YE32, YE33
Method Blanks	✓	/	
Data Distribution:			
Requested elements/isotope identified	✓	/	
Correct samples identified for distribution	✓	/	
Raw data match distributed data	✓	/	
Data filename correct	✓	/	
Necessary Analysts Notes and CAF's	✓	/	CAF - YE32, YE33, YE34



IEC Date: 3-26-14

Analysis Date: 4-1-14

Analyst: at

LR Date: 1-3-14

Page: 1 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SID0			C1331
		2			C1331
		3			C1332
		4			C1333
		→ 5			C1334
		ICV			B2567
		ICB			
		ZZZZZZ			Ca A repow + Rerun
		ICSA			C532
		ICSA B			C533
		CCV1			
		CCB1			
		CR1			C1357
		YE91 I	WMN	Z	
		J			
		K			
		YE46 EL	DMN	5 ✓	
		E			
		EDup			
		ESOL			B1845
		→ MBZsol	→		0.08 mL ICP soln
					B1845
					0.08 mL ICP soln
		CCV2			
		CCB2			
		YE46 MBZ	DMN		



IEC Date: _____

Analysis Date: 4-1-14

Analyst: AA

LR Date: _____

Page: 2 of 7

All corrections made by analyst unless otherwise noted. BA 4-1-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE46 MBI	TWL		
		D-L		5	✓
		D			
		DDip			✓
		Dspl			✓ ca 512
222		22222			
		MBISPL			✓
		CCV3			
		CCP3			
		CR1			Ca ↑
		IC3A			
		ICSAM			
		CCM4			
		CCM4			
		YE32 MBI	SWC	2	End YE46
		B			
		C			
		D			
	✓	E			messed tube
		ADup			✓ Ni, Pb ↑ RPD (CAF)
		A			
		Aspl			✓ Ni STL
222		22222			
		ATOST			
		MBISPL			✓



IEC Date: -

Analysis Date: 4-1-14

Analyst: AA

LR Date: -

Page: 3 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV5			
		CCB5			
		YE32 F	Suk	2	
		G			
		H			
		I			
		J			
		K			
		L			
		M			
		N			
		O			
		CCV4			
		CCB6			
		YE32 P	Suk	2	
		Q			
		R			
		S			
		T			
		YE34 B			
		C			
		D			
		MBSPK			✓



IEC Date:

Analysis Date: 4-1-14

Analyst: AA

LR Date:

Page: 4 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV7			
		CCV57			Cu A (NR) ^{End} YE32
		YE34 MB	SWX	Z	
		E			
		F			
Label		H			
		I			
		J			
		ADup			Cu, Ni, Pb ↑ RPD
		A			(CAF)
	✓	Aspl			Clog?
		APost	P	↓	0.08 mL ICP Spk B1845 Cu OK
		CCV8			
		CCB8			Cu A
		YE34 K	SWX	Z	
	✓	L			Al, Fe = LR
		M			
		N			
		O			
		P			
		YE33 D G			
YE33 C		YE34 A			
		YE34 Aspk			Cu ↓ (CAF)
		YE33 MB1 spl			Ni STL



IEC Date:

Analysis Date: 4-1-14

Analyst: AA

LR Date:

Page: 5 of 7

All corrections made by analyst unless otherwise noted. BA 4-2-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCW9			
		CCB9			CAF
		YE33 MB1	Sec	2	Sent to wrong position
		CCV10			
		CCB10			CAF
		STD			
		CCV11			
		CCB11			
		YE14 MB	TWL		
		A		10	R2 150
		MBSDH			
		A		50	
		CCV12			BA CO.
		CCB12			BA CO.
		YE33 MB1	Sec	2	
		E			
		F			
		G			
		H			
		I			
		Aspk			CAF
		A			
		Aspk			CAF
		Aspk			



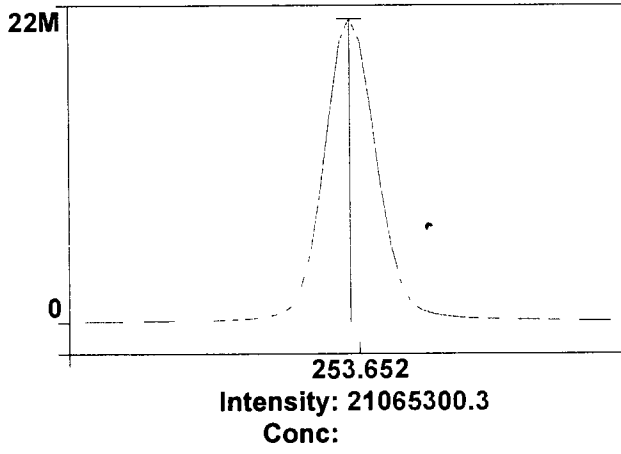
IEC Date: - - Analysis Date: 4-1-14 Analyst: AA
LR Date: - - Page: 6 of 7

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV13			
		CCB13			
		YE33 J	SWC	2	
		K			
		L			
	✓	M			F ₂ → LR
		N			
		O			
		P			
	✓	Q			F ₂ → LR
		R			
		↓ S	↓	↓	
		CCV14			
		CCB14			
		YE43 MB	SWC	2	
		YE33 T			
		↓ D			
		↓ B			
		YE43 C			
		D			
		E			
		F			
		G			
		↓ MBSPK	↓	↓	✓

Hg 253.652

Rep: 1



1

Nebulizer Parameters: Hg ReAlign

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

4/1/2014 7:59:15 AM Hg ReAlign... Actual peak offset (nm): 0.004
Drift (nm): -0.000 Slit adjustment: -2

Analysis Begun

Start Time: 4/1/2014 8:03:00 AM Plasma On Time: 4/1/2014 7:16:53 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists various elements like Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn and their corresponding calibration and processing details.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 4/1/2014 8:03:06 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/1/2014 8:25:04 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 4/1/2014 8:25:05 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2961232.7	95154.34	3.21%	100.0 %
ScR 361.383	245743.8	1360.11	0.55%	100.0 %
Ag 328.068†	74.2	57.36	77.35%	[0.00] mg/L
Al 308.215†	111.4	3.47	3.11%	[0.00] mg/L
As 188.979†	-6.3	2.41	38.16%	[0.00] mg/L
B 249.677†	26.9	2.44	9.10%	[0.00] mg/L
Ba 233.527†	16.3	1.51	9.26%	[0.00] mg/L
Be 313.042†	675.9	8.89	1.32%	[0.00] mg/L
Ca 317.933†	-125.9	7.96	6.33%	[0.00] mg/L
Cd 228.802†	298.9	10.07	3.37%	[0.00] mg/L
Co 228.616†	-79.2	2.68	3.38%	[0.00] mg/L
Cr 267.716†	-79.3	1.74	2.20%	[0.00] mg/L
Cu 324.752†	3814.3	135.27	3.55%	[0.00] mg/L
Fe 273.955†	46.2	1.08	2.33%	[0.00] mg/L
K 766.490†	487.0	18.54	3.81%	[0.00] mg/L
Mg 279.077†	55.5	3.30	5.93%	[0.00] mg/L
Mn 257.610†	134.4	5.04	3.75%	[0.00] mg/L
Mo 202.031†	50.8	3.66	7.20%	[0.00] mg/L
Na 589.592†	-378.1	24.50	6.48%	[0.00] mg/L
Na 330.237†	-146.6	3.99	2.72%	[0.00] mg/L
Ni 231.604†	-15.3	3.31	21.59%	[0.00] mg/L
Pb 220.353†	48.2	4.56	9.47%	[0.00] mg/L
Sb 206.836†	70.7	1.51	2.14%	[0.00] mg/L
Se 196.026†	-34.1	3.61	10.59%	[0.00] mg/L
Si 288.158†	66.0	11.43	17.33%	[0.00] mg/L
Sn 189.927†	-0.8	0.06	7.22%	[0.00] mg/L
Sr 421.552†	204.2	25.16	12.32%	[0.00] mg/L
Ti 334.903†	-37.2	2.28	6.13%	[0.00] mg/L
Tl 190.801†	-35.5	5.21	14.66%	[0.00] mg/L
V 292.402†	92.8	18.38	19.80%	[0.00] mg/L
Zn 206.200†	10.3	0.68	6.58%	[0.00] mg/L

=====
Sequence No.: 2
Sample ID: STD2
Autosampler Location: 2
Date Collected: 4/1/2014 8:29:05 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: STD2
Mean Corrected Calib

Analyte	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2816402.9	14196.03	0.50%	95.11 %
ScR 361.383	236748.9	386.11	0.16%	96.34 %
Ba 233.527†	38192.8	299.44	0.78%	[10] mg/L
Cd 228.802†	334851.2	746.21	0.22%	[10] mg/L
Co 228.616†	404165.6	1342.79	0.33%	[10] mg/L
Cr 267.716†	49980.3	100.41	0.20%	[10] mg/L
Cu 324.752†	2955840.9	4041.09	0.14%	[10] mg/L
Mn 257.610†	317933.4	530.28	0.17%	[10] mg/L
V 292.402†	1548507.0	5605.63	0.36%	[10] mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/1/2014 8:30:52 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2790973.5	13666.71	0.49%	94.25 %
ScR 361.383	238488.0	840.89	0.35%	97.05 %
Ag 328.068†	203813.0	275.63	0.14%	[1.0] mg/L
As 188.979†	17248.2	86.57	0.50%	[10] mg/L
B 249.677†	57224.9	41.46	0.07%	[10] mg/L
Be 313.042†	2529861.2	23064.01	0.91%	[5.0] mg/L
Na 589.592†	666644.0	5776.05	0.87%	[50] mg/L
Ni 231.604†	33784.6	65.59	0.19%	[10] mg/L
Pb 220.353†	85709.0	104.09	0.12%	[10] mg/L
Se 196.026†	13923.8	57.50	0.41%	[10] mg/L
Sr 421.552†	4152305.0	35509.98	0.86%	[5] mg/L
Tl 190.801†	21922.6	173.95	0.79%	[10] mg/L
Zn 206.200†	34136.7	107.01	0.31%	[10] mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/1/2014 8:33:09 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2794291.9	11723.89	0.42%	94.36 %
ScR 361.383	234014.1	1421.45	0.61%	95.23 %
Mo 202.031†	194153.4	1657.03	0.85%	[10] mg/L
Sb 206.836†	32088.0	257.94	0.80%	[10] mg/L
Si 288.158†	17471.7	265.24	1.52%	[10] mg/L
Sn 189.927†	35731.5	451.70	1.26%	[10] mg/L
Ti 334.903†	168898.1	361.77	0.21%	[10] mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/1/2014 8:35:23 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2644142.9	17455.70	0.66%	89.29 %
ScR 361.383	233665.1	1029.16	0.44%	95.08 %
Al 308.215†	39147.2	70.46	0.18%	[30] mg/L
Ca 317.933†	293972.0	921.79	0.31%	[30] mg/L
Fe 273.955†	114998.5	651.17	0.57%	[100] mg/L
K 766.490†	227689.1	864.04	0.38%	[100] mg/L
Mg 279.077†	33711.2	48.42	0.14%	[30] mg/L
Na 330.237†	2146.6	11.84	0.55%	[100] mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	203800	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1305	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1725	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5722	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3819	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	506000	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9799	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	33490	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40420	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4998	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	295600	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1150	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2277	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1124	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	31790	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	19420	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13330	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	21.47	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3378	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8571	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3209	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1392	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1747	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3573	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	830500	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16890	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2192	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	154900	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3414	0.00000	1.000000	

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Analysis Begun

Start Time: 4/1/2014 8:42:13 AM

Plasma On Time: 4/1/2014 7:16:53 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: CV

Date Collected: 4/1/2014 8:42:14 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2820976.2	95.26	%	0.058				0.06%
ScR 361.383	230055.8	93.62	%	0.190				0.20%
Ag 328.068†	216288.7	1.061	mg/L	0.0073	1.061	mg/L	0.0073	0.69%
Al 308.215†	2753.0	2.078	mg/L	0.0131	2.078	mg/L	0.0131	0.63%
As 188.979†	3480.3	2.050	mg/L	0.0076	2.050	mg/L	0.0076	0.37%
B 249.677†	5948.5	1.038	mg/L	0.0028	1.038	mg/L	0.0028	0.27%
Ba 233.527†	3970.0	1.039	mg/L	0.0003	1.039	mg/L	0.0003	0.03%
Be 313.042†	513290.1	1.014	mg/L	0.0057	1.014	mg/L	0.0057	0.56%
Ca 317.933†	20834.3	2.126	mg/L	0.0043	2.126	mg/L	0.0043	0.20%
Cd 228.802†	34924.2	1.033	mg/L	0.0039	1.033	mg/L	0.0039	0.38%
Co 228.616†	40549.8	1.001	mg/L	0.0035	1.001	mg/L	0.0035	0.35%
Cr 267.716†	5277.3	1.055	mg/L	0.0042	1.055	mg/L	0.0042	0.39%
Cu 324.752†	299956.1	1.015	mg/L	0.0022	1.015	mg/L	0.0022	0.22%
Fe 273.955†	2464.3	2.136	mg/L	0.0131	2.136	mg/L	0.0131	0.61%
K 766.490†	46506.3	20.43	mg/L	0.033	20.43	mg/L	0.033	0.16%
Mg 279.077†	2292.1	2.046	mg/L	0.0048	2.046	mg/L	0.0048	0.23%
Mn 257.610†	31335.5	0.9860	mg/L	0.00150	0.9860	mg/L	0.00150	0.15%
Mo 202.031†	18684.8	0.9623	mg/L	0.00274	0.9623	mg/L	0.00274	0.29%
Na 589.592†	691734.6	51.88	mg/L	0.117	51.88	mg/L	0.117	0.22%
Na 330.237†	1128.6	52.53	mg/L	0.182	52.53	mg/L	0.182	0.35%
Ni 231.604†	3512.5	1.040	mg/L	0.0026	1.040	mg/L	0.0026	0.25%
Pb 220.353†	17038.1	1.989	mg/L	0.0051	1.989	mg/L	0.0051	0.26%
Sb 206.836†	6703.8	2.087	mg/L	0.0031	2.087	mg/L	0.0031	0.15%
Se 196.026†	2813.6	2.020	mg/L	0.0076	2.020	mg/L	0.0076	0.38%
Si 288.158†	3526.8	2.023	mg/L	0.0360	2.023	mg/L	0.0360	1.78%
Sn 189.927†	3516.8	0.9859	mg/L	0.00626	0.9859	mg/L	0.00626	0.63%
Sr 421.552†	856480.6	1.031	mg/L	0.0016	1.031	mg/L	0.0016	0.15%
Ti 334.903†	16849.7	0.9964	mg/L	0.00252	0.9964	mg/L	0.00252	0.25%
Tl 190.801†	4554.1	2.069	mg/L	0.0100	2.069	mg/L	0.0100	0.48%
V 292.402†	158321.0	1.027	mg/L	0.0083	1.027	mg/L	0.0083	0.81%
Zn 206.200†	3498.1	1.025	mg/L	0.0007	1.025	mg/L	0.0007	0.07%

Sequence No.: 2

Autosampler Location: 1

Sample ID: CB

Date Collected: 4/1/2014 8:46:18 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2818053.9	95.16	%	0.983				1.03%
ScR 361.383	240511.8	97.87	%	0.221				0.23%
Ag 328.068†	-25.3	-0.00012	mg/L	0.000181	-0.00012	mg/L	0.000181	145.99%
Al 308.215†	2.5	0.00192	mg/L	0.007072	0.00192	mg/L	0.007072	367.55%
As 188.979†	-2.5	-0.00144	mg/L	0.002310	-0.00144	mg/L	0.002310	160.01%
B 249.677†	13.1	0.00229	mg/L	0.001021	0.00229	mg/L	0.001021	44.63%
Ba 233.527†	-0.7	-0.00018	mg/L	0.000411	-0.00018	mg/L	0.000411	228.66%
Be 313.042†	38.3	0.00008	mg/L	0.000012	0.00008	mg/L	0.000012	16.20%
Ca 317.933†	-18.7	-0.00191	mg/L	0.000864	-0.00191	mg/L	0.000864	45.18%
Cd 228.802†	9.7	0.00030	mg/L	0.000198	0.00030	mg/L	0.000198	66.18%
Co 228.616†	3.9	0.00010	mg/L	0.000122	0.00010	mg/L	0.000122	126.49%
Cr 267.716†	-6.3	-0.00127	mg/L	0.000180	-0.00127	mg/L	0.000180	14.23%
Cu 324.752†	274.8	0.00093	mg/L	0.000280	0.00093	mg/L	0.000280	30.13%
Fe 273.955†	1.5	0.00127	mg/L	0.001225	0.00127	mg/L	0.001225	96.13%
K 766.490†	67.9	0.02983	mg/L	0.011503	0.02983	mg/L	0.011503	38.56%
Mg 279.077†	4.7	0.00417	mg/L	0.004005	0.00417	mg/L	0.004005	95.98%
Mn 257.610†	2.6	0.00008	mg/L	0.000051	0.00008	mg/L	0.000051	62.22%
Mo 202.031†	29.0	0.00149	mg/L	0.000413	0.00149	mg/L	0.000413	27.68%
Na 589.592†	46.8	0.00351	mg/L	0.001173	0.00351	mg/L	0.001173	33.41%
Na 330.237†	-6.3	-0.2946	mg/L	0.21832	-0.2946	mg/L	0.21832	74.10%
Ni 231.604†	0.5	0.00014	mg/L	0.000586	0.00014	mg/L	0.000586	418.28%
Pb 220.353†	1.1	0.00012	mg/L	0.001043	0.00012	mg/L	0.001043	850.86%
Sb 206.836†	29.4	0.00918	mg/L	0.001543	0.00918	mg/L	0.001543	16.80%
Se 196.026†	-1.1	-0.00080	mg/L	0.003082	-0.00080	mg/L	0.003082	385.10%
Si 288.158†	-2.4	-0.00140	mg/L	0.005447	-0.00140	mg/L	0.005447	388.97%
Sn 189.927†	-1.9	-0.00054	mg/L	0.000736	-0.00054	mg/L	0.000736	137.12%
Sr 421.552†	42.7	0.00005	mg/L	0.000015	0.00005	mg/L	0.000015	29.54%
Ti 334.903†	11.4	0.00068	mg/L	0.000497	0.00068	mg/L	0.000497	73.68%
Tl 190.801†	-1.2	-0.00055	mg/L	0.002816	-0.00055	mg/L	0.002816	513.37%
V 292.402†	-6.3	-0.00005	mg/L	0.000045	-0.00005	mg/L	0.000045	99.59%
Zn 206.200†	0.3	0.00009	mg/L	0.000089	0.00009	mg/L	0.000089	96.23%

Sequence No.: 3

Autosampler Location: 301

Sample ID: CRI-222222

Date Collected: 4/1/2014 8:50:18 AM

Dilution: 1.000000X

Data Type: Original

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2871721.4	96.98	%	0.508			0.52%
ScR 361.383	240231.2	97.76	%	0.366			0.37%
Ag 328.068†	564.7	0.00277	mg/L	0.000071	0.00277 mg/L	0.000071	2.55%
Al 308.215†	62.5	0.04779	mg/L	0.004773	0.04779 mg/L	0.004773	9.99%
As 188.979†	85.5	0.04974	mg/L	0.001612	0.04974 mg/L	0.001612	3.24%
B 249.677†	126.2	0.02206	mg/L	0.001092	0.02206 mg/L	0.001092	4.95%
Ba 233.527†	12.0	0.00313	mg/L	0.000588	0.00313 mg/L	0.000588	18.80%
Be 313.042†	530.4	0.00105	mg/L	0.000005	0.00105 mg/L	0.000005	0.45%
Cd 228.802†	834.8	0.08519	mg/L	0.001832	0.08519 mg/L	0.001832	2.15%
Co 228.616†	91.2	0.00248	mg/L	0.000037	0.00248 mg/L	0.000037	1.48%
Cr 267.716†	128.4	0.00317	mg/L	0.000221	0.00317 mg/L	0.000221	6.97%
Cu 324.752†	27.2	0.00543	mg/L	0.000533	0.00543 mg/L	0.000533	9.81%
Cu 324.752†	864.1	0.00292	mg/L	0.000369	0.00292 mg/L	0.000369	12.62%
Fe 273.955†	63.0	0.05476	mg/L	0.002095	0.05476 mg/L	0.002095	3.83%
K 766.490†	1191.8	0.5234	mg/L	0.01154	0.5234 mg/L	0.01154	2.20%
Mg 279.077†	64.0	0.05693	mg/L	0.003363	0.05693 mg/L	0.003363	5.91%
Mn 257.610†	34.4	0.00109	mg/L	0.000041	0.00109 mg/L	0.000041	3.79%
Mo 202.031†	100.4	0.00517	mg/L	0.000125	0.00517 mg/L	0.000125	2.42%
Na 589.592†	6871.1	0.5154	mg/L	0.00215	0.5154 mg/L	0.00215	0.42%
Na 330.237†	8.8	0.4064	mg/L	0.20745	0.4064 mg/L	0.20745	51.04%
Ni 231.604†	33.8	0.01002	mg/L	0.001082	0.01002 mg/L	0.001082	10.80%
Pb 220.353†	175.3	0.02047	mg/L	0.001213	0.02047 mg/L	0.001213	5.93%
Sb 206.836†	173.9	0.05421	mg/L	0.001025	0.05421 mg/L	0.001025	1.89%
Se 196.026†	72.8	0.05230	mg/L	0.001685	0.05230 mg/L	0.001685	3.22%
Si 288.158†	104.8	0.05999	mg/L	0.000574	0.05999 mg/L	0.000574	0.96%
Sn 189.927†	32.9	0.00926	mg/L	0.000975	0.00926 mg/L	0.000975	10.53%
Sr 421.552†	888.9	0.00107	mg/L	0.000030	0.00107 mg/L	0.000030	2.80%
Ti 334.903†	94.7	0.00559	mg/L	0.000531	0.00559 mg/L	0.000531	9.49%
Tl 190.801†	107.5	0.04902	mg/L	0.002644	0.04902 mg/L	0.002644	5.39%
V 292.402†	429.1	0.00279	mg/L	0.000106	0.00279 mg/L	0.000106	3.80%
Zn 206.200†	46.8	0.01371	mg/L	0.000209	0.01371 mg/L	0.000209	1.52%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 4/1/2014 8:54:19 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2743839.3	92.66 %	0.495			0.53%
ScR 361.383	234743.5	95.52 %	0.298			0.31%
Ag 328.068†	-274.0	-0.00073 mg/L	0.000293	-0.00073 mg/L	0.000293	40.09%
Al 308.215†	261439.2	200.4 mg/L	0.90	200.4 mg/L	0.90	0.45%
As 188.979†	55.1	0.02335 mg/L	0.004840	0.02335 mg/L	0.004840	20.73%
B 249.677†	-42.5	-0.00743 mg/L	0.003810	-0.00743 mg/L	0.003810	51.28%
Ba 233.527†	110.6	-0.00191 mg/L	0.000584	-0.00191 mg/L	0.000584	30.50%
Be 313.042†	37.6	0.00007 mg/L	0.000006	0.00007 mg/L	0.000006	8.61%
Ca 317.933†	990748.9	101.1 mg/L	0.45	101.1 mg/L	0.45	0.44%
Cd 228.802†	56.0	-0.00023 mg/L	0.000102	-0.00023 mg/L	0.000102	45.11%
Co 228.616†	84.1	0.00206 mg/L	0.000134	0.00206 mg/L	0.000134	6.50%
Cr 267.716†	15.8	-0.00048 mg/L	0.000276	-0.00048 mg/L	0.000276	57.53%
Cu 324.752†	-2358.0	0.00030 mg/L	0.000147	0.00030 mg/L	0.000147	48.67%
Fe 273.955†	229849.8	199.9 mg/L	0.78	199.9 mg/L	0.78	0.39%
K 766:490†	89.9	0.03947 mg/L	0.033629	0.03947 mg/L	0.033629	85.21%
Mg 279.077†	115396.2	102.6 mg/L	0.66	102.6 mg/L	0.66	0.64%
Mn 257.610†	38.5	-0.00127 mg/L	0.000077	-0.00127 mg/L	0.000077	6.06%
Mo 202.031†	77.2	0.00241 mg/L	0.000059	0.00241 mg/L	0.000059	2.44%
Na 589.592†	136.0	0.01020 mg/L	0.003707	0.01020 mg/L	0.003707	36.34%
Na 330.237†	5.8	-0.3445 mg/L	0.09771	-0.3445 mg/L	0.09771	28.36%
Ni 231.604†	5.5	0.00165 mg/L	0.000544	0.00165 mg/L	0.000544	32.93%
Pb 220.353†	-359.5	-0.00132 mg/L	0.000066	-0.00132 mg/L	0.000066	4.96%
Sb 206.836†	70.1	0.02166 mg/L	0.001448	0.02166 mg/L	0.001448	6.68%
Se 196.026†	47.3	0.03399 mg/L	0.004738	0.03399 mg/L	0.004738	13.94%
Si 288.158†	-27.7	-0.00366 mg/L	0.006947	-0.00366 mg/L	0.006947	190.03%
Sn 189.927†	-92.0	-0.01350 mg/L	0.001532	-0.01350 mg/L	0.001532	11.35%
Sr 421.552†	4570.3	0.00550 mg/L	0.000086	0.00550 mg/L	0.000086	1.56%
Ti 334.903†	160.2	0.00234 mg/L	0.000364	0.00234 mg/L	0.000364	15.56%
Tl 190.801†	-37.8	0.00576 mg/L	0.002681	0.00576 mg/L	0.002681	46.51%
V 292.402†	1540.8	-0.00131 mg/L	0.000245	-0.00131 mg/L	0.000245	18.65%
Zn 206.200†	9.7	0.00284 mg/L	0.000501	0.00284 mg/L	0.000501	17.66%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 4/1/2014 8:58:34 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2786180.8	94.09 %	0.175			0.19%
ScR 361.383	236310.2	96.16 %	0.278			0.29%
Ag 328.068†	214277.8	1.052 mg/L	0.0036	1.052 mg/L	0.0036	0.34%
Al 308.215†	260915.4	199.9 mg/L	0.41	199.9 mg/L	0.41	0.20%
As 188.979†	1777.3	1.021 mg/L	0.0038	1.021 mg/L	0.0038	0.37%
B 249.677†	-20.9	-0.00563 mg/L	0.000519	-0.00563 mg/L	0.000519	9.21%
Ba 233.527†	3928.5	0.9975 mg/L	0.00075	0.9975 mg/L	0.00075	0.08%
Be 313.042†	498121.2	0.9842 mg/L	0.00216	0.9842 mg/L	0.00216	0.22%
Ca 317.933†	988803.5	100.9 mg/L	0.08	100.9 mg/L	0.08	0.08%
Cd 228.802†	33971.9	1.008 mg/L	0.0050	1.008 mg/L	0.0050	0.49%
Co 228.616†	37803.2	0.9351 mg/L	0.00206	0.9351 mg/L	0.00206	0.22%
Cr 267.716†	5014.5	0.9997 mg/L	0.00204	0.9997 mg/L	0.00204	0.20%
Cu 324.752†	303570.5	1.036 mg/L	0.0040	1.036 mg/L	0.0040	0.39%
Fe 273.955†	230563.9	200.5 mg/L	0.27	200.5 mg/L	0.27	0.13%
K 766.490†	104.0	0.04569 mg/L	0.009132	0.04569 mg/L	0.009132	19.99%
Mg 279.077†	111224.1	98.84 mg/L	0.181	98.84 mg/L	0.181	0.18%
Mn 257.610†	31004.4	0.9730 mg/L	0.00130	0.9730 mg/L	0.00130	0.13%
Mo 202.031†	77.8	0.00244 mg/L	0.000471	0.00244 mg/L	0.000471	19.28%
Na 589.592†	82.3	0.00617 mg/L	0.003281	0.00617 mg/L	0.003281	53.14%
Na 330.237†	22.9	0.1772 mg/L	0.28769	0.1772 mg/L	0.28769	162.31%
Ni 231.604†	3225.2	0.9548 mg/L	0.00321	0.9548 mg/L	0.00321	0.34%
Pb 220.353†	7966.2	0.9705 mg/L	0.00268	0.9705 mg/L	0.00268	0.28%
Sb 206.836†	3262.8	1.007 mg/L	0.0035	1.007 mg/L	0.0035	0.35%
Se 196.026†	1431.4	1.027 mg/L	0.0034	1.027 mg/L	0.0034	0.33%
Si 288.158†	-47.0	-0.01064 mg/L	0.002279	-0.01064 mg/L	0.002279	21.41%
Sn 189.927†	-105.2	-0.01664 mg/L	0.000561	-0.01664 mg/L	0.000561	3.37%
Sr 421.552†	4503.7	0.00542 mg/L	0.000003	0.00542 mg/L	0.000003	0.05%
Ti 334.903†	159.0	0.00210 mg/L	0.000348	0.00210 mg/L	0.000348	16.61%
Tl 190.801†	2023.8	0.9368 mg/L	0.00389	0.9368 mg/L	0.00389	0.41%
V 292.402†	151565.7	0.9718 mg/L	0.00227	0.9718 mg/L	0.00227	0.23%
Zn 206.200†	3242.5	0.9502 mg/L	0.00325	0.9502 mg/L	0.00325	0.34%

Sequence No.: 6
Sample ID: CV \

Autosampler Location: 7
Date Collected: 4/1/2014 9:03:38 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2846909.9	96.14 %	0.443			0.46%
ScR 361.383	235110.0	95.67 %	0.363			0.38%
Ag 328.068†	213968.1	1.050 mg/L	0.0069	1.050 mg/L	0.0069	0.66%
Al 308.215†	2709.5	2.045 mg/L	0.0088	2.045 mg/L	0.0088	0.43%
As 188.979†	3472.1	2.044 mg/L	0.0095	2.044 mg/L	0.0095	0.46%
B 249.677†	5836.0	1.019 mg/L	0.0034	1.019 mg/L	0.0034	0.33%
Ba 233.527†	3933.2	1.029 mg/L	0.0016	1.029 mg/L	0.0016	0.16%
Be 313.042†	506571.3	1.001 mg/L	0.0040	1.001 mg/L	0.0040	0.40%
Ca 317.933†	20596.9	2.102 mg/L	0.0079	2.102 mg/L	0.0079	0.38%
Cd 228.802†	34783.3	1.029 mg/L	0.0016	1.029 mg/L	0.0016	0.16%
Co 228.616†	40372.6	0.9970 mg/L	0.00305	0.9970 mg/L	0.00305	0.31%
Cr 267.716†	5208.8	1.042 mg/L	0.0044	1.042 mg/L	0.0044	0.42%
Cu 324.752†	295849.5	1.001 mg/L	0.0020	1.001 mg/L	0.0020	0.20%
Fe 273.955†	2430.4	2.107 mg/L	0.0108	2.107 mg/L	0.0108	0.51%
K 766.490†	45749.6	20.09 mg/L	0.086	20.09 mg/L	0.086	0.43%
Mg 279.077†	2272.1	2.028 mg/L	0.0130	2.028 mg/L	0.0130	0.64%
Mn 257.610†	30765.5	0.9681 mg/L	0.00241	0.9681 mg/L	0.00241	0.25%
Mo 202.031†	18588.3	0.9574 mg/L	0.00158	0.9574 mg/L	0.00158	0.17%
Na 589.592†	680781.2	51.06 mg/L	0.150	51.06 mg/L	0.150	0.29%
Na 330.237†	1107.3	51.54 mg/L	0.134	51.54 mg/L	0.134	0.26%
Ni 231.604†	3466.6	1.026 mg/L	0.0020	1.026 mg/L	0.0020	0.19%
Pb 220.353†	17026.0	1.988 mg/L	0.0053	1.988 mg/L	0.0053	0.27%
Sb 206.836†	6681.1	2.080 mg/L	0.0106	2.080 mg/L	0.0106	0.51%
Se 196.026†	2803.5	2.012 mg/L	0.0086	2.012 mg/L	0.0086	0.43%
Si 288.158†	3443.5	1.976 mg/L	0.0215	1.976 mg/L	0.0215	1.09%
Sn 189.927†	3517.2	0.9860 mg/L	0.00527	0.9860 mg/L	0.00527	0.53%
Sr 421.552†	841266.0	1.013 mg/L	0.0009	1.013 mg/L	0.0009	0.09%
Ti 334.903†	16577.3	0.9802 mg/L	0.00057	0.9802 mg/L	0.00057	0.06%
Tl 190.801†	4516.6	2.052 mg/L	0.0137	2.052 mg/L	0.0137	0.67%
V 292.402†	157014.7	1.018 mg/L	0.0034	1.018 mg/L	0.0034	0.33%
Zn 206.200†	3473.2	1.018 mg/L	0.0041	1.018 mg/L	0.0041	0.40%

Sequence No.: 7

Sample ID: CB7

Autosampler Location: 1

Date Collected: 4/1/2014 9:07:43 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2842829.3	96.00	%	0.264				0.28%
ScR 361.383	243064.9	98.91	%	0.267				0.27%
Ag 328.068†	-24.9	-0.00012	mg/L	0.000162	-0.00012	mg/L	0.000162	133.05%
Al 308.215†	-1.8	-0.00139	mg/L	0.001273	-0.00139	mg/L	0.001273	91.34%
As 188.979†	-3.2	-0.00185	mg/L	0.000410	-0.00185	mg/L	0.000410	22.19%
B 249.677†	9.2	0.00161	mg/L	0.000622	0.00161	mg/L	0.000622	38.68%
Ba 233.527†	-0.2	-0.00006	mg/L	0.000815	-0.00006	mg/L	0.000815	>999.9%
Be 313.042†	41.3	0.00008	mg/L	0.000025	0.00008	mg/L	0.000025	30.36%
Ca 317.933†	-12.7	-0.00130	mg/L	0.001042	-0.00130	mg/L	0.001042	80.30%
Cd 228.802†	12.8	0.00039	mg/L	0.000148	0.00039	mg/L	0.000148	37.68%
Co 228.616†	1.7	0.00004	mg/L	0.000200	0.00004	mg/L	0.000200	473.59%
Cr 267.716†	1.4	0.00028	mg/L	0.000506	0.00028	mg/L	0.000506	177.61%
Cu 324.752†	273.1	0.00092	mg/L	0.000070	0.00092	mg/L	0.000070	7.59%
Fe 273.955†	1.8	0.00159	mg/L	0.000905	0.00159	mg/L	0.000905	57.06%
K 766.490†	57.8	0.02538	mg/L	0.008078	0.02538	mg/L	0.008078	31.82%
Mg 279.077†	3.1	0.00280	mg/L	0.004082	0.00280	mg/L	0.004082	145.91%
Mn 257.610†	3.1	0.00010	mg/L	0.000034	0.00010	mg/L	0.000034	34.52%
Mo 202.031†	23.7	0.00122	mg/L	0.000129	0.00122	mg/L	0.000129	10.55%
Na 589.592†	79.2	0.00594	mg/L	0.002281	0.00594	mg/L	0.002281	38.41%
Na 330.237†	-0.0	-0.00106	mg/L	0.137976	-0.00106	mg/L	0.137976	>999.9%
Ni 231.604†	-1.4	-0.00040	mg/L	0.000484	-0.00040	mg/L	0.000484	121.62%
Pb 220.353†	6.7	0.00078	mg/L	0.000479	0.00078	mg/L	0.000479	61.67%
Sb 206.836†	39.0	0.01214	mg/L	0.003156	0.01214	mg/L	0.003156	26.01%
Se 196.026†	2.8	0.00203	mg/L	0.000673	0.00203	mg/L	0.000673	33.11%
Si 288.158†	-4.6	-0.00261	mg/L	0.004212	-0.00261	mg/L	0.004212	161.61%
Sn 189.927†	-1.5	-0.00041	mg/L	0.000175	-0.00041	mg/L	0.000175	42.52%
Sr 421.552†	55.3	0.00007	mg/L	0.000022	0.00007	mg/L	0.000022	32.69%
Ti 334.903†	9.0	0.00053	mg/L	0.000404	0.00053	mg/L	0.000404	75.65%
Tl 190.801†	1.3	0.00058	mg/L	0.002003	0.00058	mg/L	0.002003	344.98%
V 292.402†	1.8	0.00001	mg/L	0.000268	0.00001	mg/L	0.000268	>999.9%
Zn 206.200†	2.7	0.00078	mg/L	0.000485	0.00078	mg/L	0.000485	62.44%

User canceled analysis.

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Analysis BegunStart Time: 4/1/2014 9:12:05 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 8

Autosampler Location: 304

Sample ID: CRI

Date Collected: 4/1/2014 9:12:07 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932673.6	99.04 %		0.708			0.71%
ScR 361.383	248841.1	101.3 %		0.49			0.49%
Ag 328.068†	594.6	0.00292 mg/L		0.000152	0.00292 mg/L	0.000152	5.22%
Al 308.215†	59.6	0.04552 mg/L		0.003961	0.04552 mg/L	0.003961	8.70%
As 188.979†	82.6	0.04807 mg/L		0.002667	0.04807 mg/L	0.002667	5.55%
B 249.677†	114.1	0.01994 mg/L		0.000454	0.01994 mg/L	0.000454	2.28%
Ba 233.527†	8.1	0.00211 mg/L		0.000154	0.00211 mg/L	0.000154	7.31%
Be 313.042†	493.8	0.00098 mg/L		0.000013	0.00098 mg/L	0.000013	1.32%
Ca 317.933†	559.3	0.05707 mg/L		0.000778	0.05707 mg/L	0.000778	1.36%
Cd 228.802†	86.1	0.00233 mg/L		0.000179	0.00233 mg/L	0.000179	7.66%
Co 228.616†	126.4	0.00312 mg/L		0.000096	0.00312 mg/L	0.000096	3.08%
Cr 267.716†	28.0	0.00560 mg/L		0.001338	0.00560 mg/L	0.001338	23.92%
Cu 324.752†	750.6	0.00254 mg/L		0.000100	0.00254 mg/L	0.000100	3.94%
Fe 273.955†	58.5	0.05089 mg/L		0.001100	0.05089 mg/L	0.001100	2.16%
K 766.490†	1145.3	0.5030 mg/L		0.01827	0.5030 mg/L	0.01827	3.63%
Mg 279.077†	60.8	0.05410 mg/L		0.003767	0.05410 mg/L	0.003767	6.96%
Mn 257.610†	33.0	0.00104 mg/L		0.000048	0.00104 mg/L	0.000048	4.58%
Mo 202.031†	97.6	0.00503 mg/L		0.000061	0.00503 mg/L	0.000061	1.21%
Na 589.592†	6568.2	0.4926 mg/L		0.00457	0.4926 mg/L	0.00457	0.93%
Na 330.237†	13.8	0.6412 mg/L		0.24354	0.6412 mg/L	0.24354	37.98%
Ni 231.604†	35.6	0.01053 mg/L		0.001699	0.01053 mg/L	0.001699	16.14%
Pb 220.353†	172.6	0.02016 mg/L		0.000485	0.02016 mg/L	0.000485	2.41%
Sb 206.836†	164.6	0.05131 mg/L		0.001606	0.05131 mg/L	0.001606	3.13%
Se 196.026†	63.0	0.04521 mg/L		0.001563	0.04521 mg/L	0.001563	3.46%
Si 288.158†	99.9	0.05719 mg/L		0.002349	0.05719 mg/L	0.002349	4.11%
Sn 189.927†	33.5	0.00940 mg/L		0.000217	0.00940 mg/L	0.000217	2.30%
Sr 421.552†	815.3	0.00098 mg/L		0.000014	0.00098 mg/L	0.000014	1.45%
Ti 334.903†	87.7	0.00518 mg/L		0.000710	0.00518 mg/L	0.000710	13.70%
Tl 190.801†	105.3	0.04799 mg/L		0.001920	0.04799 mg/L	0.001920	4.00%
V 292.402†	429.8	0.00280 mg/L		0.000108	0.00280 mg/L	0.000108	3.86%
Zn 206.200†	37.4	0.01098 mg/L		0.000148	0.01098 mg/L	0.000148	1.35%

User canceled analysis.

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Analysis Begun

Start Time: 4/1/2014 9:17:21 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif
Batch ID:
Results Data Set: I2140401
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 9
Sample ID: YE91 I WMN
Dilution: 2.000000X
Autosampler Location: 306
Date Collected: 4/1/2014 9:17:22 AM
Data Type: Original

Nebulizer Parameters: YE91 I WMN
Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: YE91 I WMN

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	2829953.8	95.57 %		0.375			0.39%
ScR 361.383	242451.3	98.66 %		1.157			1.17%
Ag 328.068†	17449.8	0.08578 mg/L		0.000439	0.1716 mg/L	0.00088	0.51%
Al 308.215†	17896.2	13.71 mg/L		0.184	27.41 mg/L	0.367	1.34%
As 188.979†	39668.0	23.00 mg/L		0.206	46.00 mg/L	0.411	0.89%
B 249.677†	2172.8	0.3790 mg/L		0.00486	0.7580 mg/L	0.00973	1.28%
Ba 233.527†	5133.3	1.343 mg/L		0.0206	2.686 mg/L	0.0413	1.54%
Be 313.042†	50411.6	0.09951 mg/L		0.000907	0.1990 mg/L	0.00181	0.91%
Ca 317.933†	59271.6	6.049 mg/L		0.0604	12.10 mg/L	0.121	1.00%
Cd 228.802†	5663.5	0.05114 mg/L		0.001859	0.1023 mg/L	0.00372	3.64%
Co 228.616†	14294.9	0.3535 mg/L		0.00237	0.7070 mg/L	0.00473	0.67%
Cr 267.716†	537.2	0.1072 mg/L		0.00065	0.2145 mg/L	0.00130	0.61%
Cu 324.752†	24594.9	0.08356 mg/L		0.000667	0.1671 mg/L	0.00133	0.80%
Fe 273.955†	8449.0	7.343 mg/L		0.0998	14.69 mg/L	0.200	1.36%
K 766.490†	18065.6	7.934 mg/L		0.0274	15.87 mg/L	0.055	0.34%
Mg 279.077†	2817.6	2.503 mg/L		0.0422	5.006 mg/L	0.0845	1.69%
Mn 257.610†	2512.3	0.07905 mg/L		0.001051	0.1581 mg/L	0.00210	1.33%
Mo 202.031†	986.7	0.05073 mg/L		0.000395	0.1015 mg/L	0.00079	0.78%
Na 589.592†	75248.4	5.644 mg/L		0.0491	11.29 mg/L	0.098	0.87%
Na 330.237†	1174.2	54.47 mg/L		0.951	108.9 mg/L	1.90	1.75%
Ni 231.604†	1648.3	0.4878 mg/L		0.00854	0.9756 mg/L	0.01708	1.75%
Pb 220.353†	5952.9	0.6978 mg/L		0.00096	1.396 mg/L	0.0019	0.14%
Sb 206.836†	-42.1	-0.01296 mg/L		0.004173	-0.02593 mg/L	0.008346	32.19%
Se 196.026†	-3798.5	-2.729 mg/L		0.0162	-5.457 mg/L	0.0324	0.59%
Si 288.158†	454.0	0.2608 mg/L		0.00387	0.5217 mg/L	0.00773	1.48%
Sn 189.927†	-127.7	-0.03498 mg/L		0.001275	-0.06995 mg/L	0.002549	3.64%
Sr 421.552†	362216.3	0.4362 mg/L		0.00346	0.8723 mg/L	0.00691	0.79%
Ti 334.903†	69.3	0.00361 mg/L		0.000229	0.00722 mg/L	0.000459	6.36%
Tl 190.801†	348.0	0.1557 mg/L		0.00186	0.3114 mg/L	0.00372	1.20%
V 292.402†	78169.5	0.5049 mg/L		0.00620	1.010 mg/L	0.0124	1.23%
Zn 206.200†	2335.1	0.6842 mg/L		0.01125	1.368 mg/L	0.0225	1.64%

User canceled analysis.

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Analysis BegunStart Time: 4/1/2014 9:21:07 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202Plasma On Time: 4/1/2014 7:16:53 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140401

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 10

Autosampler Location: 307

Sample ID: YE91 J WMN

Date Collected: 4/1/2014 9:21:08 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE91 J WMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE91 J WMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2796101.8	94.42 %	0.191			0.20%
ScR 361.383	243898.7	99.25 %	1.060			1.07%
Ag 328.068†	325.7	0.00170 mg/L	0.000171	0.00340 mg/L	0.000342	10.07%
Al 308.215†	242.4	0.1803 mg/L	0.00366	0.3606 mg/L	0.00732	2.03%
As 188.979†	39289.0	22.78 mg/L	0.131	45.56 mg/L	0.263	0.58%
B 249.677†	141.6	0.02473 mg/L	0.001843	0.04945 mg/L	0.003685	7.45%
Ba 233.527†	3.2	0.00077 mg/L	0.000111	0.00154 mg/L	0.000222	14.36%
Be 313.042†	20.1	-0.00005 mg/L	0.000016	-0.00011 mg/L	0.000033	29.92%
Ca 317.933†	5766.6	0.5885 mg/L	0.00277	1.177 mg/L	0.0055	0.47%
Cd 228.802†	24.1	-0.1165 mg/L	0.00044	-0.2330 mg/L	0.00088	0.38%
Co 228.616†	41.7	0.00104 mg/L	0.000080	0.00209 mg/L	0.000159	7.63%
Cr 267.716†	18.1	0.00348 mg/L	0.000897	0.00695 mg/L	0.001793	25.80%
Cu 324.752†	-16535.1	-0.05594 mg/L	0.000275	-0.1119 mg/L	0.00055	0.49%
Fe 273.955†	-4.0	-0.00656 mg/L	0.000707	-0.01311 mg/L	0.001415	10.79%
K 766.490†	247.9	0.1089 mg/L	0.00389	0.2178 mg/L	0.00777	3.57%
Mg 279.077†	36.5	0.03233 mg/L	0.001198	0.06467 mg/L	0.002397	3.71%
Mn 257.610†	70.1	0.00224 mg/L	0.000103	0.00448 mg/L	0.000206	4.59%
Mo 202.031†	-155.4	-0.00801 mg/L	0.000262	-0.01603 mg/L	0.000523	3.26%
Na 589.592†	14716.9	1.104 mg/L	0.0050	2.208 mg/L	0.0099	0.45%
Na 330.237†	1064.6	49.59 mg/L	0.136	99.18 mg/L	0.272	0.27%
Ni 231.604†	6.1	0.00178 mg/L	0.000830	0.00355 mg/L	0.001661	46.77%
Pb 220.353†	1215.4	0.1419 mg/L	0.00146	0.2839 mg/L	0.00292	1.03%
Sb 206.836†	-50.6	-0.01469 mg/L	0.001325	-0.02938 mg/L	0.002650	9.02%
Se 196.026†	-3953.1	-2.839 mg/L	0.0083	-5.679 mg/L	0.0167	0.29%
Si 288.158†	180.1	0.1031 mg/L	0.00376	0.2062 mg/L	0.00752	3.65%
Sn 189.927†	-120.8	-0.03373 mg/L	0.000393	-0.06747 mg/L	0.000787	1.17%
Sr 421.552†	-1947.5	-0.00235 mg/L	0.000027	-0.00469 mg/L	0.000054	1.15%
Ti 334.903†	-138.0	-0.00820 mg/L	0.000143	-0.01641 mg/L	0.000286	1.74%
Tl 190.801†	78.7	0.03448 mg/L	0.000822	0.06896 mg/L	0.001645	2.38%
V 292.402†	59218.0	0.3824 mg/L	0.00302	0.7649 mg/L	0.00604	0.79%
Zn 206.200†	28.2	0.00828 mg/L	0.000490	0.01657 mg/L	0.000981	5.92%

Sequence No.: 11
 Sample ID: YE91 K WMN

Autosampler Location: 308
 Date Collected: 4/1/2014 9:25:08 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE91 K WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE91 K WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2810028.1	94.89	%	0.856				0.90%
ScR 361.383	239346.9	97.40	%	0.686				0.70%
Ag 328.068†	322.0	0.00168	mg/L	0.000164	0.00336	mg/L	0.000329	9.80%
Al 308.215†	254.4	0.1896	mg/L	0.00765	0.3792	mg/L	0.01530	4.04%
As 188.979†	38234.1	22.17	mg/L	0.106	44.33	mg/L	0.213	0.48%
B 249.677†	633.3	0.1107	mg/L	0.00217	0.2213	mg/L	0.00433	1.96%
Ba 233.527†	6.2	0.00154	mg/L	0.000173	0.00309	mg/L	0.000346	11.19%
Be 313.042†	40.0	-0.00001	mg/L	0.000027	-0.00003	mg/L	0.000053	189.79%
Ca 317.933†	534.7	0.05456	mg/L	0.000664	0.1091	mg/L	0.00133	1.22%
Cd 228.802†	26.5	-0.1133	mg/L	0.00034	-0.2266	mg/L	0.00068	0.30%
Co 228.616†	36.7	0.00092	mg/L	0.000063	0.00184	mg/L	0.000127	6.89%
Cr 267.716†	15.5	0.00295	mg/L	0.000633	0.00590	mg/L	0.001266	21.46%
Cu 324.752†	-16281.7	-0.05508	mg/L	0.000434	-0.1102	mg/L	0.00087	0.79%
Fe 273.955†	1.8	-0.00146	mg/L	0.000636	-0.00293	mg/L	0.001271	43.42%
K 766.490†	257.5	0.1131	mg/L	0.00680	0.2262	mg/L	0.01360	6.01%
Mg 279.077†	36.8	0.03266	mg/L	0.005615	0.06532	mg/L	0.011230	17.19%
Mn 257.610†	73.6	0.00235	mg/L	0.000162	0.00471	mg/L	0.000325	6.90%
Mo 202.031†	-162.3	-0.00836	mg/L	0.000049	-0.01672	mg/L	0.000098	0.59%
Na 589.592†	15840.6	1.188	mg/L	0.0059	2.376	mg/L	0.0118	0.50%
Na 330.237†	1063.4	49.54	mg/L	0.565	99.07	mg/L	1.129	1.14%
Ni 231.604†	4.7	0.00136	mg/L	0.001063	0.00272	mg/L	0.002126	78.20%
Pb 220.353†	1187.6	0.1387	mg/L	0.00088	0.2774	mg/L	0.00177	0.64%
Sb 206.836†	-54.3	-0.01585	mg/L	0.000536	-0.03170	mg/L	0.001072	3.38%
Se 196.026†	-3878.4	-2.786	mg/L	0.0273	-5.571	mg/L	0.0546	0.98%
Si 288.158†	175.9	0.1007	mg/L	0.00548	0.2013	mg/L	0.01095	5.44%
Sn 189.927†	-120.5	-0.03373	mg/L	0.000444	-0.06746	mg/L	0.000888	1.32%
Sr 421.552†	-2171.1	-0.00261	mg/L	0.000023	-0.00523	mg/L	0.000045	0.87%
Ti 334.903†	-145.8	-0.00863	mg/L	0.000294	-0.01725	mg/L	0.000588	3.41%
Tl 190.801†	78.1	0.03427	mg/L	0.000834	0.06853	mg/L	0.001668	2.43%
V 292.402†	58376.3	0.3770	mg/L	0.00730	0.7540	mg/L	0.01459	1.94%
Zn 206.200†	21.6	0.00637	mg/L	0.000611	0.01274	mg/L	0.001222	9.59%

Sequence No.: 12

Sample ID: YE46 E-L DMN

Autosampler Location: 309

Date Collected: 4/1/2014 9:29:08 AM

Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YE46 E-L DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 E-L DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2881803.6	97.32 %	0.616			0.63%
ScR 361.383	247403.9	100.7 %	1.01			1.00%
Ag 328.068†	-31.5	-0.00006 mg/L	0.000234	-0.00031 mg/L	0.001168	375.64%
Al 308.215†	-3.1	-0.00242 mg/L	0.001771	-0.01209 mg/L	0.008856	73.28%
As 188.979†	121.9	0.06940 mg/L	0.000719	0.3470 mg/L	0.00360	1.04%
B 249.677†	57.2	0.01001 mg/L	0.001190	0.05004 mg/L	0.005952	11.89%
Ba 233.527†	1.9	0.00049 mg/L	0.001098	0.00244 mg/L	0.005488	224.66%
Be 313.042†	15.4	0.00003 mg/L	0.000029	0.00015 mg/L	0.000145	96.09%
Ca 317.933†	149656.9	15.27 mg/L	0.069	76.36 mg/L	0.344	0.45%
Cd 228.802†	12.4	0.00001 mg/L	0.000145	0.00004 mg/L	0.000723	>999.9%
Co 228.616†	14.4	0.00035 mg/L	0.000131	0.00177 mg/L	0.000657	37.16%
Cr 267.716†	-0.9	-0.00034 mg/L	0.001148	-0.00171 mg/L	0.005739	335.73%
Cu 324.752†	222.9	0.00071 mg/L	0.000115	0.00355 mg/L	0.000577	16.24%
Fe 273.955†	92.7	0.08058 mg/L	0.002630	0.4029 mg/L	0.01315	3.26%
K 766.490†	1566.6	0.6881 mg/L	0.00308	3.440 mg/L	0.0154	0.45%
Mg 279.077†	396.9	0.3512 mg/L	0.00143	1.756 mg/L	0.0072	0.41%
Mn 257.610†	228.2	0.00711 mg/L	0.000068	0.03556 mg/L	0.000342	0.96%
Mo 202.031†	83.7	0.00408 mg/L	0.000378	0.02038 mg/L	0.001890	9.27%
Na 589.592†	32640.2	2.448 mg/L	0.0118	12.24 mg/L	0.059	0.48%
Na 330.237†	54.5	2.448 mg/L	0.1170	12.24 mg/L	0.585	4.78%
Ni 231.604†	3.9	0.00114 mg/L	0.000682	0.00572 mg/L	0.003412	59.60%
Pb 220.353†	-3.8	-0.00045 mg/L	0.001109	-0.00223 mg/L	0.005547	248.56%
Sb 206.836†	1.4	0.00038 mg/L	0.001165	0.00192 mg/L	0.005825	302.73%
Se 196.026†	4.7	0.00339 mg/L	0.006259	0.01695 mg/L	0.031297	184.67%
Si 288.158†	9266.2	5.304 mg/L	0.0202	26.52 mg/L	0.101	0.38%
Sn 189.927†	-24.4	-0.00499 mg/L	0.001252	-0.02494 mg/L	0.006259	25.09%
Sr 421.552†	48970.9	0.05897 mg/L	0.000254	0.2948 mg/L	0.00127	0.43%
Ti 334.903†	29.5	0.00066 mg/L	0.000615	0.00331 mg/L	0.003076	92.97%
Tl 190.801†	4.1	0.00190 mg/L	0.000679	0.00951 mg/L	0.003397	35.71%
V 292.402†	88.7	0.00057 mg/L	0.000092	0.00285 mg/L	0.000462	16.22%
Zn 206.200†	0.3	0.00107 mg/L	0.000382	0.00537 mg/L	0.001910	35.54%

Sequence No.: 13
 Sample ID: YE46 E DMN

Autosampler Location: 310
 Date Collected: 4/1/2014 9:33:07 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 E DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

 Mean Data: YE46 E DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929587.4	98.93 %	0.424			0.43%
ScR 361.383	246420.0	100.3 %	0.47			0.47%
Ag 328.068†	-90.7	-0.00002 mg/L	0.000189	-0.00002 mg/L	0.000189	930.67%
Al 308.215†	15.9	0.01190 mg/L	0.002865	0.01190 mg/L	0.002865	24.08%
As 188.979†	589.5	0.3358 mg/L	0.00184	0.3358 mg/L	0.00184	0.55%
B 249.677†	259.7	0.04539 mg/L	0.001116	0.04539 mg/L	0.001116	2.46%
Ba 233.527†	20.6	0.00534 mg/L	0.000957	0.00534 mg/L	0.000957	17.91%
Be 313.042†	21.8	0.00004 mg/L	0.000014	0.00004 mg/L	0.000014	33.52%
Ca 317.933†	688231.4	70.23 mg/L	0.312	70.23 mg/L	0.312	0.44%
Cd 228.802†	56.5	-0.00007 mg/L	0.000065	-0.00007 mg/L	0.000065	87.35%
Co 228.616†	48.9	0.00120 mg/L	0.000100	0.00120 mg/L	0.000100	8.37%
Cr 267.716†	7.8	0.00080 mg/L	0.001030	0.00080 mg/L	0.001030	128.03%
Cu 324.752†	217.7	0.00054 mg/L	0.000266	0.00054 mg/L	0.000266	49.54%
Fe 273.955†	428.8	0.3728 mg/L	0.00268	0.3728 mg/L	0.00268	0.72%
K 766.490†	7189.9	3.158 mg/L	0.0152	3.158 mg/L	0.0152	0.48%
Mg 279.077†	1828.3	1.618 mg/L	0.0110	1.618 mg/L	0.0110	0.68%
Mn 257.610†	1032.6	0.03218 mg/L	0.000126	0.03218 mg/L	0.000126	0.39%
Mo 202.031†	301.2	0.01442 mg/L	0.000098	0.01442 mg/L	0.000098	0.68%
Na 589.592†	153383.7	11.50 mg/L	0.036	11.50 mg/L	0.036	0.31%
Na 330.237†	258.2	11.60 mg/L	0.341	11.60 mg/L	0.341	2.94%
Ni 231.604†	4.1	0.00122 mg/L	0.000518	0.00122 mg/L	0.000518	42.37%
Pb 220.353†	-18.6	-0.00219 mg/L	0.001389	-0.00219 mg/L	0.001389	63.49%
Sb 206.836†	-1.9	-0.00075 mg/L	0.000688	-0.00075 mg/L	0.000688	91.69%
Se 196.026†	17.3	0.01245 mg/L	0.002126	0.01245 mg/L	0.002126	17.07%
Si 288.158†	44285.9	25.35 mg/L	0.192	25.35 mg/L	0.192	0.76%
Sn 189.927†	-71.1	-0.01139 mg/L	0.001189	-0.01139 mg/L	0.001189	10.43%
Sr 421.552†	227037.8	0.2734 mg/L	0.00038	0.2734 mg/L	0.00038	0.14%
Ti 334.903†	121.1	0.00220 mg/L	0.000106	0.00220 mg/L	0.000106	4.84%
Tl 190.801†	20.0	0.00917 mg/L	0.002302	0.00917 mg/L	0.002302	25.11%
V 292.402†	452.0	0.00291 mg/L	0.000088	0.00291 mg/L	0.000088	3.03%
Zn 206.200†	-7.7	0.00247 mg/L	0.000621	0.00247 mg/L	0.000621	25.12%

Sequence No.: 14
Sample ID: YE46 EDUP DMN

Autosampler Location: 311
Date Collected: 4/1/2014 9:37:22 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 EDUP DMN

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE46 EDUP DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2872560.4	97.01 %	0.689			0.71%
ScR 361.383	244825.3	99.63 %	1.581			1.59%
Ag 328.068†	-77.5	0.00005 mg/L	0.000066	0.00005 mg/L	0.000066	122.56%
Al 308.215†	26.2	0.01975 mg/L	0.002513	0.01975 mg/L	0.002513	12.72%
As 188.979†	596.3	0.3396 mg/L	0.00372	0.3396 mg/L	0.00372	1.10%
B 249.677†	262.8	0.04594 mg/L	0.001795	0.04594 mg/L	0.001795	3.91%
Ba 233.527†	23.5	0.00611 mg/L	0.000467	0.00611 mg/L	0.000467	7.64%
Be 313.042†	43.2	0.00008 mg/L	0.000029	0.00008 mg/L	0.000029	33.93%
Ca 317.933†	703708.5	71.81 mg/L	0.467	71.81 mg/L	0.467	0.65%
Cd 228.802†	56.3	-0.00010 mg/L	0.000084	-0.00010 mg/L	0.000084	83.80%
Co 228.616†	52.4	0.00128 mg/L	0.000070	0.00128 mg/L	0.000070	5.48%
Cr 267.716†	5.4	0.00032 mg/L	0.000493	0.00032 mg/L	0.000493	156.36%
Cu 324.752†	330.9	0.00092 mg/L	0.000038	0.00092 mg/L	0.000038	4.20%
Fe 273.955†	435.3	0.3785 mg/L	0.00898	0.3785 mg/L	0.00898	2.37%
K 766.490†	7280.0	3.197 mg/L	0.0343	3.197 mg/L	0.0343	1.07%
Mg 279.077†	1856.8	1.643 mg/L	0.0277	1.643 mg/L	0.0277	1.68%
Mn 257.610†	1052.2	0.03278 mg/L	0.000604	0.03278 mg/L	0.000604	1.84%
Mo 202.031†	309.9	0.01485 mg/L	0.000299	0.01485 mg/L	0.000299	2.01%
Na 589.592†	154925.7	11.62 mg/L	0.056	11.62 mg/L	0.056	0.48%
Na 330.237†	264.0	11.86 mg/L	0.122	11.86 mg/L	0.122	1.03%
Ni 231.604†	3.9	0.00115 mg/L	0.000315	0.00115 mg/L	0.000315	27.38%
Pb 220.353†	-29.5	-0.00346 mg/L	0.000931	-0.00346 mg/L	0.000931	26.95%
Sb 206.836†	0.7	0.00006 mg/L	0.000704	0.00006 mg/L	0.000704	>999.9%
Se 196.026†	15.4	0.01106 mg/L	0.000825	0.01106 mg/L	0.000825	7.46%
Si 288.158†	45043.9	25.78 mg/L	0.147	25.78 mg/L	0.147	0.57%
Sn 189.927†	-72.3	-0.01155 mg/L	0.000886	-0.01155 mg/L	0.000886	7.67%
Sr 421.552†	230372.7	0.2774 mg/L	0.00176	0.2774 mg/L	0.00176	0.63%
Ti 334.903†	129.1	0.00256 mg/L	0.000580	0.00256 mg/L	0.000580	22.68%
Tl 190.801†	22.9	0.01052 mg/L	0.001479	0.01052 mg/L	0.001479	14.06%
V 292.402†	433.1	0.00279 mg/L	0.000185	0.00279 mg/L	0.000185	6.62%
Zn 206.200†	-6.3	0.00297 mg/L	0.000256	0.00297 mg/L	0.000256	8.63%

Sequence No.: 15

Sample ID: YE46 ESPK DMN

Autosampler Location: 312

Date Collected: 4/1/2014 9:41:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 ESPK DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 ESPK DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2850101.5	96.25	%	0.278				0.29%
ScR 361.383	244850.6	99.64	%	0.632				0.63%
Ag 328.068†	76108.8	0.3741	mg/L	0.01093	0.3741	mg/L	0.01093	2.92%
Al 308.215†	2750.6	2.100	mg/L	0.0181	2.100	mg/L	0.0181	0.86%
As 188.979†	4495.2	2.599	mg/L	0.0233	2.599	mg/L	0.0233	0.90%
B 249.677†	255.3	0.04353	mg/L	0.002213	0.04353	mg/L	0.002213	5.08%
Ba 233.527†	8080.6	2.115	mg/L	0.0171	2.115	mg/L	0.0171	0.81%
Be 313.042†	247890.1	0.4898	mg/L	0.00223	0.4898	mg/L	0.00223	0.45%
Ca 317.933†	804283.9	82.08	mg/L	0.089	82.08	mg/L	0.089	0.11%
Cd 228.802†	19039.3	0.5556	mg/L	0.00310	0.5556	mg/L	0.00310	0.56%
Co 228.616†	20889.9	0.5166	mg/L	0.00186	0.5166	mg/L	0.00186	0.36%
Cr 267.716†	2654.5	0.5292	mg/L	0.00398	0.5292	mg/L	0.00398	0.75%
Cu 324.752†	157444.8	0.5325	mg/L	0.00151	0.5325	mg/L	0.00151	0.28%
Fe 273.955†	2853.2	2.478	mg/L	0.0173	2.478	mg/L	0.0173	0.70%
K 766.490†	31226.0	13.71	mg/L	0.001	13.71	mg/L	0.001	0.00%
Mg 279.077†	13937.6	12.39	mg/L	0.066	12.39	mg/L	0.066	0.53%
Mn 257.610†	17333.8	0.5452	mg/L	0.00452	0.5452	mg/L	0.00452	0.83%
Mo 202.031†	322.9	0.01536	mg/L	0.000059	0.01536	mg/L	0.000059	0.39%
Na 589.592†	296224.9	22.22	mg/L	0.080	22.22	mg/L	0.080	0.36%
Na 330.237†	496.7	22.49	mg/L	0.355	22.49	mg/L	0.355	1.58%
Ni 231.604†	1754.3	0.5184	mg/L	0.00143	0.5184	mg/L	0.00143	0.28%
Pb 220.353†	17953.7	2.095	mg/L	0.0088	2.095	mg/L	0.0088	0.42%
Sb 206.836†	29.9	0.00416	mg/L	0.002005	0.00416	mg/L	0.002005	48.24%
Se 196.026†	3378.8	2.426	mg/L	0.0180	2.426	mg/L	0.0180	0.74%
Si 288.158†	45119.7	25.83	mg/L	0.152	25.83	mg/L	0.152	0.59%
Sn 189.927†	-79.2	-0.01215	mg/L	0.001220	-0.01215	mg/L	0.001220	10.04%
Sr 421.552†	659812.2	0.7945	mg/L	0.00132	0.7945	mg/L	0.00132	0.17%
Ti 334.903†	139.5	0.00235	mg/L	0.000156	0.00235	mg/L	0.000156	6.63%
Tl 190.801†	4621.5	2.103	mg/L	0.0177	2.103	mg/L	0.0177	0.84%
V 292.402†	81600.8	0.5291	mg/L	0.00512	0.5291	mg/L	0.00512	0.97%
Zn 206.200†	1794.1	0.5307	mg/L	0.00578	0.5307	mg/L	0.00578	1.09%

Sequence No.: 16
Sample ID: YE46 MB2SPK DMN

Autosampler Location: 313
Date Collected: 4/1/2014 9:45:37 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 MB2SPK DMN

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: YE46 MB2SPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2869506.9	96.90	%	0.370			0.38%
ScR 361.383	244630.4	99.55	%	0.712			0.72%
Ag 328.068†	106058.8	0.5206	mg/L	0.01245	0.5206 mg/L	0.01245	2.39%
Al 308.215†	2804.7	2.142	mg/L	0.0179	2.142 mg/L	0.0179	0.84%
As 188.979†	3813.6	2.210	mg/L	0.0102	2.210 mg/L	0.0102	0.46%
B 249.677†	60.3	0.00944	mg/L	0.001294	0.00944 mg/L	0.001294	13.71%
Ba 233.527†	8105.3	2.122	mg/L	0.0138	2.122 mg/L	0.0138	0.65%
Be 313.042†	245780.2	0.4856	mg/L	0.00177	0.4856 mg/L	0.00177	0.36%
Ca 317.933†	103887.8	10.60	mg/L	0.025	10.60 mg/L	0.025	0.23%
Cd 228.802†	18822.2	0.5511	mg/L	0.00407	0.5511 mg/L	0.00407	0.74%
Co 228.616†	20958.7	0.5183	mg/L	0.00271	0.5183 mg/L	0.00271	0.52%
Cr 267.716†	2680.0	0.5350	mg/L	0.00415	0.5350 mg/L	0.00415	0.78%
Cu 324.752†	150993.8	0.5109	mg/L	0.00150	0.5109 mg/L	0.00150	0.29%
Fe 273.955†	2459.4	2.135	mg/L	0.0168	2.135 mg/L	0.0168	0.79%
K 766.490†	23941.4	10.51	mg/L	0.003	10.51 mg/L	0.003	0.03%
Mg 279.077†	12230.2	10.88	mg/L	0.068	10.88 mg/L	0.068	0.62%
Mn 257.610†	15740.3	0.4954	mg/L	0.00070	0.4954 mg/L	0.00070	0.14%
Mo 202.031†	30.7	0.00142	mg/L	0.000107	0.00142 mg/L	0.000107	7.56%
Na 589.592†	141210.1	10.59	mg/L	0.008	10.59 mg/L	0.008	0.07%
Na 330.237†	237.0	10.82	mg/L	0.248	10.82 mg/L	0.248	2.29%
Ni 231.604†	1794.2	0.5302	mg/L	0.00688	0.5302 mg/L	0.00688	1.30%
Pb 220.353†	18023.0	2.104	mg/L	0.0130	2.104 mg/L	0.0130	0.62%
Sb 206.836†	14.2	-0.00070	mg/L	0.001842	-0.00070 mg/L	0.001842	263.99%
Se 196.026†	3324.4	2.387	mg/L	0.0141	2.387 mg/L	0.0141	0.59%
Si 288.158†	-10.7	-0.00236	mg/L	0.001766	-0.00236 mg/L	0.001766	74.84%
Sn 189.927†	-22.2	-0.00486	mg/L	0.000547	-0.00486 mg/L	0.000547	11.26%
Sr 421.552†	428034.2	0.5154	mg/L	0.00137	0.5154 mg/L	0.00137	0.27%
Ti 334.903†	18.8	0.00026	mg/L	0.000784	0.00026 mg/L	0.000784	297.87%
Tl 190.801†	4629.0	2.107	mg/L	0.0044	2.107 mg/L	0.0044	0.21%
V 292.402†	80951.2	0.5249	mg/L	0.00309	0.5249 mg/L	0.00309	0.59%
Zn 206.200†	1826.0	0.5352	mg/L	0.00442	0.5352 mg/L	0.00442	0.83%

Sequence No.: 17

Autosampler Location: 7

Sample ID: CV 2

Date Collected: 4/1/2014 9:49:37 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2810545.3	94.91	%	0.667			0.70%
ScR 361.383	236492.4	96.24	%	0.325			0.34%
Ag 328.068†	220028.1	1.080	mg/L	0.0061	1.080 mg/L	0.0061	0.56%
Al 308.215†	2742.5	2.069	mg/L	0.0048	2.069 mg/L	0.0048	0.23%
As 188.979†	3542.0	2.085	mg/L	0.0098	2.085 mg/L	0.0098	0.47%
B 249.677†	5937.0	1.036	mg/L	0.0037	1.036 mg/L	0.0037	0.36%
Ba 233.527†	4009.9	1.049	mg/L	0.0058	1.049 mg/L	0.0058	0.55%
Be 313.042†	514060.0	1.016	mg/L	0.0057	1.016 mg/L	0.0057	0.56%
Ca 317.933†	20991.3	2.142	mg/L	0.0138	2.142 mg/L	0.0138	0.65%
Cd 228.802†	35258.3	1.043	mg/L	0.0043	1.043 mg/L	0.0043	0.41%
Co 228.616†	41225.9	1.018	mg/L	0.0038	1.018 mg/L	0.0038	0.38%
Cr 267.716†	5305.3	1.061	mg/L	0.0047	1.061 mg/L	0.0047	0.44%
Cu 324.752†	300914.1	1.018	mg/L	0.0026	1.018 mg/L	0.0026	0.26%
Fe 273.955†	2457.0	2.130	mg/L	0.0167	2.130 mg/L	0.0167	0.78%
K 766.490†	46286.8	20.33	mg/L	0.033	20.33 mg/L	0.033	0.16%
Mg 279.077†	2301.5	2.054	mg/L	0.0170	2.054 mg/L	0.0170	0.83%
Mn 257.610†	31038.2	0.9767	mg/L	0.00319	0.9767 mg/L	0.00319	0.33%
Mo 202.031†	18951.1	0.9761	mg/L	0.00193	0.9761 mg/L	0.00193	0.20%
Na 589.592†	687666.5	51.58	mg/L	0.114	51.58 mg/L	0.114	0.22%
Na 330.237†	1119.6	52.11	mg/L	0.222	52.11 mg/L	0.222	0.43%
Ni 231.604†	3546.5	1.050	mg/L	0.0046	1.050 mg/L	0.0046	0.43%
Pb 220.353†	17348.4	2.025	mg/L	0.0054	2.025 mg/L	0.0054	0.27%
Sb 206.836†	6756.8	2.104	mg/L	0.0095	2.104 mg/L	0.0095	0.45%
Se 196.026†	2853.2	2.048	mg/L	0.0123	2.048 mg/L	0.0123	0.60%
Si 288.158†	3552.1	2.038	mg/L	0.0194	2.038 mg/L	0.0194	0.95%
Sn 189.927†	3565.5	0.9996	mg/L	0.00483	0.9996 mg/L	0.00483	0.48%
Sr 421.552†	852068.8	1.026	mg/L	0.0012	1.026 mg/L	0.0012	0.12%
Ti 334.903†	16751.1	0.9905	mg/L	0.00159	0.9905 mg/L	0.00159	0.16%
Tl 190.801†	4615.3	2.097	mg/L	0.0127	2.097 mg/L	0.0127	0.60%
V 292.402†	160114.3	1.038	mg/L	0.0026	1.038 mg/L	0.0026	0.25%
Zn 206.200†	3528.8	1.034	mg/L	0.0039	1.034 mg/L	0.0039	0.38%

Sequence No.: 18

Autosampler Location: 1

Sample ID: CB 2

Date Collected: 4/1/2014 9:53:41 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2837110.9	95.81	%	0.189				0.20%
ScR 361.383	239928.0	97.63	%	0.135				0.14%
Ag 328.068†	33.7	0.00017	mg/L	0.000084	0.00017	mg/L	0.000084	51.06%
Al 308.215†	3.1	0.00232	mg/L	0.008796	0.00232	mg/L	0.008796	378.47%
As 188.979†	-0.5	-0.00025	mg/L	0.001254	-0.00025	mg/L	0.001254	508.52%
B 249.677†	8.4	0.00146	mg/L	0.000427	0.00146	mg/L	0.000427	29.14%
Ba 233.527†	-4.1	-0.00109	mg/L	0.000616	-0.00109	mg/L	0.000616	56.68%
Be 313.042†	56.9	0.00011	mg/L	0.000020	0.00011	mg/L	0.000020	18.10%
Ca 317.933†	16.1	0.00165	mg/L	0.000750	0.00165	mg/L	0.000750	45.53%
Cd 228.802†	17.7	0.00053	mg/L	0.000134	0.00053	mg/L	0.000134	25.25%
Co 228.616†	-0.5	-0.00001	mg/L	0.000143	-0.00001	mg/L	0.000143	>999.9%
Cr 267.716†	-1.1	-0.00021	mg/L	0.000893	-0.00021	mg/L	0.000893	423.81%
Cu 324.752†	335.1	0.00113	mg/L	0.000101	0.00113	mg/L	0.000101	8.94%
Fe 273.955†	2.8	0.00247	mg/L	0.001047	0.00247	mg/L	0.001047	42.42%
K 766.490†	47.4	0.02080	mg/L	0.020053	0.02080	mg/L	0.020053	96.40%
Mg 279.077†	6.7	0.00600	mg/L	0.003186	0.00600	mg/L	0.003186	53.10%
Mn 257.610†	5.7	0.00018	mg/L	0.000076	0.00018	mg/L	0.000076	42.39%
Mo 202.031†	26.4	0.00136	mg/L	0.000344	0.00136	mg/L	0.000344	25.32%
Na 589.592†	138.2	0.01036	mg/L	0.002757	0.01036	mg/L	0.002757	26.60%
Na 330.237†	-5.7	-0.2671	mg/L	0.24915	-0.2671	mg/L	0.24915	93.26%
Ni 231.604†	-0.2	-0.00005	mg/L	0.000556	-0.00005	mg/L	0.000556	>999.9%
Pb 220.353†	2.3	0.00026	mg/L	0.000885	0.00026	mg/L	0.000885	336.65%
Sb 206.836†	29.7	0.00925	mg/L	0.001873	0.00925	mg/L	0.001873	20.24%
Se 196.026†	-0.5	-0.00033	mg/L	0.001752	-0.00033	mg/L	0.001752	530.00%
Si 288.158†	0.6	0.00035	mg/L	0.004114	0.00035	mg/L	0.004114	>999.9%
Sn 189.927†	-3.1	-0.00085	mg/L	0.000429	-0.00085	mg/L	0.000429	50.23%
Sr 421.552†	65.5	0.00008	mg/L	0.000053	0.00008	mg/L	0.000053	67.60%
Ti 334.903†	11.6	0.00068	mg/L	0.000334	0.00068	mg/L	0.000334	48.70%
Tl 190.801†	0.4	0.00020	mg/L	0.000787	0.00020	mg/L	0.000787	403.11%
V 292.402†	-25.7	-0.00017	mg/L	0.000155	-0.00017	mg/L	0.000155	93.00%
Zn 206.200†	2.1	0.00062	mg/L	0.000466	0.00062	mg/L	0.000466	75.48%

Sequence No.: 19
 Sample ID: YE46 MB2 DMN

Autosampler Location: 305
 Date Collected: 4/1/2014 9:57:41 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 MB2 DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE46 MB2 DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3001230.7	101.4 %	%	0.98			0.97%
ScR 361.383	255649.6	104.0 %	%	1.34			1.29%
Ag 328.068†	-17.8	-0.00009 mg/L	mg/L	0.000192	-0.00009 mg/L	0.000192	220.81%
Al 308.215†	46.6	0.03572 mg/L	mg/L	0.005182	0.03572 mg/L	0.005182	14.51%
As 188.979†	2.6	0.00151 mg/L	mg/L	0.000862	0.00151 mg/L	0.000862	57.20%
B 249.677†	64.9	0.01134 mg/L	mg/L	0.000762	0.01134 mg/L	0.000762	6.72%
Ba 233.527†	-2.5	-0.00065 mg/L	mg/L	0.000455	-0.00065 mg/L	0.000455	69.67%
Be 313.042†	21.9	0.00004 mg/L	mg/L	0.000036	0.00004 mg/L	0.000036	82.36%
Ca 317.933†	925.6	0.09446 mg/L	mg/L	0.000495	0.09446 mg/L	0.000495	0.52%
Cd 228.802†	7.8	0.00023 mg/L	mg/L	0.000059	0.00023 mg/L	0.000059	26.01%
Co 228.616†	19.7	0.00049 mg/L	mg/L	0.000057	0.00049 mg/L	0.000057	11.70%
Cr 267.716†	4.0	0.00080 mg/L	mg/L	0.000670	0.00080 mg/L	0.000670	83.64%
Cu 324.752†	219.5	0.00074 mg/L	mg/L	0.000230	0.00074 mg/L	0.000230	30.98%
Fe 273.955†	-0.0	-0.00003 mg/L	mg/L	0.001261	-0.00003 mg/L	0.001261	>999.9%
K 766.490†	76.3	0.03349 mg/L	mg/L	0.010067	0.03349 mg/L	0.010067	30.06%
Mg 279.077†	2.8	0.00247 mg/L	mg/L	0.002901	0.00247 mg/L	0.002901	117.54%
Mn 257.610†	-2.6	-0.00008 mg/L	mg/L	0.000169	-0.00008 mg/L	0.000169	204.69%
Mo 202.031†	0.4	0.00002 mg/L	mg/L	0.000297	0.00002 mg/L	0.000297	>999.9%
Na 589.592†	119.5	0.00897 mg/L	mg/L	0.001352	0.00897 mg/L	0.001352	15.09%
Na 330.237†	-6.7	-0.3129 mg/L	mg/L	0.12808	-0.3129 mg/L	0.12808	40.94%
Ni 231.604†	-0.3	-0.00010 mg/L	mg/L	0.001567	-0.00010 mg/L	0.001567	>999.9%
Pb 220.353†	2.5	0.00030 mg/L	mg/L	0.000715	0.00030 mg/L	0.000715	241.05%
Sb 206.836†	-0.2	-0.00009 mg/L	mg/L	0.000613	-0.00009 mg/L	0.000613	682.83%
Se 196.026†	5.7	0.00406 mg/L	mg/L	0.001193	0.00406 mg/L	0.001193	29.39%
Si 288.158†	-16.4	-0.00940 mg/L	mg/L	0.001533	-0.00940 mg/L	0.001533	16.31%
Sn 189.927†	-7.7	-0.00214 mg/L	mg/L	0.000423	-0.00214 mg/L	0.000423	19.77%
Sr 421.552†	419.5	0.00051 mg/L	mg/L	0.000029	0.00051 mg/L	0.000029	5.76%
Ti 334.903†	-0.1	-0.00002 mg/L	mg/L	0.000272	-0.00002 mg/L	0.000272	>999.9%
Tl 190.801†	4.5	0.00207 mg/L	mg/L	0.001490	0.00207 mg/L	0.001490	71.87%
V 292.402†	-24.9	-0.00016 mg/L	mg/L	0.000071	-0.00016 mg/L	0.000071	45.22%
Zn 206.200†	2.4	0.00071 mg/L	mg/L	0.000635	0.00071 mg/L	0.000635	89.02%

Sequence No.: 20

Autosampler Location: 314

Sample ID: YE46 MB1 TWC

Date Collected: 4/1/2014 10:01:58 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE46 MB1 TWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 MB1 TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2909508.1	98.25	%	0.499			0.51%
ScR 361.383	247238.7	100.6	%	0.14			0.14%
Ag 328.068†	35.8	0.00018	mg/L	0.000090	0.00018 mg/L	0.000090	51.23%
Al 308.215†	-1.5	-0.00112	mg/L	0.001367	-0.00112 mg/L	0.001367	122.33%
As 188.979†	-0.4	-0.00019	mg/L	0.002134	-0.00019 mg/L	0.002134	>999.9%
B 249.677†	11.1	0.00193	mg/L	0.001578	0.00193 mg/L	0.001578	81.67%
Ba 233.527†	-3.1	-0.00081	mg/L	0.000610	-0.00081 mg/L	0.000610	74.89%
Be 313.042†	25.7	0.00005	mg/L	0.000016	0.00005 mg/L	0.000016	30.60%
Ca 317.933†	30.4	0.00310	mg/L	0.001923	0.00310 mg/L	0.001923	62.08%
Cd 228.802†	10.6	0.00032	mg/L	0.000066	0.00032 mg/L	0.000066	20.58%
Co 228.616†	5.2	0.00013	mg/L	0.000048	0.00013 mg/L	0.000048	37.36%
Cr 267.716†	0.5	0.00010	mg/L	0.000273	0.00010 mg/L	0.000273	277.99%
Cu 324.752†	344.7	0.00117	mg/L	0.000166	0.00117 mg/L	0.000166	14.24%
Fe 273.955†	2.5	0.00221	mg/L	0.001867	0.00221 mg/L	0.001867	84.54%
K 766.490†	40.7	0.01788	mg/L	0.011159	0.01788 mg/L	0.011159	62.42%
Mg 279.077†	0.2	0.00017	mg/L	0.001588	0.00017 mg/L	0.001588	911.74%
Mn 257.610†	1.6	0.00005	mg/L	0.000156	0.00005 mg/L	0.000156	318.67%
Mo 202.031†	5.0	0.00026	mg/L	0.000133	0.00026 mg/L	0.000133	52.02%
Na 589.592†	119.9	0.00899	mg/L	0.003039	0.00899 mg/L	0.003039	33.80%
Na 330.237†	-0.6	-0.02593	mg/L	0.154974	-0.02593 mg/L	0.154974	597.66%
Ni 231.604†	0.8	0.00025	mg/L	0.000400	0.00025 mg/L	0.000400	160.37%
Pb 220.353†	7.6	0.00088	mg/L	0.000778	0.00088 mg/L	0.000778	87.90%
Sb 206.836†	3.7	0.00114	mg/L	0.000350	0.00114 mg/L	0.000350	30.83%
Se 196.026†	4.5	0.00321	mg/L	0.001690	0.00321 mg/L	0.001690	52.68%
Si 288.158†	12.0	0.00689	mg/L	0.000565	0.00689 mg/L	0.000565	8.20%
Sn 189.927†	-2.1	-0.00059	mg/L	0.000828	-0.00059 mg/L	0.000828	141.41%
Sr 421.552†	28.1	0.00003	mg/L	0.000041	0.00003 mg/L	0.000041	121.50%
Ti 334.903†	10.4	0.00061	mg/L	0.000087	0.00061 mg/L	0.000087	14.10%
Tl 190.801†	6.1	0.00280	mg/L	0.001115	0.00280 mg/L	0.001115	39.83%
V 292.402†	-34.6	-0.00022	mg/L	0.000095	-0.00022 mg/L	0.000095	42.42%
Zn 206.200†	4.6	0.00134	mg/L	0.000450	0.00134 mg/L	0.000450	33.67%

Sequence No.: 21

Sample ID: YE46 D-L TWC

Autosampler Location: 315

Date Collected: 4/1/2014 10:05:59 AM

Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YE46 D-L TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE46 D-L TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2885579.4	97.45	%	0.178			0.18%
ScR 361.383	247660.7	100.8	%	0.09			0.09%
Ag 328.068†	1.8	0.00010	mg/L	0.000286	0.00050 mg/L	0.001428	283.09%
Al 308.215†	25.5	0.01949	mg/L	0.000258	0.09744 mg/L	0.001292	1.33%
As 188.979†	127.8	0.07279	mg/L	0.002632	0.3640 mg/L	0.01316	3.62%
B 249.677†	91.1	0.01592	mg/L	0.001794	0.07959 mg/L	0.008969	11.27%
Ba 233.527†	5.5	0.00142	mg/L	0.000718	0.00710 mg/L	0.003589	50.53%
Be 313.042†	16.5	0.00003	mg/L	0.000027	0.00016 mg/L	0.000137	84.59%
Ca 317.933†	149348.5	15.24	mg/L	0.072	76.21 mg/L	0.361	0.47%
Cd 228.802†	19.0	0.00018	mg/L	0.000108	0.00092 mg/L	0.000538	58.33%
Co 228.616†	15.2	0.00037	mg/L	0.000041	0.00187 mg/L	0.000206	11.01%
Cr 267.716†	0.4	-0.00008	mg/L	0.000497	-0.00042 mg/L	0.002485	591.57%
Cu 324.752†	262.9	0.00085	mg/L	0.000130	0.00423 mg/L	0.000651	15.40%
Fe 273.955†	96.9	0.08427	mg/L	0.000285	0.4214 mg/L	0.00142	0.34%
K 766.490†	1558.3	0.6844	mg/L	0.02105	3.422 mg/L	0.1053	3.08%
Mg 279.077†	394.6	0.3493	mg/L	0.00599	1.746 mg/L	0.0300	1.72%
Mn 257.610†	223.5	0.00696	mg/L	0.000046	0.03482 mg/L	0.000232	0.67%
Mo 202.031†	94.3	0.00462	mg/L	0.000029	0.02310 mg/L	0.000146	0.63%
Na 589.592†	32133.5	2.410	mg/L	0.0084	12.05 mg/L	0.042	0.35%
Na 330.237†	55.2	2.480	mg/L	0.2786	12.40 mg/L	1.393	11.23%
Ni 231.604†	0.4	0.00010	mg/L	0.000879	0.00051 mg/L	0.004396	858.38%
Pb 220.353†	-5.9	-0.00069	mg/L	0.000489	-0.00344 mg/L	0.002444	71.09%
Sb 206.836†	2.8	0.00081	mg/L	0.002319	0.00404 mg/L	0.011596	287.09%
Se 196.026†	7.4	0.00532	mg/L	0.001905	0.02662 mg/L	0.009525	35.78%
Si 288.158†	8064.3	4.616	mg/L	0.0825	23.08 mg/L	0.413	1.79%
Sn 189.927†	-26.6	-0.00561	mg/L	0.000976	-0.02806 mg/L	0.004880	17.39%
Sr 421.552†	48997.6	0.05900	mg/L	0.000128	0.2950 mg/L	0.00064	0.22%
Ti 334.903†	27.2	0.00053	mg/L	0.000673	0.00266 mg/L	0.003366	126.58%
Tl 190.801†	10.0	0.00458	mg/L	0.003581	0.02289 mg/L	0.017905	78.23%
V 292.402†	104.7	0.00067	mg/L	0.000026	0.00337 mg/L	0.000131	3.90%
Zn 206.200†	-0.1	0.00083	mg/L	0.000560	0.00414 mg/L	0.002800	67.56%

YE34:00116

Sequence No.: 22
 Sample ID: YE46 D TWC

Autosampler Location: 316
 Date Collected: 4/1/2014 10:09:58 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 D TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE46 D TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2871226.5	96.96	%	0.194			0.20%
ScR 361.383	243252.1	98.99	%	0.040			0.04%
Ag 328.068†	-74.1	0.00009	mg/L	0.000101	0.00009 mg/L	0.000101	113.44%
Al 308.215†	140.3	0.1072	mg/L	0.00444	0.1072 mg/L	0.00444	4.14%
As 188.979†	617.5	0.3517	mg/L	0.00079	0.3517 mg/L	0.00079	0.23%
B 249.677†	435.8	0.07617	mg/L	0.000842	0.07617 mg/L	0.000842	1.11%
Ba 233.527†	33.3	0.00867	mg/L	0.000435	0.00867 mg/L	0.000435	5.02%
Be 313.042†	40.5	0.00008	mg/L	0.000004	0.00008 mg/L	0.000004	4.92%
Ca 317.933†	733926.1	74.90	mg/L	0.396	74.90 mg/L	0.396	0.53%
Cd 228.802†	62.1	0.00001	mg/L	0.000077	0.00001 mg/L	0.000077	716.51%
Co 228.616†	41.8	0.00102	mg/L	0.000049	0.00102 mg/L	0.000049	4.83%
Cr 267.716†	5.4	0.00027	mg/L	0.000657	0.00027 mg/L	0.000657	243.95%
Cu 324.752†	467.1	0.00137	mg/L	0.000030	0.00137 mg/L	0.000030	2.20%
Fe 273.955†	467.0	0.4061	mg/L	0.00250	0.4061 mg/L	0.00250	0.62%
K 766.490†	7477.3	3.284	mg/L	0.0043	3.284 mg/L	0.0043	0.13%
Mg 279.077†	1926.4	1.705	mg/L	0.0088	1.705 mg/L	0.0088	0.52%
Mn 257.610†	1085.8	0.03383	mg/L	0.000510	0.03383 mg/L	0.000510	1.51%
Mo 202.031†	348.8	0.01680	mg/L	0.000208	0.01680 mg/L	0.000208	1.24%
Na 589.592†	159132.3	11.94	mg/L	0.041	11.94 mg/L	0.041	0.34%
Na 330.237†	265.9	11.93	mg/L	0.293	11.93 mg/L	0.293	2.46%
Ni 231.604†	4.6	0.00135	mg/L	0.000386	0.00135 mg/L	0.000386	28.62%
Pb 220.353†	-21.9	-0.00254	mg/L	0.000261	-0.00254 mg/L	0.000261	10.24%
Sb 206.836†	4.5	0.00125	mg/L	0.001202	0.00125 mg/L	0.001202	96.52%
Se 196.026†	7.7	0.00550	mg/L	0.004157	0.00550 mg/L	0.004157	75.54%
Si 288.158†	41214.5	23.59	mg/L	0.400	23.59 mg/L	0.400	1.69%
Sn 189.927†	-77.9	-0.01274	mg/L	0.001317	-0.01274 mg/L	0.001317	10.34%
Sr 421.552†	240285.2	0.2893	mg/L	0.00102	0.2893 mg/L	0.00102	0.35%
Ti 334.903†	143.1	0.00317	mg/L	0.000554	0.00317 mg/L	0.000554	17.50%
Tl 190.801†	18.6	0.00854	mg/L	0.002158	0.00854 mg/L	0.002158	25.26%
V 292.402†	504.4	0.00325	mg/L	0.000090	0.00325 mg/L	0.000090	2.77%
Zn 206.200†	-1.1	0.00406	mg/L	0.000564	0.00406 mg/L	0.000564	13.90%

Sequence No.: 23
 Sample ID: YE46 DDUP TWC

Autosampler Location: 317
 Date Collected: 4/1/2014 10:14:13 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 DDUP TWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

 Mean Data: YE46 DDUP TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2835073.6	95.74	%	0.311			0.32%
ScR 361.383	239494.2	97.46	%	0.450			0.46%
Ag 328.068†	-52.3	0.00019	mg/L	0.000031	0.00019 mg/L	0.000031	16.53%
Al 308.215†	134.1	0.1024	mg/L	0.00223	0.1024 mg/L	0.00223	2.18%
As 188.979†	601.4	0.3424	mg/L	0.00325	0.3424 mg/L	0.00325	0.95%
B 249.677†	427.3	0.07469	mg/L	0.000291	0.07469 mg/L	0.000291	0.39%
Ba 233.527†	31.9	0.00828	mg/L	0.000451	0.00828 mg/L	0.000451	5.45%
Be 313.042†	44.9	0.00009	mg/L	0.000007	0.00009 mg/L	0.000007	8.13%
Ca 317.933†	717545.4	73.23	mg/L	0.068	73.23 mg/L	0.068	0.09%
Cd 228.802†	60.1	0.00000	mg/L	0.000159	0.00000 mg/L	0.000159	>999.9%
Co 228.616†	36.1	0.00088	mg/L	0.000103	0.00088 mg/L	0.000103	11.69%
Cr 267.716†	7.3	0.00066	mg/L	0.000861	0.00066 mg/L	0.000861	129.69%
Cu 324.752†	500.6	0.00149	mg/L	0.000039	0.00149 mg/L	0.000039	2.61%
Fe 273.955†	462.7	0.4023	mg/L	0.00317	0.4023 mg/L	0.00317	0.79%
K 766.490†	7303.3	3.208	mg/L	0.0400	3.208 mg/L	0.0400	1.25%
Mg 279.077†	1888.5	1.671	mg/L	0.0099	1.671 mg/L	0.0099	0.59%
Mn 257.610†	1072.8	0.03343	mg/L	0.000385	0.03343 mg/L	0.000385	1.15%
Mo 202.031†	334.7	0.01610	mg/L	0.000292	0.01610 mg/L	0.000292	1.81%
Na 589.592†	155151.0	11.64	mg/L	0.013	11.64 mg/L	0.013	0.11%
Na 330.237†	265.5	11.92	mg/L	0.349	11.92 mg/L	0.349	2.93%
Ni 231.604†	7.5	0.00222	mg/L	0.001093	0.00222 mg/L	0.001093	49.31%
Pb 220.353†	-20.9	-0.00243	mg/L	0.000318	-0.00243 mg/L	0.000318	13.06%
Sb 206.836†	9.3	0.00272	mg/L	0.002096	0.00272 mg/L	0.002096	76.96%
Se 196.026†	8.5	0.00610	mg/L	0.004020	0.00610 mg/L	0.004020	65.95%
Si 288.158†	42673.6	24.42	mg/L	0.192	24.42 mg/L	0.192	0.79%
Sn 189.927†	-75.3	-0.01220	mg/L	0.001071	-0.01220 mg/L	0.001071	8.78%
Sr 421.552†	235236.6	0.2833	mg/L	0.00036	0.2833 mg/L	0.00036	0.13%
Ti 334.903†	136.3	0.00289	mg/L	0.001073	0.00289 mg/L	0.001073	37.20%
Tl 190.801†	14.8	0.00682	mg/L	0.000918	0.00682 mg/L	0.000918	13.45%
V 292.402†	468.4	0.00302	mg/L	0.000121	0.00302 mg/L	0.000121	3.99%
Zn 206.200†	-1.2	0.00420	mg/L	0.000381	0.00420 mg/L	0.000381	9.07%

Sequence No.: 24
 Sample ID: YE46 DSPK TWC
 Dilution: 1.000000X

Autosampler Location: 318
 Date Collected: 4/1/2014 10:18:28 AM
 Data Type: Original

Nebulizer Parameters: YE46 DSPK TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE46 DSPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2838781.0	95.86 %	1.289			1.34%
ScR 361.383	242397.4	98.64 %	0.956			0.97%
Ag 328.068†	109303.9	0.5369 mg/L	0.00556	0.5369 mg/L	0.00556	1.04%
Al 308.215†	2811.9	2.147 mg/L	0.0235	2.147 mg/L	0.0235	1.10%
As 188.979†	4239.3	2.450 mg/L	0.0242	2.450 mg/L	0.0242	0.99%
B 249.677†	420.9	0.07252 mg/L	0.001829	0.07252 mg/L	0.001829	2.52%
Ba 233.527†	8089.5	2.118 mg/L	0.0150	2.118 mg/L	0.0150	0.71%
Be 313.042†	256038.9	0.5059 mg/L	0.00179	0.5059 mg/L	0.00179	0.35%
Ca 317.933†	828518.4	84.55 mg/L	0.119	84.55 mg/L	0.119	0.14%
Cd 228.802†	17789.7	0.5190 mg/L	0.00579	0.5190 mg/L	0.00579	1.12%
Co 228.616†	20248.6	0.5007 mg/L	0.00578	0.5007 mg/L	0.00578	1.15%
Cr 267.716†	2604.6	0.5192 mg/L	0.00364	0.5192 mg/L	0.00364	0.70%
Cu 324.752†	150136.3	0.5078 mg/L	0.00424	0.5078 mg/L	0.00424	0.84%
Fe 273.955†	2850.6	2.475 mg/L	0.0292	2.475 mg/L	0.0292	1.18%
K 766.490†	30930.9	13.58 mg/L	0.007	13.58 mg/L	0.007	0.05%
Mg 279.077†	13680.8	12.16 mg/L	0.117	12.16 mg/L	0.117	0.96%
Mn 257.610†	17054.5	0.5364 mg/L	0.00657	0.5364 mg/L	0.00657	1.22%
Mo 202.031†	351.1	0.01677 mg/L	0.000221	0.01677 mg/L	0.000221	1.32%
Na 589.592†	298239.1	22.37 mg/L	0.049	22.37 mg/L	0.049	0.22%
Na 330.237†	499.2	22.60 mg/L	0.132	22.60 mg/L	0.132	0.58%
Ni 231.604†	1721.4	0.5087 mg/L	0.00357	0.5087 mg/L	0.00357	0.70%
Pb 220.353†	17260.2	2.015 mg/L	0.0207	2.015 mg/L	0.0207	1.03%
Sb 206.836†	28.1	0.00366 mg/L	0.002042	0.00366 mg/L	0.002042	55.72%
Se 196.026†	2878.5	2.067 mg/L	0.0227	2.067 mg/L	0.0227	1.10%
Si 288.158†	43562.5	24.94 mg/L	0.345	24.94 mg/L	0.345	1.38%
Sn 189.927†	-81.7	-0.01256 mg/L	0.000967	-0.01256 mg/L	0.000967	7.70%
Sr 421.552†	663326.6	0.7987 mg/L	0.00025	0.7987 mg/L	0.00025	0.03%
Ti 334.903†	146.1	0.00256 mg/L	0.000278	0.00256 mg/L	0.000278	10.85%
Tl 190.801†	4489.5	2.043 mg/L	0.0173	2.043 mg/L	0.0173	0.85%
V 292.402†	79423.7	0.5150 mg/L	0.00544	0.5150 mg/L	0.00544	1.06%
Zn 206.200†	1712.5	0.5066 mg/L	0.00554	0.5066 mg/L	0.00554	1.09%

Sequence No.: 25

Sample ID: YE46 DPOST TWC ZZZZZZ

Autosampler Location: 319

Date Collected: 4/1/2014 10:22:28 AM

Data Type: Original

Dilution: 1.000000X

* 4774

Nebulizer Parameters: YE46 DPOST TWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE46 DPOST TWC

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Units	Conc.		
ScA 357.253	2816256.9	95.10	%	0.465				0.49%
ScR 361.383	238321.1	96.98	%	0.181				0.19%
Ag 328.068†	103296.4	0.5075	mg/L	0.00364	0.5075	mg/L	0.00364	0.72%
Al 308.215†	2823.1	2.156	mg/L	0.0062	2.156	mg/L	0.0062	0.29%
As 188.979†	4228.1	2.444	mg/L	0.0055	2.444	mg/L	0.0055	0.22%
B 249.677†	427.3	0.07363	mg/L	0.001445	0.07363	mg/L	0.001445	1.96%
Ba 233.527†	8002.9	2.095	mg/L	0.0036	2.095	mg/L	0.0036	0.17%
Be 313.042†	242076.2	0.4783	mg/L	0.00332	0.4783	mg/L	0.00332	0.69%
Ca 317.933†	836232.9	85.34	mg/L	0.155	85.34	mg/L	0.155	0.18%
Cd 228.802†	17751.6	0.5179	mg/L	0.00136	0.5179	mg/L	0.00136	0.26%
Co 228.616†	20100.1	0.4970	mg/L	0.00340	0.4970	mg/L	0.00340	0.68%
Cr 267.716†	2620.7	0.5224	mg/L	0.00128	0.5224	mg/L	0.00128	0.24%
Cu 324.752†	153369.5	0.5187	mg/L	0.00297	0.5187	mg/L	0.00297	0.57%
Fe 273.955†	2847.1	2.472	mg/L	0.0070	2.472	mg/L	0.0070	0.28%
K 766.490†	31161.9	13.69	mg/L	0.070	13.69	mg/L	0.070	0.51%
Mg 279.077†	13778.5	12.25	mg/L	0.024	12.25	mg/L	0.024	0.20%
Mn 257.610†	17080.5	0.5372	mg/L	0.00103	0.5372	mg/L	0.00103	0.19%
Mo 202.031†	351.2	0.01676	mg/L	0.000145	0.01676	mg/L	0.000145	0.86%
Na 589.592†	300683.9	22.55	mg/L	0.113	22.55	mg/L	0.113	0.50%
Na 330.237†	500.2	22.64	mg/L	0.209	22.64	mg/L	0.209	0.92%
Ni 231.604†	1736.9	0.5133	mg/L	0.00210	0.5133	mg/L	0.00210	0.41%
Pb 220.353†	17143.2	2.001	mg/L	0.0092	2.001	mg/L	0.0092	0.46%
Sb 206.836†	27.4	0.00341	mg/L	0.000991	0.00341	mg/L	0.000991	29.04%
Se 196.026†	2877.0	2.066	mg/L	0.0047	2.066	mg/L	0.0047	0.23%
Si 288.158†	43101.5	24.67	mg/L	0.112	24.67	mg/L	0.112	0.45%
Sn 189.927†	-81.7	-0.01246	mg/L	0.000681	-0.01246	mg/L	0.000681	5.47%
Sr 421.552†	665846.7	0.8018	mg/L	0.00213	0.8018	mg/L	0.00213	0.27%
Ti 334.903†	146.2	0.00251	mg/L	0.000399	0.00251	mg/L	0.000399	15.87%
Tl 190.801†	4458.6	2.029	mg/L	0.0024	2.029	mg/L	0.0024	0.12%
V 292.402†	79587.0	0.5161	mg/L	0.00399	0.5161	mg/L	0.00399	0.77%
Zn 206.200†	1719.2	0.5085	mg/L	0.00213	0.5085	mg/L	0.00213	0.42%

Sequence No.: 26
 Sample ID: YE46 MB1SPK TWC

Autosampler Location: 320
 Date Collected: 4/1/2014 10:26:28 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: YE46 MB1SPK TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE46 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2874128.6	97.06	%	0.664			0.68%
ScR 361.383	244363.2	99.44	%	0.644			0.65%
Ag 328.068†	109991.6	0.5399	mg/L	0.00538	0.5399 mg/L	0.00538	1.00%
Al 308.215†	2739.8	2.092	mg/L	0.0095	2.092 mg/L	0.0095	0.45%
As 188.979†	3646.0	2.113	mg/L	0.0131	2.113 mg/L	0.0131	0.62%
B 249.677†	6.1	-0.00002	mg/L	0.000268	-0.00002 mg/L	0.000268	>999.9%
Ba 233.527†	8154.1	2.135	mg/L	0.0070	2.135 mg/L	0.0070	0.33%
Be 313.042†	258430.7	0.5106	mg/L	0.00219	0.5106 mg/L	0.00219	0.43%
Ca 317.933†	102808.7	10.49	mg/L	0.043	10.49 mg/L	0.043	0.41%
Cd 228.802†	17911.6	0.5244	mg/L	0.00419	0.5244 mg/L	0.00419	0.80%
Co 228.616†	20681.2	0.5114	mg/L	0.00717	0.5114 mg/L	0.00717	1.40%
Cr 267.716†	2683.7	0.5358	mg/L	0.00116	0.5358 mg/L	0.00116	0.22%
Cu 324.752†	150137.0	0.5080	mg/L	0.00577	0.5080 mg/L	0.00577	1.14%
Fe 273.955†	2475.7	2.149	mg/L	0.0050	2.149 mg/L	0.0050	0.23%
K 766.490†	23679.0	10.40	mg/L	0.054	10.40 mg/L	0.054	0.52%
Mg 279.077†	12121.6	10.79	mg/L	0.024	10.79 mg/L	0.024	0.22%
Mn 257.610†	15755.2	0.4959	mg/L	0.00194	0.4959 mg/L	0.00194	0.39%
Mo 202.031†	30.4	0.00140	mg/L	0.000255	0.00140 mg/L	0.000255	18.21%
Na 589.592†	140454.7	10.53	mg/L	0.057	10.53 mg/L	0.057	0.54%
Na 330.237†	231.6	10.58	mg/L	0.061	10.58 mg/L	0.061	0.58%
Ni 231.604†	1776.5	0.5250	mg/L	0.00362	0.5250 mg/L	0.00362	0.69%
Pb 220.353†	17665.3	2.062	mg/L	0.0218	2.062 mg/L	0.0218	1.06%
Sb 206.836†	20.6	0.00127	mg/L	0.001985	0.00127 mg/L	0.001985	156.46%
Se 196.026†	2898.1	2.081	mg/L	0.0109	2.081 mg/L	0.0109	0.52%
Si 288.158†	168.9	0.1003	mg/L	0.03942	0.1003 mg/L	0.03942	39.28%
Sn 189.927†	-24.9	-0.00562	mg/L	0.001055	-0.00562 mg/L	0.001055	18.79%
Sr 421.552†	426936.9	0.5141	mg/L	0.00297	0.5141 mg/L	0.00297	0.58%
Ti 334.903†	22.4	0.00048	mg/L	0.000620	0.00048 mg/L	0.000620	128.94%
Tl 190.801†	4544.5	2.068	mg/L	0.0156	2.068 mg/L	0.0156	0.75%
V 292.402†	80025.1	0.5190	mg/L	0.00414	0.5190 mg/L	0.00414	0.80%
Zn 206.200†	1761.1	0.5162	mg/L	0.00293	0.5162 mg/L	0.00293	0.57%

Sequence No.: 27

Sample ID: CV 3

Autosampler Location: 7

Date Collected: 4/1/2014 10:30:28 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2851247.7	96.29 %	0.529			0.55%
ScR 361.383	239337.7	97.39 %	0.270			0.28%
Ag 328.068†	215914.9	1.060 mg/L	0.0049	1.060 mg/L	0.0049	0.46%
Al 308.215†	2680.6	2.022 mg/L	0.0043	2.022 mg/L	0.0043	0.21%
As 188.979†	3465.5	2.040 mg/L	0.0128	2.040 mg/L	0.0128	0.63%
B 249.677†	5818.3	1.016 mg/L	0.0012	1.016 mg/L	0.0012	0.12%
Ba 233.527†	3934.7	1.030 mg/L	0.0063	1.030 mg/L	0.0063	0.61%
Be 313.042†	506061.4	0.9999 mg/L	0.00387	0.9999 mg/L	0.00387	0.39%
Ca 317.933†	20612.0	2.103 mg/L	0.0053	2.103 mg/L	0.0053	0.25%
Cd 228.802†	34577.9	1.023 mg/L	0.0026	1.023 mg/L	0.0026	0.25%
Co 228.616†	40588.5	1.002 mg/L	0.0039	1.002 mg/L	0.0039	0.39%
Cr 267.716†	5209.9	1.042 mg/L	0.0003	1.042 mg/L	0.0003	0.02%
Cu 324.752†	296188.7	1.002 mg/L	0.0012	1.002 mg/L	0.0012	0.12%
Fe 273.955†	2401.3	2.081 mg/L	0.0053	2.081 mg/L	0.0053	0.25%
K 766.490†	45795.9	20.11 mg/L	0.055	20.11 mg/L	0.055	0.27%
Mg 279.077†	2258.2	2.016 mg/L	0.0015	2.016 mg/L	0.0015	0.08%
Mn 257.610†	30467.1	0.9587 mg/L	0.00397	0.9587 mg/L	0.00397	0.41%
Mo 202.031†	18593.5	0.9576 mg/L	0.00531	0.9576 mg/L	0.00531	0.55%
Na 589.592†	678655.7	50.90 mg/L	0.017	50.90 mg/L	0.017	0.03%
Na 330.237†	1106.8	51.51 mg/L	0.250	51.51 mg/L	0.250	0.48%
Ni 231.604†	3478.2	1.030 mg/L	0.0017	1.030 mg/L	0.0017	0.17%
Pb 220.353†	17028.4	1.988 mg/L	0.0100	1.988 mg/L	0.0100	0.50%
Sb 206.836†	6636.5	2.066 mg/L	0.0126	2.066 mg/L	0.0126	0.61%
Se 196.026†	2793.2	2.005 mg/L	0.0150	2.005 mg/L	0.0150	0.75%
Si 288.158†	3507.5	2.012 mg/L	0.0356	2.012 mg/L	0.0356	1.77%
Sn 189.927†	3480.5	0.9757 mg/L	0.00616	0.9757 mg/L	0.00616	0.63%
Sr 421.552†	837946.5	1.009 mg/L	0.0004	1.009 mg/L	0.0004	0.03%
Ti 334.903†	16485.5	0.9748 mg/L	0.00089	0.9748 mg/L	0.00089	0.09%
Tl 190.801†	4544.7	2.065 mg/L	0.0132	2.065 mg/L	0.0132	0.64%
V 292.402†	158035.5	1.025 mg/L	0.0049	1.025 mg/L	0.0049	0.48%
Zn 206.200†	3460.7	1.014 mg/L	0.0014	1.014 mg/L	0.0014	0.14%

Sequence No.: 28

Sample ID: CB-3

Autosampler Location: 1

Date Collected: 4/1/2014 10:34:33 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2877701.4	97.18	%	0.670				0.69%
ScR 361.383	245708.8	99.99	%	0.117				0.12%
Ag 328.068†	16.7	0.00008	mg/L	0.000376	0.00008	mg/L	0.000376	458.48%
Al 308.215†	-5.8	-0.00449	mg/L	0.001319	-0.00449	mg/L	0.001319	29.36%
As 188.979†	-1.5	-0.00084	mg/L	0.000236	-0.00084	mg/L	0.000236	28.02%
B 249.677†	10.2	0.00178	mg/L	0.000283	0.00178	mg/L	0.000283	15.87%
Ba 233.527†	-2.2	-0.00056	mg/L	0.000840	-0.00056	mg/L	0.000840	149.09%
Be 313.042†	41.4	0.00008	mg/L	0.000002	0.00008	mg/L	0.000002	2.81%
Ca 317.933†	15.6	0.00159	mg/L	0.000989	0.00159	mg/L	0.000989	62.30%
Cd 228.802†	8.8	0.00027	mg/L	0.000085	0.00027	mg/L	0.000085	31.92%
Co 228.616†	4.3	0.00010	mg/L	0.000118	0.00010	mg/L	0.000118	113.05%
Cr 267.716†	-1.7	-0.00034	mg/L	0.000558	-0.00034	mg/L	0.000558	165.99%
Cu 324.752†	322.1	0.00109	mg/L	0.000106	0.00109	mg/L	0.000106	9.77%
Fe 273.955†	1.4	0.00122	mg/L	0.002381	0.00122	mg/L	0.002381	195.40%
K 766.490†	81.7	0.03589	mg/L	0.005234	0.03589	mg/L	0.005234	14.58%
Mg 279.077†	3.8	0.00338	mg/L	0.002834	0.00338	mg/L	0.002834	83.93%
Mn 257.610†	2.8	0.00009	mg/L	0.000181	0.00009	mg/L	0.000181	208.40%
Mo 202.031†	20.4	0.00105	mg/L	0.000273	0.00105	mg/L	0.000273	26.04%
Na 589.592†	70.9	0.00532	mg/L	0.002165	0.00532	mg/L	0.002165	40.72%
Na 330.237†	-5.4	-0.2527	mg/L	0.25569	-0.2527	mg/L	0.25569	101.18%
Ni 231.604†	0.9	0.00027	mg/L	0.000359	0.00027	mg/L	0.000359	133.68%
Pb 220.353†	5.6	0.00065	mg/L	0.001180	0.00065	mg/L	0.001180	180.36%
Sb 206.836†	28.8	0.00897	mg/L	0.001083	0.00897	mg/L	0.001083	12.08%
Se 196.026†	1.0	0.00069	mg/L	0.002091	0.00069	mg/L	0.002091	304.41%
Si 288.158†	41.2	0.02359	mg/L	0.011361	0.02359	mg/L	0.011361	48.16%
Sn 189.927†	-2.6	-0.00073	mg/L	0.000126	-0.00073	mg/L	0.000126	17.25%
Sr 421.552†	37.1	0.00004	mg/L	0.000043	0.00004	mg/L	0.000043	95.79%
Ti 334.903†	10.3	0.00061	mg/L	0.000228	0.00061	mg/L	0.000228	37.31%
Tl 190.801†	2.0	0.00089	mg/L	0.001693	0.00089	mg/L	0.001693	189.80%
V 292.402†	-17.9	-0.00012	mg/L	0.000086	-0.00012	mg/L	0.000086	73.43%
Zn 206.200†	1.0	0.00029	mg/L	0.000376	0.00029	mg/L	0.000376	127.93%

Sequence No.: 29

Sample ID: CRI

Autosampler Location: 301

Date Collected: 4/1/2014 10:38:34 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2891967.3	97.66 %	0.242			0.25%
ScR 361.383	245924.3	100.1 %	0.35			0.35%
Ag 328.068†	579.4	0.00284 mg/L	0.000284	0.00284 mg/L	0.000284	9.98%
Al 308.215†	63.7	0.04868 mg/L	0.003317	0.04868 mg/L	0.003317	6.82%
As 188.979†	82.5	0.04800 mg/L	0.000618	0.04800 mg/L	0.000618	1.29%
B 249.677†	121.5	0.02124 mg/L	0.000640	0.02124 mg/L	0.000640	3.01%
Ba 233.527†	10.9	0.00283 mg/L	0.000923	0.00283 mg/L	0.000923	32.61%
Be 313.042†	520.1	0.00103 mg/L	0.000007	0.00103 mg/L	0.000007	0.66%
Ca 317.933†	556.7	0.05681 mg/L	0.000281	0.05681 mg/L	0.000281	0.49%
Cd 228.802†	90.1	0.00245 mg/L	0.000285	0.00245 mg/L	0.000285	11.63%
Co 228.616†	130.4	0.00322 mg/L	0.000185	0.00322 mg/L	0.000185	5.76%
Cr 267.716†	24.5	0.00489 mg/L	0.001257	0.00489 mg/L	0.001257	25.69%
Cu 324.752†	933.8	0.00316 mg/L	0.000111	0.00316 mg/L	0.000111	3.51%
Fe 273.955†	62.5	0.05434 mg/L	0.002073	0.05434 mg/L	0.002073	3.82%
K 766.490†	1176.0	0.5165 mg/L	0.00376	0.5165 mg/L	0.00376	0.73%
Mg 279.077†	55.1	0.04907 mg/L	0.004256	0.04907 mg/L	0.004256	8.67%
Mn 257.610†	34.7	0.00109 mg/L	0.000038	0.00109 mg/L	0.000038	3.43%
Mo 202.031†	102.7	0.00529 mg/L	0.000155	0.00529 mg/L	0.000155	2.94%
Na 589.592†	6797.8	0.5099 mg/L	0.00267	0.5099 mg/L	0.00267	0.52%
Na 330.237†	11.0	0.5090 mg/L	0.25046	0.5090 mg/L	0.25046	49.21%
Ni 231.604†	31.8	0.00941 mg/L	0.000692	0.00941 mg/L	0.000692	7.35%
Pb 220.353†	175.8	0.02053 mg/L	0.000918	0.02053 mg/L	0.000918	4.47%
Sb 206.836†	164.6	0.05131 mg/L	0.001649	0.05131 mg/L	0.001649	3.21%
Se 196.026†	74.5	0.05347 mg/L	0.001523	0.05347 mg/L	0.001523	2.85%
Si 288.158†	127.5	0.07301 mg/L	0.010101	0.07301 mg/L	0.010101	13.83%
Sn 189.927†	32.6	0.00915 mg/L	0.001344	0.00915 mg/L	0.001344	14.69%
Sr 421.552†	838.3	0.00101 mg/L	0.000046	0.00101 mg/L	0.000046	4.54%
Ti 334.903†	84.7	0.00501 mg/L	0.000688	0.00501 mg/L	0.000688	13.74%
Tl 190.801†	104.3	0.04754 mg/L	0.000958	0.04754 mg/L	0.000958	2.02%
V 292.402†	437.2	0.00284 mg/L	0.000120	0.00284 mg/L	0.000120	4.21%
Zn 206.200†	38.6	0.01131 mg/L	0.000852	0.01131 mg/L	0.000852	7.53%

Sequence No.: 30

Autosampler Location: 302

Sample ID: ICSA

Date Collected: 4/1/2014 10:42:35 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
ScA 357.253	2766812.4	93.43	%	0.186			0.20%
ScR 361.383	240041.0	97.68	%	0.460			0.47%
Ag 328.068†	-253.4	-0.00063	mg/L	0.000015	-0.00063 mg/L	0.000015	2.42%
Al 308.215†	258953.4	198.4	mg/L	0.75	198.4 mg/L	0.75	0.38%
As 188.979†	50.1	0.02037	mg/L	0.001335	0.02037 mg/L	0.001335	6.55%
B 249.677†	-37.6	-0.00656	mg/L	0.001637	-0.00656 mg/L	0.001637	24.93%
Ba 233.527†	110.1	-0.00202	mg/L	0.000764	-0.00202 mg/L	0.000764	37.75%
Be 313.042†	48.2	0.00009	mg/L	0.000012	0.00009 mg/L	0.000012	12.70%
Ca 317.933†	999104.8	102.0	mg/L	0.67	102.0 mg/L	0.67	0.66%
Cd 228.802†	55.4	-0.00023	mg/L	0.000176	-0.00023 mg/L	0.000176	75.94%
Co 228.616†	89.1	0.00219	mg/L	0.000017	0.00219 mg/L	0.000017	0.76%
Cr 267.716†	11.0	-0.00143	mg/L	0.000668	-0.00143 mg/L	0.000668	46.79%
Cu 324.752†	-2223.5	0.00075	mg/L	0.000075	0.00075 mg/L	0.000075	9.92%
Fe 273.955†	229780.3	199.8	mg/L	1.12	199.8 mg/L	1.12	0.56%
K 766.490†	121.8	0.05351	mg/L	0.011552	0.05351 mg/L	0.011552	21.59%
Mg 279.077†	115114.7	102.3	mg/L	0.36	102.3 mg/L	0.36	0.35%
Mn 257.610†	35.3	-0.00135	mg/L	0.000270	-0.00135 mg/L	0.000270	19.97%
Mo 202.031†	75.4	0.00230	mg/L	0.000323	0.00230 mg/L	0.000323	14.05%
Na 589.592†	170.4	0.01278	mg/L	0.003202	0.01278 mg/L	0.003202	25.06%
Na 330.237†	7.6	-0.2683	mg/L	0.21896	-0.2683 mg/L	0.21896	81.61%
Ni 231.604†	2.3	0.00071	mg/L	0.001286	0.00071 mg/L	0.001286	182.16%
Pb 220.353†	-373.9	-0.00347	mg/L	0.000643	-0.00347 mg/L	0.000643	18.53%
Sb 206.836†	64.6	0.01994	mg/L	0.002344	0.01994 mg/L	0.002344	11.75%
Se 196.026†	51.7	0.03709	mg/L	0.005024	0.03709 mg/L	0.005024	13.55%
Si 288.158†	2.5	0.01358	mg/L	0.012567	0.01358 mg/L	0.012567	92.56%
Sn 189.927†	-101.3	-0.01601	mg/L	0.001255	-0.01601 mg/L	0.001255	7.84%
Sr 421.552†	4549.2	0.00548	mg/L	0.000013	0.00548 mg/L	0.000013	0.23%
Ti 334.903†	150.9	0.00173	mg/L	0.000419	0.00173 mg/L	0.000419	24.23%
Tl 190.801†	-44.3	0.00276	mg/L	0.001634	0.00276 mg/L	0.001634	59.14%
V 292.402†	1498.8	-0.00159	mg/L	0.000251	-0.00159 mg/L	0.000251	15.82%
Zn 206.200†	12.2	0.00356	mg/L	0.000315	0.00356 mg/L	0.000315	8.86%

Sequence No.: 31
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 4/1/2014 10:46:50 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2779060.5	93.85	%	0.301			0.32%
ScR 361.383	239145.1	97.31	%	0.306			0.31%
Ag 328.068†	216521.5	1.063	mg/L	0.0040	1.063 mg/L	0.0040	0.37%
Al 308.215†	260006.7	199.2	mg/L	0.48	199.2 mg/L	0.48	0.24%
As 188.979†	1795.4	1.032	mg/L	0.0049	1.032 mg/L	0.0049	0.48%
B 249.677†	-25.7	-0.00649	mg/L	0.000493	-0.00649 mg/L	0.000493	7.59%
Ba 233.527†	3980.6	1.011	mg/L	0.0036	1.011 mg/L	0.0036	0.36%
Be 313.042†	501672.4	0.9913	mg/L	0.00290	0.9913 mg/L	0.00290	0.29%
Ca 317.933†	1006450.3	102.7	mg/L	0.30	102.7 mg/L	0.30	0.30%
Cd 228.802†	34102.6	1.012	mg/L	0.0018	1.012 mg/L	0.0018	0.18%
Co 228.616†	38273.6	0.9467	mg/L	0.00419	0.9467 mg/L	0.00419	0.44%
Cr 267.716†	5094.7	1.016	mg/L	0.0025	1.016 mg/L	0.0025	0.24%
Cu 324.752†	304956.5	1.040	mg/L	0.0044	1.040 mg/L	0.0044	0.42%
Fe 273.955†	232379.9	202.1	mg/L	1.21	202.1 mg/L	1.21	0.60%
K 766.490†	91.2	0.04005	mg/L	0.008580	0.04005 mg/L	0.008580	21.42%
Mg 279.077†	112532.3	100.0	mg/L	0.27	100.0 mg/L	0.27	0.27%
Mn 257.610†	29893.2	0.9380	mg/L	0.00321	0.9380 mg/L	0.00321	0.34%
Mo 202.031†	69.9	0.00201	mg/L	0.000059	0.00201 mg/L	0.000059	2.96%
Na 589.592†	161.7	0.01213	mg/L	0.001158	0.01213 mg/L	0.001158	9.55%
Na 330.237†	16.0	-0.1586	mg/L	0.22727	-0.1586 mg/L	0.22727	143.32%
Ni 231.604†	3309.3	0.9797	mg/L	0.00358	0.9797 mg/L	0.00358	0.37%
Pb 220.353†	8012.9	0.9758	mg/L	0.00312	0.9758 mg/L	0.00312	0.32%
Sb 206.836†	3288.2	1.015	mg/L	0.0100	1.015 mg/L	0.0100	0.99%
Se 196.026†	1442.0	1.035	mg/L	0.0048	1.035 mg/L	0.0048	0.46%
Si 288.158†	-26.3	0.00138	mg/L	0.006569	0.00138 mg/L	0.006569	476.39%
Sn 189.927†	-102.2	-0.01558	mg/L	0.002168	-0.01558 mg/L	0.002168	13.92%
Sr 421.552†	4504.3	0.00542	mg/L	0.000018	0.00542 mg/L	0.000018	0.34%
Ti 334.903†	155.6	0.00177	mg/L	0.000664	0.00177 mg/L	0.000664	37.59%
Tl 190.801†	2040.6	0.9445	mg/L	0.00290	0.9445 mg/L	0.00290	0.31%
V 292.402†	153307.1	0.9830	mg/L	0.00401	0.9830 mg/L	0.00401	0.41%
Zn 206.200†	3304.6	0.9684	mg/L	0.00179	0.9684 mg/L	0.00179	0.19%

Sequence No.: 32

Sample ID: CV 4

Autosampler Location: 7

Date Collected: 4/1/2014 10:51:54 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2860316.4	96.59 %	0.138			0.14%
ScR 361.383	239922.8	97.63 %	0.523			0.54%
Ag 328.068†	214717.9	1.054 mg/L	0.0090	1.054 mg/L	0.0090	0.85%
Al 308.215†	2688.1	2.028 mg/L	0.0079	2.028 mg/L	0.0079	0.39%
As 188.979†	3500.5	2.061 mg/L	0.0055	2.061 mg/L	0.0055	0.27%
B 249.677†	5842.5	1.020 mg/L	0.0014	1.020 mg/L	0.0014	0.14%
Ba 233.527†	3929.8	1.028 mg/L	0.0084	1.028 mg/L	0.0084	0.82%
Be 313.042†	510206.4	1.008 mg/L	0.0068	1.008 mg/L	0.0068	0.67%
Ca 317.933†	20819.7	2.125 mg/L	0.0041	2.125 mg/L	0.0041	0.20%
Cd 228.802†	34755.3	1.028 mg/L	0.0056	1.028 mg/L	0.0056	0.55%
Co 228.616†	40622.4	1.003 mg/L	0.0069	1.003 mg/L	0.0069	0.68%
Cr 267.716†	5249.5	1.050 mg/L	0.0015	1.050 mg/L	0.0015	0.14%
Cu 324.752†	296579.2	1.003 mg/L	0.0031	1.003 mg/L	0.0031	0.30%
Fe 273.955†	2445.7	2.120 mg/L	0.0006	2.120 mg/L	0.0006	0.03%
K 766.490†	45820.4	20.12 mg/L	0.101	20.12 mg/L	0.101	0.50%
Mg 279.077†	2278.8	2.034 mg/L	0.0089	2.034 mg/L	0.0089	0.44%
Mn 257.610†	30721.0	0.9667 mg/L	0.00338	0.9667 mg/L	0.00338	0.35%
Mo 202.031†	18638.3	0.9599 mg/L	0.00591	0.9599 mg/L	0.00591	0.62%
Na 589.592†	680355.7	51.03 mg/L	0.213	51.03 mg/L	0.213	0.42%
Na 330.237†	1103.0	51.34 mg/L	0.189	51.34 mg/L	0.189	0.37%
Ni 231.604†	3504.1	1.037 mg/L	0.0037	1.037 mg/L	0.0037	0.36%
Pb 220.353†	17105.3	1.997 mg/L	0.0170	1.997 mg/L	0.0170	0.85%
Sb 206.836†	6701.0	2.087 mg/L	0.0083	2.087 mg/L	0.0083	0.40%
Se 196.026†	2819.3	2.024 mg/L	0.0023	2.024 mg/L	0.0023	0.11%
Si 288.158†	3465.8	1.989 mg/L	0.0258	1.989 mg/L	0.0258	1.30%
Sn 189.927†	3507.7	0.9834 mg/L	0.00122	0.9834 mg/L	0.00122	0.12%
Sr 421.552†	842008.9	1.014 mg/L	0.0035	1.014 mg/L	0.0035	0.35%
Ti 334.903†	16563.6	0.9794 mg/L	0.00274	0.9794 mg/L	0.00274	0.28%
Tl 190.801†	4547.9	2.066 mg/L	0.0092	2.066 mg/L	0.0092	0.44%
V 292.402†	157823.7	1.024 mg/L	0.0108	1.024 mg/L	0.0108	1.06%
Zn 206.200†	3510.7	1.029 mg/L	0.0058	1.029 mg/L	0.0058	0.57%

Sequence No.: 33
 Sample ID: CB *u*

Autosampler Location: 1
 Date Collected: 4/1/2014 10:55:59 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2874989.5	97.09 %	0.122			0.13%
ScR 361.383	245029.6	99.71 %	0.958			0.96%
Ag 328.068†	4.3	0.00002 mg/L	0.000063	0.00002 mg/L	0.000063	300.26%
Al 308.215†	3.3	0.00253 mg/L	0.004240	0.00253 mg/L	0.004240	167.91%
As 188.979†	0.3	0.00020 mg/L	0.001970	0.00020 mg/L	0.001970	992.35%
B 249.677†	8.9	0.00155 mg/L	0.000142	0.00155 mg/L	0.000142	9.15%
Ba 233.527†	-2.6	-0.00068 mg/L	0.000451	-0.00068 mg/L	0.000451	66.06%
Be 313.042†	49.0	0.00010 mg/L	0.000037	0.00010 mg/L	0.000037	37.75%
Ca 317.933†	16.3	0.00166 mg/L	0.000469	0.00166 mg/L	0.000469	28.19%
Cd 228.802†	12.1	0.00036 mg/L	0.000162	0.00036 mg/L	0.000162	44.96%
Co 228.616†	4.2	0.00010 mg/L	0.000169	0.00010 mg/L	0.000169	163.75%
Cr 267.716†	-5.1	-0.00102 mg/L	0.000452	-0.00102 mg/L	0.000452	44.16%
Cu 324.752†	274.6	0.00093 mg/L	0.000187	0.00093 mg/L	0.000187	20.17%
Fe 273.955†	2.5	0.00217 mg/L	0.001605	0.00217 mg/L	0.001605	73.96%
K 766.490†	73.1	0.03209 mg/L	0.023201	0.03209 mg/L	0.023201	72.29%
Mg 279.077†	6.7	0.00599 mg/L	0.005011	0.00599 mg/L	0.005011	83.68%
Mn 257.610†	7.0	0.00022 mg/L	0.000171	0.00022 mg/L	0.000171	77.94%
Mo 202.031†	19.0	0.00098 mg/L	0.000154	0.00098 mg/L	0.000154	15.76%
Na 589.592†	88.3	0.00662 mg/L	0.000481	0.00662 mg/L	0.000481	7.27%
Na 330.237†	-2.9	-0.1363 mg/L	0.09861	-0.1363 mg/L	0.09861	72.35%
Ni 231.604†	1.6	0.00049 mg/L	0.000832	0.00049 mg/L	0.000832	170.29%
Pb 220.353†	7.0	0.00081 mg/L	0.001067	0.00081 mg/L	0.001067	131.35%
Sb 206.836†	37.6	0.01174 mg/L	0.003695	0.01174 mg/L	0.003695	31.48%
Se 196.026†	-1.4	-0.00100 mg/L	0.003115	-0.00100 mg/L	0.003115	312.40%
Si 288.158†	10.2	0.00583 mg/L	0.007705	0.00583 mg/L	0.007705	132.22%
Sn 189.927†	-3.5	-0.00097 mg/L	0.000440	-0.00097 mg/L	0.000440	45.13%
Sr 421.552†	44.9	0.00005 mg/L	0.000005	0.00005 mg/L	0.000005	9.79%
Ti 334.903†	11.4	0.00067 mg/L	0.000192	0.00067 mg/L	0.000192	28.61%
Tl 190.801†	3.0	0.00139 mg/L	0.002063	0.00139 mg/L	0.002063	148.55%
V 292.402†	-41.3	-0.00027 mg/L	0.000160	-0.00027 mg/L	0.000160	59.03%
Zn 206.200†	1.1	0.00032 mg/L	0.000808	0.00032 mg/L	0.000808	254.80%

Sequence No.: 34
Sample ID: YE32 MB1 SWC

Autosampler Location: 321
Date Collected: 4/1/2014 10:59:59 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 MB1 SWC

Analyte Back Pressure Flow
All 212.0 kPa 0.75 L/min

Mean Data: YE32 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921203.9	98.65 %		0.635			0.64%
ScR 361.383	245973.3	100.1 %		0.23			0.23%
Ag 328.068†	-12.1	-0.00006 mg/L		0.000075	-0.00012 mg/L	0.000150	127.05%
Al 308.215†	8.5	0.00654 mg/L		0.001182	0.01307 mg/L	0.002364	18.08%
As 188.979†	-2.6	-0.00150 mg/L		0.001943	-0.00300 mg/L	0.003887	129.77%
B 249.677†	5.2	0.00091 mg/L		0.000206	0.00182 mg/L	0.000412	22.66%
Ba 233.527†	-0.5	-0.00013 mg/L		0.000646	-0.00027 mg/L	0.001291	483.60%
Be 313.042†	48.5	0.00010 mg/L		0.000015	0.00019 mg/L	0.000030	15.77%
Ca 317.933†	177.9	0.01816 mg/L		0.001243	0.03631 mg/L	0.002486	6.85%
Cd 228.802†	7.6	0.00024 mg/L		0.000116	0.00047 mg/L	0.000233	49.25%
Co 228.616†	3.4	0.00008 mg/L		0.000112	0.00017 mg/L	0.000224	135.89%
Cr 267.716†	1.4	0.00029 mg/L		0.000594	0.00058 mg/L	0.001188	205.88%
Cu 324.752†	317.0	0.00107 mg/L		0.000188	0.00214 mg/L	0.000376	17.55%
Fe 273.955†	3.2	0.00278 mg/L		0.001298	0.00556 mg/L	0.002596	46.69%
K 766.490†	60.9	0.02676 mg/L		0.007683	0.05352 mg/L	0.015365	28.71%
Mg 279.077†	2.1	0.00182 mg/L		0.006473	0.00365 mg/L	0.012945	354.78%
Mn 257.610†	3.1	0.00010 mg/L		0.000037	0.00020 mg/L	0.000073	37.21%
Mo 202.031†	7.0	0.00036 mg/L		0.000202	0.00072 mg/L	0.000404	56.16%
Na 589.592†	248.9	0.01867 mg/L		0.000581	0.03733 mg/L	0.001163	3.12%
Na 330.237†	-2.0	-0.09445 mg/L		0.238231	-0.1889 mg/L	0.47646	252.22%
Ni 231.604†	0.4	0.00013 mg/L		0.001026	0.00026 mg/L	0.002051	785.24%
Pb 220.353†	6.5	0.00075 mg/L		0.000572	0.00151 mg/L	0.001144	75.85%
Sb 206.836†	14.2	0.00443 mg/L		0.000795	0.00886 mg/L	0.001590	17.94%
Se 196.026†	1.3	0.00094 mg/L		0.001700	0.00188 mg/L	0.003401	180.65%
Si 288.158†	3.2	0.00185 mg/L		0.003478	0.00370 mg/L	0.006956	188.25%
Sn 189.927†	-1.7	-0.00048 mg/L		0.000166	-0.00095 mg/L	0.000331	34.72%
Sr 421.552†	37.6	0.00005 mg/L		0.000006	0.00009 mg/L	0.000013	13.80%
Ti 334.903†	10.8	0.00064 mg/L		0.000384	0.00127 mg/L	0.000768	60.29%
Tl 190.801†	2.5	0.00115 mg/L		0.001812	0.00229 mg/L	0.003624	158.06%
V 292.402†	-40.2	-0.00026 mg/L		0.000114	-0.00052 mg/L	0.000228	44.10%
Zn 206.200†	6.3	0.00183 mg/L		0.000710	0.00367 mg/L	0.001419	38.71%

Sequence No.: 35
Sample ID: YE32 B SWC

Autosampler Location: 322
Date Collected: 4/1/2014 11:04:00 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 B SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 B SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2888526.7	97.54	%	0.544			0.56%
ScR 361.383	249667.9	101.6	%	1.15			1.13%
Ag 328.068†	-264.1	-0.00101	mg/L	0.000074	-0.00202 mg/L	0.000148	7.33%
Al 308.215†	175477.0	134.5	mg/L	0.52	268.9 mg/L	1.04	0.39%
As 188.979†	-262.8	0.06626	mg/L	0.002471	0.1325 mg/L	0.00494	3.73%
B 249.677†	70.7	0.01221	mg/L	0.000658	0.02442 mg/L	0.001317	5.39%
Ba 233.527†	2192.7	0.5503	mg/L	0.00767	1.101 mg/L	0.0153	1.39%
Be 313.042†	984.3	0.00179	mg/L	0.000049	0.00358 mg/L	0.000099	2.76%
Ca 317.933†	316848.1	32.33	mg/L	0.107	64.67 mg/L	0.213	0.33%
Cd 228.802†	53.3	0.00131	mg/L	0.000040	0.00262 mg/L	0.000080	3.05%
Co 228.616†	2898.5	0.06052	mg/L	0.000535	0.1210 mg/L	0.00107	0.88%
Cr 267.716†	1077.5	0.2156	mg/L	0.00314	0.4311 mg/L	0.00629	1.46%
Cu 324.752†	35877.8	0.1268	mg/L	0.00164	0.2537 mg/L	0.00329	1.30%
Fe 273.955†	176800.7	153.7	mg/L	1.17	307.5 mg/L	2.34	0.76%
K 766.490†	13563.5	5.957	mg/L	0.0337	11.91 mg/L	0.067	0.57%
Mg 279.077†	57049.1	50.67	mg/L	0.198	101.3 mg/L	0.40	0.39%
Mn 257.610†	73451.1	2.309	mg/L	0.0161	4.618 mg/L	0.0323	0.70%
Mo 202.031†	58.5	0.00251	mg/L	0.000226	0.00502 mg/L	0.000453	9.01%
Na 589.592†	15866.3	1.190	mg/L	0.0023	2.380 mg/L	0.0046	0.19%
Na 330.237†	-9.1	0.9455	mg/L	0.13165	1.891 mg/L	0.2633	13.92%
Ni 231.604†	1006.2	0.2978	mg/L	0.00368	0.5957 mg/L	0.00737	1.24%
Pb 220.353†	-90.3	0.01609	mg/L	0.000356	0.03219 mg/L	0.000712	2.21%
Sb 206.836†	42.8	0.01656	mg/L	0.002747	0.03312 mg/L	0.005494	16.59%
Se 196.026†	35.8	0.02544	mg/L	0.006821	0.05087 mg/L	0.013642	26.82%
Si 288.158†	4061.4	2.331	mg/L	0.0418	4.661 mg/L	0.0836	1.79%
Sn 189.927†	-56.9	-0.01084	mg/L	0.000795	-0.02169 mg/L	0.001589	7.33%
Sr 421.552†	107200.5	0.1291	mg/L	0.00068	0.2582 mg/L	0.00136	0.53%
Ti 334.903†	104859.9	6.206	mg/L	0.0326	12.41 mg/L	0.065	0.53%
Tl 190.801†	-28.4	0.00302	mg/L	0.003640	0.00604 mg/L	0.007279	120.47%
V 292.402†	53521.6	0.3346	mg/L	0.00474	0.6692 mg/L	0.00949	1.42%
Zn 206.200†	929.8	0.2729	mg/L	0.00517	0.5457 mg/L	0.01035	1.90%

Sequence No.: 36
 Sample ID: YE32 C SWC

Autosampler Location: 323
 Date Collected: 4/1/2014 11:08:00 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 C SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE32 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904303.4	98.08 %		0.385			0.39%
ScR 361.383	248137.8	101.0 %		0.38			0.37%
Ag 328.068†	-292.9	-0.00111 mg/L		0.000124	-0.00222 mg/L	0.000248	11.16%
Al 308.215†	181036.6	138.7 mg/L		0.45	277.4 mg/L	0.91	0.33%
As 188.979†	-336.7	0.08126 mg/L		0.006319	0.1625 mg/L	0.01264	7.78%
B 249.677†	78.5	0.01356 mg/L		0.000478	0.02711 mg/L	0.000957	3.53%
Ba 233.527†	2286.8	0.5711 mg/L		0.00249	1.142 mg/L	0.0050	0.44%
Be 313.042†	1070.2	0.00193 mg/L		0.000007	0.00386 mg/L	0.000013	0.35%
Ca 317.933†	361246.5	36.87 mg/L		0.188	73.73 mg/L	0.376	0.51%
Cd 228.802†	55.3	0.00142 mg/L		0.000158	0.00283 mg/L	0.000315	11.12%
Co 228.616†	3411.1	0.07028 mg/L		0.000482	0.1406 mg/L	0.00096	0.69%
Cr 267.716†	1394.8	0.2781 mg/L		0.00122	0.5563 mg/L	0.00244	0.44%
Cu 324.752†	45524.0	0.1602 mg/L		0.00112	0.3203 mg/L	0.00223	0.70%
Fe 273.955†	204712.2	178.0 mg/L		1.73	356.0 mg/L	3.46	0.97%
K 766.490†	14386.1	6.318 mg/L		0.0238	12.64 mg/L	0.048	0.38%
Mg 279.077†	77683.3	69.02 mg/L		0.384	138.0 mg/L	0.77	0.56%
Mn 257.610†	87101.1	2.738 mg/L		0.0196	5.476 mg/L	0.0393	0.72%
Mo 202.031†	272.1	0.01344 mg/L		0.000387	0.02689 mg/L	0.000774	2.88%
Na 589.592†	23244.5	1.743 mg/L		0.0047	3.487 mg/L	0.0094	0.27%
Na 330.237†	-6.4	1.468 mg/L		0.1571	2.935 mg/L	0.3141	10.70%
Ni 231.604†	1162.3	0.3440 mg/L		0.00078	0.6881 mg/L	0.00156	0.23%
Pb 220.353†	-66.5	0.01890 mg/L		0.000298	0.03781 mg/L	0.000595	1.57%
Sb 206.836†	38.7	0.01593 mg/L		0.001516	0.03186 mg/L	0.003031	9.51%
Se 196.026†	32.1	0.02276 mg/L		0.003188	0.04553 mg/L	0.006375	14.00%
Si 288.158†	5342.0	3.066 mg/L		0.0133	6.132 mg/L	0.0266	0.43%
Sn 189.927†	-65.0	-0.01223 mg/L		0.001444	-0.02446 mg/L	0.002887	11.80%
Sr 421.552†	148844.2	0.1792 mg/L		0.00054	0.3585 mg/L	0.00109	0.30%
Ti 334.903†	132470.0	7.841 mg/L		0.0277	15.68 mg/L	0.055	0.35%
Tl 190.801†	-27.2	0.00606 mg/L		0.003749	0.01211 mg/L	0.007498	61.91%
V 292.402†	62201.0	0.3887 mg/L		0.00234	0.7774 mg/L	0.00469	0.60%
Zn 206.200†	1063.4	0.3122 mg/L		0.00191	0.6243 mg/L	0.00382	0.61%

Sequence No.: 37
 Sample ID: YE32 D SWC

Autosampler Location: 324
 Date Collected: 4/1/2014 11:12:00 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 D SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE32 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2873282.7	97.03	%	0.473			0.49%
ScR 361.383	250368.4	101.9	%	0.68			0.67%
Ag 328.068†	-199.9	-0.00076	mg/L	0.000100	-0.00153 mg/L	0.000200	13.10%
Al 308.215†	202753.9	155.4	mg/L	0.40	310.7 mg/L	0.81	0.26%
As 188.979†	-283.2	0.06709	mg/L	0.001742	0.1342 mg/L	0.00348	2.60%
B 249.677†	54.1	0.00929	mg/L	0.001521	0.01859 mg/L	0.003041	16.36%
Ba 233.527†	2457.9	0.6211	mg/L	0.00438	1.242 mg/L	0.0088	0.71%
Be 313.042†	1073.9	0.00197	mg/L	0.000020	0.00395 mg/L	0.000040	1.01%
Ca 317.933†	220051.5	22.46	mg/L	0.086	44.91 mg/L	0.173	0.38%
Cd 228.802†	52.1	0.00143	mg/L	0.000179	0.00285 mg/L	0.000358	12.58%
Co 228.616†	3020.4	0.06294	mg/L	0.000733	0.1259 mg/L	0.00147	1.16%
Cr 267.716†	1048.5	0.2103	mg/L	0.00119	0.4206 mg/L	0.00237	0.56%
Cu 324.752†	35266.0	0.1244	mg/L	0.00072	0.2487 mg/L	0.00144	0.58%
Fe 273.955†	166231.7	144.5	mg/L	0.78	289.1 mg/L	1.56	0.54%
K 766.490†	12987.9	5.704	mg/L	0.0080	11.41 mg/L	0.016	0.14%
Mg 279.077†	47501.8	42.18	mg/L	0.121	84.36 mg/L	0.242	0.29%
Mn 257.610†	87239.7	2.743	mg/L	0.0151	5.485 mg/L	0.0302	0.55%
Mo 202.031†	47.8	0.00211	mg/L	0.000091	0.00423 mg/L	0.000182	4.31%
Na 589.592†	15828.1	1.187	mg/L	0.0064	2.374 mg/L	0.0129	0.54%
Na 330.237†	-14.0	0.8713	mg/L	0.11762	1.743 mg/L	0.2352	13.50%
Ni 231.604†	1053.6	0.3119	mg/L	0.00308	0.6237 mg/L	0.00615	0.99%
Pb 220.353†	-111.8	0.01919	mg/L	0.000361	0.03838 mg/L	0.000721	1.88%
Sb 206.836†	37.0	0.01499	mg/L	0.002546	0.02998 mg/L	0.005091	16.98%
Se 196.026†	34.3	0.02437	mg/L	0.005854	0.04874 mg/L	0.011707	24.02%
Si 288.158†	9497.4	5.441	mg/L	0.0103	10.88 mg/L	0.021	0.19%
Sn 189.927†	-51.3	-0.01039	mg/L	0.000824	-0.02078 mg/L	0.001648	7.93%
Sr 421.552†	181819.3	0.2189	mg/L	0.00075	0.4379 mg/L	0.00150	0.34%
Ti 334.903†	110442.4	6.537	mg/L	0.0275	13.07 mg/L	0.055	0.42%
Tl 190.801†	-25.0	0.00361	mg/L	0.001811	0.00722 mg/L	0.003622	50.15%
V 292.402†	48652.2	0.3035	mg/L	0.00135	0.6071 mg/L	0.00271	0.45%
Zn 206.200†	872.1	0.2565	mg/L	0.00101	0.5131 mg/L	0.00203	0.39%

Sequence No.: 38
Sample ID: YE32 E SWC

Autosampler Location: 325
Date Collected: 4/1/2014 11:16:00 AM
Data Type: Original

Dilution: 2.000000X

DAZ
Missed tubes

Nebulizer Parameters: YE32 E SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	7749716.5	261.7 %		5.42			2.07%
ScR 361.383	727323.7	296.0 %		4.28			1.45%
Ag 328.068†	-51.6	-0.00025 mg/L		0.000013	-0.00050 mg/L	0.000026	5.23%
Al 308.215†	293.1	0.2244 mg/L		0.48900	0.4489 mg/L	0.97800	217.88%
Saturated within auto integration window (code 4)							
As 188.979†	-14.3	-0.00780 mg/L		0.001047	-0.01560 mg/L	0.002094	13.42%
B 249.677†	-16.2	-0.00284 mg/L		0.000541	-0.00568 mg/L	0.001083	19.05%
Ba 233.527†	-4.8	-0.00130 mg/L		0.002881	-0.00260 mg/L	0.005761	221.97%
Be 313.042†	-469.1	-0.00093 mg/L		0.000016	-0.00186 mg/L	0.000033	1.75%
Ca 317.933†	99.1	0.01012 mg/L		0.000552	0.02024 mg/L	0.001103	5.45%
Cd 228.802†	-43.3	-0.00125 mg/L		0.000131	-0.00250 mg/L	0.000262	10.47%
Co 228.616†	231.1	0.00569 mg/L		0.000442	0.01139 mg/L	0.000885	7.77%
Cr 267.716†	56.7	0.01133 mg/L		0.000844	0.02267 mg/L	0.001687	7.44%
Cu 324.752†	-1075.8	-0.00363 mg/L		0.001588	-0.00726 mg/L	0.003177	43.75%
Fe 273.955†	275.9	0.2398 mg/L		0.45440	0.4797 mg/L	0.90879	189.46%
Saturated within auto integration window (code 4)							
K 766.490†	-285.7	-0.1255 mg/L		0.00243	-0.2509 mg/L	0.00486	1.94%
Mg 279.077†	89.0	0.07905 mg/L		0.192803	0.1581 mg/L	0.38561	243.91%
Mn 257.610†	140.8	0.00443 mg/L		0.012451	0.00885 mg/L	0.024902	281.34%
Mo 202.031†	-24.7	-0.00127 mg/L		0.000060	-0.00254 mg/L	0.000121	4.76%
Na 589.592†	264.6	0.01985 mg/L		0.000976	0.03970 mg/L	0.001953	4.92%
Na 330.237†	100.2	4.673 mg/L		0.0606	9.346 mg/L	0.1213	1.30%
Ni 231.604†	13.2	0.00390 mg/L		0.001379	0.00780 mg/L	0.002759	35.37%
Pb 220.353†	-35.7	-0.00409 mg/L		0.000188	-0.00818 mg/L	0.000377	4.60%
Sb 206.836†	-39.9	-0.01252 mg/L		0.000372	-0.02505 mg/L	0.000743	2.97%
Se 196.026†	22.4	0.01608 mg/L		0.001139	0.03217 mg/L	0.002278	7.08%
Si 288.158†	-12.9	-0.00740 mg/L		0.027703	-0.01479 mg/L	0.055406	374.55%
Sn 189.927†	-2.8	-0.00078 mg/L		0.000445	-0.00156 mg/L	0.000889	56.99%
Sr 421.552†	-142.9	-0.00017 mg/L		0.000010	-0.00034 mg/L	0.000020	5.75%
Ti 334.903†	223.1	0.01321 mg/L		0.019221	0.02641 mg/L	0.038443	145.56%
Saturated within auto integration window (code 4)							
Tl 190.801†	19.8	0.00896 mg/L		0.000731	0.01793 mg/L	0.001462	8.16%
V 292.402†	2123.8	0.01374 mg/L		0.004395	0.02748 mg/L	0.008790	31.98%
Zn 206.200†	-4.7	-0.00139 mg/L		0.000972	-0.00278 mg/L	0.001944	69.98%

Sequence No.: 39
 Sample ID: YE32 ADUP SWC

Autosampler Location: 326
 Date Collected: 4/1/2014 11:21:01 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 ADUP SWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

 Mean Data: YE32 ADUP SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2854993.5	96.41	%	0.707			0.73%
ScR 361.383	246621.9	100.4	%	0.44			0.44%
Ag 328.068†	-307.7	-0.00108	mg/L	0.000196	-0.00216 mg/L	0.000391	18.10%
Al 308.215†	206978.0	158.6	mg/L	0.24	317.2 mg/L	0.47	0.15%
As 188.979†	-357.3	0.09189	mg/L	0.003833	0.1838 mg/L	0.00767	4.17%
B 249.677†	235.1	0.04086	mg/L	0.001261	0.08172 mg/L	0.002523	3.09%
Ba 233.527†	2316.2	0.5735	mg/L	0.00430	1.147 mg/L	0.0086	0.75%
Be 313.042†	1242.2	0.00225	mg/L	0.000006	0.00449 mg/L	0.000012	0.27%
Ca 317.933†	499398.5	50.96	mg/L	0.123	101.9 mg/L	0.25	0.24%
Cd 228.802†	30.4	0.00300	mg/L	0.000129	0.00599 mg/L	0.000259	4.32%
Co 228.616†	4405.9	0.09326	mg/L	0.000976	0.1865 mg/L	0.00195	1.05%
Cr 267.716†	3367.5	0.6741	mg/L	0.00229	1.348 mg/L	0.0046	0.34%
Cu 324.752†	210231.2	0.7187	mg/L	0.00776	1.437 mg/L	0.0155	1.08%
Fe 273.955†	242378.4	210.8	mg/L	1.92	421.5 mg/L	3.83	0.91%
K 766.490†	13014.6	5.716	mg/L	0.0086	11.43 mg/L	0.017	0.15%
Mg 279.077†	73213.1	65.02	mg/L	0.114	130.0 mg/L	0.23	0.18%
Mn 257.610†	101640.0	3.195	mg/L	0.0236	6.391 mg/L	0.0473	0.74%
Mo 202.031†	214.9	0.01028	mg/L	0.000310	0.02055 mg/L	0.000620	3.02%
Na 589.592†	24851.5	1.864	mg/L	0.0046	3.728 mg/L	0.0092	0.25%
Na 330.237†	-1.1	1.749	mg/L	0.1738	3.498 mg/L	0.3476	9.94%
Ni 231.604†	9851.4	2.916	mg/L	0.0095	5.832 mg/L	0.0190	0.33%
Pb 220.353†	3387.7	0.4256	mg/L	0.00321	0.8513 mg/L	0.00642	0.75%
Sb 206.836†	64.6	0.01969	mg/L	0.001666	0.03937 mg/L	0.003333	8.46%
Se 196.026†	41.9	0.02975	mg/L	0.003604	0.05951 mg/L	0.007208	12.11%
Si 288.158†	2332.7	1.343	mg/L	0.0049	2.687 mg/L	0.0098	0.37%
Sn 189.927†	-45.8	-0.00502	mg/L	0.001897	-0.01004 mg/L	0.003795	37.80%
Sr 421.552†	140539.6	0.1692	mg/L	0.00036	0.3385 mg/L	0.00073	0.22%
Ti 334.903†	144010.2	8.523	mg/L	0.0263	17.05 mg/L	0.053	0.31%
Tl 190.801†	-36.4	0.00511	mg/L	0.002992	0.01021 mg/L	0.005984	58.58%
V 292.402†	72405.0	0.4540	mg/L	0.00553	0.9081 mg/L	0.01106	1.22%
Zn 206.200†	1736.6	0.5092	mg/L	0.00081	1.018 mg/L	0.0016	0.16%

Sequence No.: 40
Sample ID: YE32 A SWC

Autosampler Location: 327
Date Collected: 4/1/2014 11:25:01 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 A SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2861254.0	96.62	%	0.208			0.21%
ScR 361.383	247829.1	100.8	%	0.74			0.74%
Ag 328.068†	-352.1	-0.00135	mg/L	0.000170	-0.00270 mg/L	0.000340	12.60%
Al 308.215†	188608.2	144.5	mg/L	0.39	289.0 mg/L	0.77	0.27%
As 188.979†	-316.3	0.08492	mg/L	0.001243	0.1698 mg/L	0.00249	1.46%
B 249.677†	90.1	0.01556	mg/L	0.001013	0.03113 mg/L	0.002025	6.51%
Ba 233.527†	2116.6	0.5237	mg/L	0.00086	1.047 mg/L	0.0017	0.16%
Be 313.042†	1123.9	0.00203	mg/L	0.000043	0.00406 mg/L	0.000086	2.11%
Ca 317.933†	429396.3	43.82	mg/L	0.137	87.64 mg/L	0.274	0.31%
Cd 228.802†	26.4	0.00229	mg/L	0.000148	0.00457 mg/L	0.000296	6.48%
Co 228.616†	3824.0	0.08054	mg/L	0.000083	0.1611 mg/L	0.00017	0.10%
Cr 267.716†	3038.3	0.6074	mg/L	0.00297	1.215 mg/L	0.0059	0.49%
Cu 324.752†	198260.6	0.6777	mg/L	0.00328	1.355 mg/L	0.0066	0.48%
Fe 273.955†	224709.8	195.4	mg/L	0.22	390.8 mg/L	0.44	0.11%
K 766.490†	14578.1	6.403	mg/L	0.0195	12.81 mg/L	0.039	0.30%
Mg 279.077†	78645.9	69.86	mg/L	0.180	139.7 mg/L	0.36	0.26%
Mn 257.610†	86643.6	2.724	mg/L	0.0038	5.447 mg/L	0.0075	0.14%
Mo 202.031†	237.5	0.01155	mg/L	0.000294	0.02311 mg/L	0.000588	2.54%
Na 589.592†	25918.6	1.944	mg/L	0.0040	3.888 mg/L	0.0080	0.21%
Na 330.237†	0.1	1.634	mg/L	0.2757	3.268 mg/L	0.5515	16.87%
Ni 231.604†	7791.1	2.306	mg/L	0.0207	4.612 mg/L	0.0414	0.90%
Pb 220.353†	2682.9	0.3405	mg/L	0.00117	0.6810 mg/L	0.00233	0.34%
Sb 206.836†	60.5	0.01843	mg/L	0.001712	0.03687 mg/L	0.003424	9.29%
Se 196.026†	38.9	0.02765	mg/L	0.003818	0.05530 mg/L	0.007637	13.81%
Si 288.158†	2608.1	1.501	mg/L	0.0011	3.003 mg/L	0.0022	0.07%
Sn 189.927†	-50.3	-0.00732	mg/L	0.001165	-0.01464 mg/L	0.002329	15.91%
Sr 421.552†	117517.3	0.1415	mg/L	0.00010	0.2830 mg/L	0.00019	0.07%
Ti 334.903†	129126.7	7.642	mg/L	0.0121	15.28 mg/L	0.024	0.16%
Tl 190.801†	-38.4	0.00265	mg/L	0.000698	0.00530 mg/L	0.001395	26.31%
V 292.402†	67459.7	0.4231	mg/L	0.00146	0.8463 mg/L	0.00291	0.34%
Zn 206.200†	1528.5	0.4482	mg/L	0.00420	0.8965 mg/L	0.00840	0.94%

Sequence No.: 41
Sample ID: YE32 ASPK SWC

Autosampler Location: 328
Date Collected: 4/1/2014 11:29:01 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 ASPK SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2886037.6	97.46 %	0.294			0.30%
ScR 361.383	245537.5	99.92 %	0.585			0.59%
Ag 328.068†	106934.0	0.5253 mg/L	0.00313	1.051 mg/L	0.0063	0.60%
Al 308.215†	201182.5	154.1 mg/L	0.84	308.3 mg/L	1.69	0.55%
As 188.979†	3183.5	2.114 mg/L	0.0073	4.229 mg/L	0.0145	0.34%
B 249.677†	100.8	0.01635 mg/L	0.000849	0.03269 mg/L	0.001698	5.19%
Ba 233.527†	10299.9	2.663 mg/L	0.0191	5.325 mg/L	0.0381	0.72%
Be 313.042†	255620.4	0.5049 mg/L	0.00231	1.010 mg/L	0.0046	0.46%
Ca 317.933†	567202.5	57.88 mg/L	0.141	115.8 mg/L	0.28	0.24%
Cd 228.802†	18233.5	0.5371 mg/L	0.00095	1.074 mg/L	0.0019	0.18%
Co 228.616†	24489.1	0.5913 mg/L	0.00113	1.183 mg/L	0.0023	0.19%
Cr 267.716†	6102.4	1.220 mg/L	0.0062	2.440 mg/L	0.0124	0.51%
Cu 324.752†	392342.0	1.335 mg/L	0.0074	2.671 mg/L	0.0147	0.55%
Fe 273.955†	250581.1	217.9 mg/L	1.39	435.8 mg/L	2.78	0.64%
K 766.490†	35702.1	15.68 mg/L	0.083	31.36 mg/L	0.166	0.53%
Mg 279.077†	88096.3	78.26 mg/L	0.310	156.5 mg/L	0.62	0.40%
Mn 257.610†	108033.8	3.397 mg/L	0.0162	6.793 mg/L	0.0324	0.48%
Mo 202.031†	229.4	0.01092 mg/L	0.000267	0.02184 mg/L	0.000533	2.44%
Na 589.592†	163267.2	12.25 mg/L	0.047	24.49 mg/L	0.094	0.38%
Na 330.237†	225.5	11.90 mg/L	0.120	23.80 mg/L	0.240	1.01%
Ni 231.604†	13837.8	4.095 mg/L	0.0199	8.190 mg/L	0.0397	0.48%
Pb 220.353†	21209.8	2.504 mg/L	0.0044	5.008 mg/L	0.0089	0.18%
Sb 206.836†	88.2	0.02108 mg/L	0.003239	0.04217 mg/L	0.006479	15.36%
Se 196.026†	2840.5	2.039 mg/L	0.0038	4.078 mg/L	0.0075	0.18%
Si 288.158†	2851.8	1.644 mg/L	0.0159	3.289 mg/L	0.0319	0.97%
Sn 189.927†	-61.2	-0.00858 mg/L	0.001774	-0.01715 mg/L	0.003547	20.68%
Sr 421.552†	566576.4	0.6822 mg/L	0.00371	1.364 mg/L	0.0074	0.54%
Ti 334.903†	130005.1	7.693 mg/L	0.0308	15.39 mg/L	0.062	0.40%
Tl 190.801†	4259.8	1.961 mg/L	0.0057	3.921 mg/L	0.0114	0.29%
V 292.402†	150910.2	0.9634 mg/L	0.00576	1.927 mg/L	0.0115	0.60%
Zn 206.200†	3460.2	1.014 mg/L	0.0066	2.029 mg/L	0.0131	0.65%

Sequence No.: 42

Sample ID: ~~YE32 APOST SWC~~ 222222

Autosampler Location: 329

Date Collected: 4/1/2014 11:33:02 AM

Data Type: Original

Dilution: 2.000000X

BA 4/2/14

Nebulizer Parameters: YE32 APOST SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 APOST SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2877915.6	97.19	%	0.522			0.54%
ScR 361.383	248330.5	101.1	%	1.28			1.26%
Ag 328.068†	101507.0	0.4986	mg/L	0.00844	0.9972 mg/L	0.01688	1.69%
Al 308.215†	187551.4	143.7	mg/L	0.79	287.4 mg/L	1.58	0.55%
As 188.979†	3250.5	2.147	mg/L	0.0145	4.295 mg/L	0.0289	0.67%
B 249.677†	99.3	0.01613	mg/L	0.000927	0.03226 mg/L	0.001854	5.75%
Ba 233.527†	9897.1	2.561	mg/L	0.0416	5.122 mg/L	0.0831	1.62%
Be 313.042†	241842.8	0.4777	mg/L	0.00413	0.9553 mg/L	0.00827	0.87%
Ca 317.933†	525527.4	53.63	mg/L	0.253	107.3 mg/L	0.51	0.47%
Cd 228.802†	18078.8	0.5311	mg/L	0.00338	1.062 mg/L	0.0068	0.64%
Co 228.616†	23715.7	0.5726	mg/L	0.00379	1.145 mg/L	0.0076	0.66%
Cr 267.716†	5573.2	1.113	mg/L	0.0142	2.227 mg/L	0.0284	1.28%
Cu 324.752†	351099.2	1.195	mg/L	0.0168	2.390 mg/L	0.0335	1.40%
Fe 273.955†	224767.6	195.4	mg/L	1.95	390.9 mg/L	3.91	1.00%
K 766.490†	37992.1	16.69	mg/L	0.134	33.37 mg/L	0.268	0.80%
Mg 279.077†	89015.2	79.09	mg/L	0.468	158.2 mg/L	0.94	0.59%
Mn 257.610†	100980.1	3.175	mg/L	0.0328	6.350 mg/L	0.0656	1.03%
Mo 202.031†	235.1	0.01128	mg/L	0.000595	0.02256 mg/L	0.001189	5.27%
Na 589.592†	164294.1	12.32	mg/L	0.075	24.64 mg/L	0.150	0.61%
Na 330.237†	230.0	12.11	mg/L	0.201	24.23 mg/L	0.401	1.66%
Ni 231.604†	9346.0	2.766	mg/L	0.0384	5.531 mg/L	0.0767	1.39%
Pb 220.353†	19777.4	2.335	mg/L	0.0161	4.670 mg/L	0.0323	0.69%
Sb 206.836†	73.7	0.01764	mg/L	0.003825	0.03528 mg/L	0.007650	21.69%
Se 196.026†	2943.9	2.113	mg/L	0.0237	4.227 mg/L	0.0474	1.12%
Si 288.158†	2563.6	1.479	mg/L	0.0210	2.959 mg/L	0.0420	1.42%
Sn 189.927†	-65.6	-0.01036	mg/L	0.000894	-0.02072 mg/L	0.001788	8.63%
Sr 421.552†	535176.8	0.6444	mg/L	0.00400	1.289 mg/L	0.0080	0.62%
Ti 334.903†	127096.2	7.521	mg/L	0.0485	15.04 mg/L	0.097	0.64%
Tl 190.801†	4194.4	1.929	mg/L	0.0125	3.857 mg/L	0.0250	0.65%
V 292.402†	144489.3	0.9228	mg/L	0.01465	1.846 mg/L	0.0293	1.59%
Zn 206.200†	3196.0	0.9370	mg/L	0.01226	1.874 mg/L	0.0245	1.31%

Sequence No.: 43
 Sample ID: YE32 MB1SPK SWN

Autosampler Location: 330
 Date Collected: 4/1/2014 11:37:03 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 MB1SPK SWN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

 Mean Data: YE32 MB1SPK SWN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921919.4	98.67 %		0.368			0.37%
ScR 361.383	247916.4	100.9 %		1.24			1.23%
Ag 328.068†	112514.6	0.5522 mg/L		0.00746	1.104 mg/L	0.0149	1.35%
Al 308.215†	2789.3	2.130 mg/L		0.0217	4.259 mg/L	0.0434	1.02%
As 188.979†	3749.2	2.173 mg/L		0.0184	4.346 mg/L	0.0369	0.85%
B 249.677†	11.2	0.00084 mg/L		0.000432	0.00169 mg/L	0.000864	51.26%
Ba 233.527†	8308.6	2.175 mg/L		0.0166	4.350 mg/L	0.0332	0.76%
Be 313.042†	262607.0	0.5189 mg/L		0.00060	1.038 mg/L	0.0012	0.11%
Ca 317.933†	104522.2	10.67 mg/L		0.023	21.33 mg/L	0.045	0.21%
Cd 228.802†	18365.7	0.5377 mg/L		0.00476	1.075 mg/L	0.0095	0.88%
Co 228.616†	21245.0	0.5253 mg/L		0.00429	1.051 mg/L	0.0086	0.82%
Cr 267.716†	2745.7	0.5482 mg/L		0.00494	1.096 mg/L	0.0099	0.90%
Cu 324.752†	152584.3	0.5163 mg/L		0.00571	1.033 mg/L	0.0114	1.11%
Fe 273.955†	2548.4	2.213 mg/L		0.0255	4.425 mg/L	0.0510	1.15%
K 766.490†	24063.3	10.57 mg/L		0.071	21.14 mg/L	0.142	0.67%
Mg 279.077†	12423.8	11.05 mg/L		0.109	22.11 mg/L	0.218	0.98%
Mn 257.610†	15991.2	0.5033 mg/L		0.00283	1.007 mg/L	0.0057	0.56%
Mo 202.031†	31.2	0.00144 mg/L		0.000157	0.00288 mg/L	0.000313	10.86%
Na 589.592†	142181.1	10.66 mg/L		0.050	21.33 mg/L	0.100	0.47%
Na 330.237†	238.0	10.87 mg/L		0.348	21.74 mg/L	0.695	3.20%
Ni 231.604†	1831.0	0.5411 mg/L		0.00619	1.082 mg/L	0.0124	1.14%
Pb 220.353†	18143.2	2.118 mg/L		0.0181	4.235 mg/L	0.0362	0.86%
Sb 206.836†	21.8	0.00153 mg/L		0.001141	0.00306 mg/L	0.002282	74.53%
Se 196.026†	3014.6	2.164 mg/L		0.0200	4.329 mg/L	0.0400	0.92%
Si 288.158†	-3.0	0.00206 mg/L		0.003570	0.00411 mg/L	0.007141	173.57%
Sn 189.927†	-23.1	-0.00510 mg/L		0.000332	-0.01021 mg/L	0.000665	6.51%
Sr 421.552†	430540.9	0.5184 mg/L		0.00241	1.037 mg/L	0.0048	0.46%
Ti 334.903†	134.7	0.00712 mg/L		0.000396	0.01424 mg/L	0.000791	5.56%
Tl 190.801†	4659.2	2.120 mg/L		0.0118	4.241 mg/L	0.0236	0.56%
V 292.402†	81679.6	0.5297 mg/L		0.00737	1.059 mg/L	0.0147	1.39%
Zn 206.200†	1815.3	0.5321 mg/L		0.00567	1.064 mg/L	0.0113	1.07%

Sequence No.: 44

Sample ID: CV

Autosampler Location: 7

Date Collected: 4/1/2014 11:41:03 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2875993.0	97.12 %		0.534			0.55%
ScR 361.383	239569.7	97.49 %		0.191			0.20%
Ag 328.068†	215041.1	1.055 mg/L		0.0049	1.055 mg/L	0.0049	0.46%
Al 308.215†	2722.4	2.054 mg/L		0.0173	2.054 mg/L	0.0173	0.84%
As 188.979†	3485.2	2.052 mg/L		0.0088	2.052 mg/L	0.0088	0.43%
B 249.677†	5904.0	1.031 mg/L		0.0026	1.031 mg/L	0.0026	0.25%
Ba 233.527†	3992.7	1.045 mg/L		0.0035	1.045 mg/L	0.0035	0.33%
Be 313.042†	511414.4	1.010 mg/L		0.0036	1.010 mg/L	0.0036	0.35%
Ca 317.933†	21012.6	2.144 mg/L		0.0099	2.144 mg/L	0.0099	0.46%
Cd 228.802†	34496.0	1.021 mg/L		0.0049	1.021 mg/L	0.0049	0.48%
Co 228.616†	40522.1	1.001 mg/L		0.0079	1.001 mg/L	0.0079	0.79%
Cr 267.716†	5322.9	1.064 mg/L		0.0032	1.064 mg/L	0.0032	0.30%
Cu 324.752†	296730.1	1.004 mg/L		0.0027	1.004 mg/L	0.0027	0.26%
Fe 273.955†	2457.4	2.130 mg/L		0.0111	2.130 mg/L	0.0111	0.52%
K 766.490†	46152.0	20.27 mg/L		0.147	20.27 mg/L	0.147	0.72%
Mg 279.077†	2308.0	2.060 mg/L		0.0102	2.060 mg/L	0.0102	0.49%
Mn 257.610†	31004.1	0.9756 mg/L		0.00527	0.9756 mg/L	0.00527	0.54%
Mo 202.031†	18516.6	0.9537 mg/L		0.00516	0.9537 mg/L	0.00516	0.54%
Na 589.592†	687512.2	51.57 mg/L		0.188	51.57 mg/L	0.188	0.36%
Na 330.237†	1112.6	51.78 mg/L		0.221	51.78 mg/L	0.221	0.43%
Ni 231.604†	3571.3	1.057 mg/L		0.0029	1.057 mg/L	0.0029	0.27%
Pb 220.353†	17007.5	1.986 mg/L		0.0096	1.986 mg/L	0.0096	0.49%
Sb 206.836†	6636.9	2.066 mg/L		0.0122	2.066 mg/L	0.0122	0.59%
Se 196.026†	2808.0	2.016 mg/L		0.0137	2.016 mg/L	0.0137	0.68%
Si 288.158†	3481.7	1.998 mg/L		0.0149	1.998 mg/L	0.0149	0.75%
Sn 189.927†	3479.5	0.9755 mg/L		0.00435	0.9755 mg/L	0.00435	0.45%
Sr 421.552†	847282.9	1.020 mg/L		0.0021	1.020 mg/L	0.0021	0.20%
Ti 334.903†	16716.3	0.9885 mg/L		0.00165	0.9885 mg/L	0.00165	0.17%
Tl 190.801†	4546.2	2.066 mg/L		0.0128	2.066 mg/L	0.0128	0.62%
V 292.402†	157692.3	1.023 mg/L		0.0059	1.023 mg/L	0.0059	0.58%
Zn 206.200†	3559.5	1.043 mg/L		0.0023	1.043 mg/L	0.0023	0.22%

Sequence No.: 45
Sample ID: CB *45*

Autosampler Location: 1
Date Collected: 4/1/2014 11:45:07 AM
Data Type: Original

Dilution: 1.000000X *4-1-14*

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2938546.3	99.23	%	0.129			0.13%
ScR 361.383	250329.1	101.9	%	1.11			1.09%
Ag 328.068†	14.7	0.00007	mg/L	0.000172	0.00007 mg/L	0.000172	238.80%
Al 308.215†	-3.3	-0.00258	mg/L	0.003054	-0.00258 mg/L	0.003054	118.46%
As 188.979†	-1.2	-0.00067	mg/L	0.001612	-0.00067 mg/L	0.001612	240.82%
B 249.677†	15.2	0.00266	mg/L	0.000011	0.00266 mg/L	0.000011	0.41%
Ba 233.527†	-0.0	-0.00001	mg/L	0.000108	-0.00001 mg/L	0.000108	967.34%
Be 313.042†	35.7	0.00007	mg/L	0.000021	0.00007 mg/L	0.000021	29.85%
Ca 317.933†	12.2	0.00125	mg/L	0.000224	0.00125 mg/L	0.000224	17.93%
Cd 228.802†	10.2	0.00031	mg/L	0.000038	0.00031 mg/L	0.000038	12.18%
Co 228.616†	9.6	0.00023	mg/L	0.000090	0.00023 mg/L	0.000090	38.48%
Cr 267.716†	-1.8	-0.00037	mg/L	0.000835	-0.00037 mg/L	0.000835	227.77%
Cu 324.752†	255.3	0.00086	mg/L	0.000085	0.00086 mg/L	0.000085	9.80%
Fe 273.955†	2.6	0.00230	mg/L	0.001373	0.00230 mg/L	0.001373	59.78%
K 766.490†	41.0	0.01800	mg/L	0.007558	0.01800 mg/L	0.007558	42.00%
Mg 279.077†	7.6	0.00674	mg/L	0.006729	0.00674 mg/L	0.006729	99.85%
Mn 257.610†	3.9	0.00012	mg/L	0.000216	0.00012 mg/L	0.000216	177.04%
Mo 202.031†	23.8	0.00123	mg/L	0.000359	0.00123 mg/L	0.000359	29.23%
Na 589.592†	59.8	0.00449	mg/L	0.002681	0.00449 mg/L	0.002681	59.73%
Na 330.237†	0.1	0.00388	mg/L	0.192409	0.00388 mg/L	0.192409	>999.9%
Ni 231.604†	-2.6	-0.00076	mg/L	0.000817	-0.00076 mg/L	0.000817	107.33%
Pb 220.353†	2.9	0.00034	mg/L	0.000208	0.00034 mg/L	0.000208	61.96%
Sb 206.836†	28.0	0.00873	mg/L	0.001977	0.00873 mg/L	0.001977	22.66%
Se 196.026†	3.4	0.00247	mg/L	0.005763	0.00247 mg/L	0.005763	233.65%
Si 288.158†	9.3	0.00531	mg/L	0.002124	0.00531 mg/L	0.002124	39.98%
Sn 189.927†	-0.7	-0.00019	mg/L	0.001142	-0.00019 mg/L	0.001142	591.35%
Sr 421.552†	46.0	0.00006	mg/L	0.000029	0.00006 mg/L	0.000029	52.15%
Ti 334.903†	20.0	0.00118	mg/L	0.000503	0.00118 mg/L	0.000503	42.57%
Tl 190.801†	1.7	0.00077	mg/L	0.002301	0.00077 mg/L	0.002301	298.53%
V 292.402†	-3.7	-0.00003	mg/L	0.000052	-0.00003 mg/L	0.000052	203.46%
Zn 206.200†	-1.2	-0.00034	mg/L	0.000344	-0.00034 mg/L	0.000344	100.40%

Sequence No.: 46
 Sample ID: YE32 F SWC

Autosampler Location: 331
 Date Collected: 4/1/2014 11:49:07 AM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 F SWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

 Mean Data: YE32 F SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2883353.1	97.37 %		0.271			0.28%
ScR 361.383	248153.6	101.0 %		0.65			0.65%
Ag 328.068†	-325.2	-0.00123 mg/L		0.000285	-0.00246 mg/L	0.000569	23.14%
Al 308.215†	201608.8	154.5 mg/L		0.39	309.0 mg/L	0.78	0.25%
As 188.979†	-359.9	0.07603 mg/L		0.003985	0.1521 mg/L	0.00797	5.24%
B 249.677†	72.4	0.01247 mg/L		0.000408	0.02493 mg/L	0.000815	3.27%
Ba 233.527†	2264.1	0.5666 mg/L		0.00318	1.133 mg/L	0.0064	0.56%
Be 313.042†	1198.4	0.00217 mg/L		0.000013	0.00435 mg/L	0.000026	0.59%
Ca 317.933†	414314.9	42.28 mg/L		0.015	84.56 mg/L	0.029	0.03%
Cd 228.802†	43.2	0.00193 mg/L		0.000125	0.00386 mg/L	0.000251	6.49%
Co 228.616†	3588.5	0.07411 mg/L		0.000258	0.1482 mg/L	0.00052	0.35%
Cr 267.716†	1938.6	0.3883 mg/L		0.00295	0.7765 mg/L	0.00589	0.76%
Cu 324.752†	80758.1	0.2790 mg/L		0.00080	0.5579 mg/L	0.00161	0.29%
Fe 273.955†	193312.3	168.1 mg/L		0.54	336.2 mg/L	1.08	0.32%
K 766.490†	14073.8	6.181 mg/L		0.0228	12.36 mg/L	0.046	0.37%
Mg 279.077†	56212.6	49.91 mg/L		0.116	99.83 mg/L	0.233	0.23%
Mn 257.610†	74647.2	2.346 mg/L		0.0046	4.693 mg/L	0.0092	0.20%
Mo 202.031†	90.5	0.00400 mg/L		0.000186	0.00801 mg/L	0.000372	4.64%
Na 589.592†	28659.3	2.150 mg/L		0.0065	4.299 mg/L	0.0130	0.30%
Na 330.237†	3.4	1.938 mg/L		0.1896	3.877 mg/L	0.3791	9.78%
Ni 231.604†	3613.3	1.070 mg/L		0.0048	2.139 mg/L	0.0097	0.45%
Pb 220.353†	599.8	0.1011 mg/L		0.00044	0.2023 mg/L	0.00088	0.43%
Sb 206.836†	49.7	0.01822 mg/L		0.001145	0.03645 mg/L	0.002290	6.28%
Se 196.026†	37.0	0.02629 mg/L		0.003048	0.05259 mg/L	0.006097	11.59%
Si 288.158†	5073.2	2.910 mg/L		0.0148	5.820 mg/L	0.0295	0.51%
Sn 189.927†	-60.3	-0.01022 mg/L		0.000718	-0.02045 mg/L	0.001436	7.03%
Sr 421.552†	164404.7	0.1980 mg/L		0.00044	0.3959 mg/L	0.00089	0.22%
Ti 334.903†	136660.0	8.088 mg/L		0.0188	16.18 mg/L	0.038	0.23%
Tl 190.801†	-30.5	0.00327 mg/L		0.001130	0.00653 mg/L	0.002259	34.60%
V 292.402†	66049.4	0.4143 mg/L		0.00131	0.8287 mg/L	0.00263	0.32%
Zn 206.200†	1272.1	0.3733 mg/L		0.00235	0.7466 mg/L	0.00469	0.63%

Sequence No.: 47
Sample ID: YE32 G SWC

Autosampler Location: 332
Date Collected: 4/1/2014 11:53:09 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 G SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 G SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2928618.3	98.90	%	0.363			0.37%
ScR 361.383	252992.1	102.9	%	0.91			0.89%
Ag 328.068†	-268.1	-0.00096	mg/L	0.000241	-0.00193 mg/L	0.000482	25.00%
Al 308.215†	186967.0	143.3	mg/L	0.40	286.5 mg/L	0.80	0.28%
As 188.979†	-331.5	0.08271	mg/L	0.007915	0.1654 mg/L	0.01583	9.57%
B 249.677†	69.4	0.01195	mg/L	0.001387	0.02389 mg/L	0.002774	11.61%
Ba 233.527†	2221.9	0.5553	mg/L	0.00415	1.111 mg/L	0.0083	0.75%
Be 313.042†	1089.0	0.00197	mg/L	0.000032	0.00394 mg/L	0.000063	1.60%
Ca 317.933†	407974.8	41.63	mg/L	0.059	83.27 mg/L	0.117	0.14%
Cd 228.802†	56.1	0.00163	mg/L	0.000104	0.00327 mg/L	0.000208	6.38%
Co 228.616†	3435.9	0.07092	mg/L	0.000281	0.1418 mg/L	0.00056	0.40%
Cr 267.716†	1573.8	0.3144	mg/L	0.00240	0.6289 mg/L	0.00481	0.76%
Cu 324.752†	45658.8	0.1603	mg/L	0.00126	0.3206 mg/L	0.00253	0.79%
Fe 273.955†	196123.2	170.5	mg/L	0.33	341.1 mg/L	0.66	0.19%
K 766.490†	13914.2	6.111	mg/L	0.0054	12.22 mg/L	0.011	0.09%
Mg 279.077†	68152.7	60.54	mg/L	0.054	121.1 mg/L	0.11	0.09%
Mn 257.610†	88790.5	2.791	mg/L	0.0062	5.582 mg/L	0.0123	0.22%
Mo 202.031†	70.2	0.00297	mg/L	0.000045	0.00594 mg/L	0.000090	1.52%
Na 589.592†	19843.8	1.488	mg/L	0.0037	2.977 mg/L	0.0074	0.25%
Na 330.237†	-8.4	1.323	mg/L	0.3503	2.646 mg/L	0.7006	26.48%
Ni 231.604†	1653.9	0.4896	mg/L	0.00091	0.9791 mg/L	0.00183	0.19%
Pb 220.353†	-36.6	0.02395	mg/L	0.001286	0.04789 mg/L	0.002573	5.37%
Sb 206.836†	46.6	0.01781	mg/L	0.002117	0.03563 mg/L	0.004234	11.88%
Se 196.026†	42.6	0.03034	mg/L	0.001288	0.06068 mg/L	0.002576	4.25%
Si 288.158†	4849.9	2.783	mg/L	0.0134	5.566 mg/L	0.0269	0.48%
Sn 189.927†	-67.5	-0.01237	mg/L	0.000323	-0.02475 mg/L	0.000646	2.61%
Sr 421.552†	234281.7	0.2821	mg/L	0.00105	0.5642 mg/L	0.00211	0.37%
Ti 334.903†	131939.9	7.809	mg/L	0.0217	15.62 mg/L	0.043	0.28%
Tl 190.801†	-28.3	0.00471	mg/L	0.004605	0.00943 mg/L	0.009209	97.70%
V 292.402†	59546.4	0.3721	mg/L	0.00248	0.7443 mg/L	0.00496	0.67%
Zn 206.200†	1215.6	0.3567	mg/L	0.00244	0.7134 mg/L	0.00488	0.68%

Sequence No.: 48
Sample ID: YE32 H SWC

Autosampler Location: 333
Date Collected: 4/1/2014 11:57:09 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 H SWC

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: YE32 H SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2927000.3	98.84 %		0.556			0.56%
ScR 361.383	247176.4	100.6 %		0.18			0.17%
Ag 328.068†	-329.2	-0.00117 mg/L		0.000167	-0.00235 mg/L	0.000333	14.20%
Al 308.215†	196004.3	150.2 mg/L		0.44	300.4 mg/L	0.89	0.30%
As 188.979†	-407.8	0.08296 mg/L		0.005124	0.1659 mg/L	0.01025	6.18%
B 249.677†	82.3	0.01420 mg/L		0.002032	0.02839 mg/L	0.004064	14.31%
Ba 233.527†	2220.3	0.5550 mg/L		0.00163	1.110 mg/L	0.0033	0.29%
Be 313.042†	1300.2	0.00237 mg/L		0.000022	0.00473 mg/L	0.000044	0.93%
Ca 317.933†	542212.5	55.33 mg/L		0.133	110.7 mg/L	0.27	0.24%
Cd 228.802†	54.8	0.00195 mg/L		0.000305	0.00390 mg/L	0.000610	15.64%
Co 228.616†	3719.7	0.07564 mg/L		0.000953	0.1513 mg/L	0.00191	1.26%
Cr 267.716†	1713.5	0.3425 mg/L		0.00136	0.6850 mg/L	0.00273	0.40%
Cu 324.752†	39284.8	0.1384 mg/L		0.00121	0.2769 mg/L	0.00242	0.87%
Fe 273.955†	194933.2	169.5 mg/L		0.33	339.0 mg/L	0.66	0.19%
K 766.490†	14126.9	6.204 mg/L		0.0357	12.41 mg/L	0.071	0.57%
Mg 279.077†	64273.0	57.08 mg/L		0.049	114.2 mg/L	0.10	0.09%
Mn 257.610†	90391.2	2.841 mg/L		0.0030	5.683 mg/L	0.0059	0.10%
Mo 202.031†	74.9	0.00300 mg/L		0.000313	0.00600 mg/L	0.000626	10.43%
Na 589.592†	22183.0	1.664 mg/L		0.0026	3.328 mg/L	0.0052	0.16%
Na 330.237†	-14.9	1.284 mg/L		0.4767	2.569 mg/L	0.9534	37.12%
Ni 231.604†	2066.7	0.6117 mg/L		0.00101	1.223 mg/L	0.0020	0.16%
Pb 220.353†	-113.8	0.01680 mg/L		0.000191	0.03361 mg/L	0.000383	1.14%
Sb 206.836†	41.7	0.01704 mg/L		0.003509	0.03408 mg/L	0.007018	20.60%
Se 196.026†	36.1	0.02565 mg/L		0.006068	0.05129 mg/L	0.012136	23.66%
Si 288.158†	7531.0	4.317 mg/L		0.0037	8.635 mg/L	0.0075	0.09%
Sn 189.927†	-78.5	-0.01354 mg/L		0.000204	-0.02708 mg/L	0.000409	1.51%
Sr 421.552†	175060.3	0.2108 mg/L		0.00046	0.4216 mg/L	0.00092	0.22%
Ti 334.903†	153568.5	9.088 mg/L		0.0189	18.18 mg/L	0.038	0.21%
Tl 190.801†	-32.9	0.00236 mg/L		0.002058	0.00471 mg/L	0.004115	87.31%
V 292.402†	64842.5	0.4058 mg/L		0.00292	0.8115 mg/L	0.00585	0.72%
Zn 206.200†	1081.6	0.3178 mg/L		0.00155	0.6355 mg/L	0.00310	0.49%

Sequence No.: 49
Sample ID: YE32 I SWC

Autosampler Location: 334
Date Collected: 4/1/2014 12:01:10 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 I SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 I SWC

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905810.9	98.13 %	0.457			0.47%
ScR 361.383	249155.9	101.4 %	0.19			0.19%
Ag 328.068†	-90.6	0.00007 mg/L	0.000062	0.00015 mg/L	0.000125	84.23%
Al 308.215†	187599.9	143.7 mg/L	0.40	287.5 mg/L	0.81	0.28%
As 188.979†	-286.9	0.1026 mg/L	0.00279	0.2053 mg/L	0.00558	2.72%
B 249.677†	249.0	0.04326 mg/L	0.002547	0.08653 mg/L	0.005094	5.89%
Ba 233.527†	3168.6	0.7959 mg/L	0.00746	1.592 mg/L	0.0149	0.94%
Be 313.042†	1149.0	0.00208 mg/L	0.000057	0.00416 mg/L	0.000114	2.73%
Ca 317.933†	668152.2	68.19 mg/L	0.364	136.4 mg/L	0.73	0.53%
Cd 228.802†	-181.5	0.00805 mg/L	0.000100	0.01610 mg/L	0.000199	1.24%
Co 228.616†	4854.1	0.1036 mg/L	0.00060	0.2072 mg/L	0.00119	0.58%
Cr 267.716†	22601.3	4.523 mg/L	0.0327	9.045 mg/L	0.0654	0.72%
Cu 324.752†	1025524.7	3.477 mg/L	0.0070	6.954 mg/L	0.0140	0.20%
Fe 273.955†	237310.6	206.4 mg/L	1.12	412.7 mg/L	2.24	0.54%
K 766.490†	13812.6	6.066 mg/L	0.0352	12.13 mg/L	0.070	0.58%
Mg 279.077†	65217.6	57.91 mg/L	0.450	115.8 mg/L	0.90	0.78%
Mn 257.610†	96661.3	3.040 mg/L	0.0133	6.080 mg/L	0.0266	0.44%
Mo 202.031†	229.5	0.01076 mg/L	0.000158	0.02152 mg/L	0.000315	1.46%
Na 589.592†	27223.8	2.042 mg/L	0.0088	4.084 mg/L	0.0176	0.43%
Na 330.237†	7.8	1.752 mg/L	0.5877	3.504 mg/L	1.1755	33.55%
Ni 231.604†	49174.3	14.56 mg/L	0.110	29.11 mg/L	0.219	0.75%
Pb 220.353†	61648.2	7.225 mg/L	0.0670	14.45 mg/L	0.134	0.93%
Sb 206.836†	694.0	0.1652 mg/L	0.00427	0.3305 mg/L	0.00854	2.58%
Se 196.026†	33.7	0.02392 mg/L	0.000799	0.04783 mg/L	0.001598	3.34%
Si 288.158†	4484.3	2.576 mg/L	0.0050	5.152 mg/L	0.0100	0.19%
Sn 189.927†	15.9	0.01456 mg/L	0.001011	0.02912 mg/L	0.002023	6.95%
Sr 421.552†	202516.2	0.2439 mg/L	0.00051	0.4877 mg/L	0.00101	0.21%
Ti 334.903†	133158.1	7.878 mg/L	0.0311	15.76 mg/L	0.062	0.40%
Tl 190.801†	-26.4	0.00768 mg/L	0.002182	0.01537 mg/L	0.004363	28.39%
V 292.402†	63880.5	0.4155 mg/L	0.00411	0.8309 mg/L	0.00823	0.99%
Zn 206.200†	3379.8	0.9923 mg/L	0.01097	1.985 mg/L	0.0219	1.11%

Sequence No.: 50
 Sample ID: YE32 J SWC
 Dilution: 2.000000X

Autosampler Location: 335
 Date Collected: 4/1/2014 12:04:27 PM
 Data Type: Original

Nebulizer Parameters: YE32 J SWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE32 J SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921236.0	98.65	%	1.077			1.09%
ScR 361.383	252569.4	102.8	%	0.57			0.55%
Ag 328.068†	-287.9	-0.00105	mg/L	0.000120	-0.00210 mg/L	0.000240	11.44%
Al 308.215†	166539.8	127.6	mg/L	0.32	255.2 mg/L	0.63	0.25%
As 188.979†	-328.7	0.07742	mg/L	0.004494	0.1548 mg/L	0.00899	5.80%
B 249.677†	277.6	0.04835	mg/L	0.000814	0.09669 mg/L	0.001627	1.68%
Ba 233.527†	1991.1	0.4972	mg/L	0.00196	0.9944 mg/L	0.00392	0.39%
Be 313.042†	1094.9	0.00199	mg/L	0.000026	0.00398 mg/L	0.000053	1.32%
Ca 317.933†	438311.9	44.73	mg/L	0.101	89.46 mg/L	0.203	0.23%
Cd 228.802†	56.3	0.00248	mg/L	0.000101	0.00495 mg/L	0.000203	4.10%
Co 228.616†	3320.7	0.06828	mg/L	0.000830	0.1366 mg/L	0.00166	1.22%
Cr 267.716†	2245.0	0.4488	mg/L	0.00175	0.8975 mg/L	0.00350	0.39%
Cu 324.752†	80674.0	0.2781	mg/L	0.00110	0.5562 mg/L	0.00220	0.40%
Fe 273.955†	178173.7	154.9	mg/L	0.80	309.9 mg/L	1.59	0.51%
K 766.490†	13964.2	6.133	mg/L	0.0203	12.27 mg/L	0.041	0.33%
Mg 279.077†	61124.3	54.29	mg/L	0.162	108.6 mg/L	0.32	0.30%
Mn 257.610†	85221.6	2.679	mg/L	0.0076	5.358 mg/L	0.0152	0.28%
Mo 202.031†	88.4	0.00386	mg/L	0.000539	0.00772 mg/L	0.001079	13.98%
Na 589.592†	24953.2	1.872	mg/L	0.0037	3.743 mg/L	0.0075	0.20%
Na 330.237†	3.5	1.804	mg/L	0.1252	3.607 mg/L	0.2504	6.94%
Ni 231.604†	4061.3	1.202	mg/L	0.0073	2.404 mg/L	0.0146	0.61%
Pb 220.353†	-91.3	0.01457	mg/L	0.000321	0.02915 mg/L	0.000642	2.20%
Sb 206.836†	50.3	0.01701	mg/L	0.001287	0.03401 mg/L	0.002575	7.57%
Se 196.026†	36.9	0.02627	mg/L	0.006330	0.05253 mg/L	0.012659	24.10%
Si 288.158†	3859.8	2.216	mg/L	0.0135	4.432 mg/L	0.0270	0.61%
Sn 189.927†	-69.0	-0.01243	mg/L	0.000951	-0.02487 mg/L	0.001901	7.64%
Sr 421.552†	176875.3	0.2130	mg/L	0.00021	0.4260 mg/L	0.00043	0.10%
Ti 334.903†	128912.5	7.629	mg/L	0.0108	15.26 mg/L	0.022	0.14%
Tl 190.801†	-18.9	0.00728	mg/L	0.003355	0.01456 mg/L	0.006710	46.08%
V 292.402†	56278.2	0.3525	mg/L	0.00098	0.7051 mg/L	0.00196	0.28%
Zn 206.200†	1261.4	0.3700	mg/L	0.00143	0.7401 mg/L	0.00285	0.39%

Sequence No.: 51
Sample ID: YE32 K SWC

Autosampler Location: 336
Date Collected: 4/1/2014 12:08:27 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 K SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE32 K SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2913184.6	98.38	%	0.548			0.56%
ScR 361.383	252759.4	102.9	%	0.71			0.69%
Ag 328.068†	-280.1	-0.00113	mg/L	0.000293	-0.00226 mg/L	0.000587	26.00%
Al 308.215†	198261.1	151.9	mg/L	0.58	303.8 mg/L	1.17	0.38%
As 188.979†	-319.9	0.07286	mg/L	0.001528	0.1457 mg/L	0.00306	2.10%
B 249.677†	167.5	0.02911	mg/L	0.000831	0.05823 mg/L	0.001661	2.85%
Ba 233.527†	2634.7	0.6648	mg/L	0.00570	1.330 mg/L	0.0114	0.86%
Be 313.042†	954.1	0.00172	mg/L	0.000030	0.00344 mg/L	0.000061	1.77%
Ca 317.933†	251770.2	25.69	mg/L	0.021	51.39 mg/L	0.041	0.08%
Cd 228.802†	76.8	0.00295	mg/L	0.000280	0.00591 mg/L	0.000559	9.47%
Co 228.616†	3164.5	0.06486	mg/L	0.000378	0.1297 mg/L	0.00076	0.58%
Cr 267.716†	10564.6	2.114	mg/L	0.0099	4.228 mg/L	0.0198	0.47%
Cu 324.752†	208689.2	0.7116	mg/L	0.00132	1.423 mg/L	0.0026	0.19%
Fe 273.955†	184992.0	160.9	mg/L	0.30	321.7 mg/L	0.60	0.19%
K 766.490†	15172.2	6.664	mg/L	0.0248	13.33 mg/L	0.050	0.37%
Mg 279.077†	60208.6	53.48	mg/L	0.266	107.0 mg/L	0.53	0.50%
Mn 257.610†	79580.9	2.502	mg/L	0.0042	5.003 mg/L	0.0084	0.17%
Mo 202.031†	123.0	0.00594	mg/L	0.000272	0.01187 mg/L	0.000543	4.58%
Na 589.592†	17459.5	1.310	mg/L	0.0059	2.619 mg/L	0.0117	0.45%
Na 330.237†	-7.7	1.322	mg/L	0.5645	2.643 mg/L	1.1291	42.72%
Ni 231.604†	3862.5	1.143	mg/L	0.0106	2.287 mg/L	0.0212	0.93%
Pb 220.353†	-118.3	0.01974	mg/L	0.001637	0.03949 mg/L	0.003274	8.29%
Sb 206.836†	110.3	0.01387	mg/L	0.002248	0.02773 mg/L	0.004496	16.21%
Se 196.026†	38.0	0.02704	mg/L	0.001981	0.05407 mg/L	0.003962	7.33%
Si 288.158†	6684.1	3.833	mg/L	0.0280	7.667 mg/L	0.0560	0.73%
Sn 189.927†	-54.8	-0.01081	mg/L	0.000834	-0.02162 mg/L	0.001667	7.71%
Sr 421.552†	118977.9	0.1433	mg/L	0.00033	0.2865 mg/L	0.00065	0.23%
Ti 334.903†	124703.5	7.381	mg/L	0.0218	14.76 mg/L	0.044	0.30%
Tl 190.801†	-32.3	0.00123	mg/L	0.001992	0.00245 mg/L	0.003985	162.39%
V 292.402†	54178.0	0.3456	mg/L	0.00153	0.6913 mg/L	0.00305	0.44%
Zn 206.200†	1418.8	0.4169	mg/L	0.00440	0.8338 mg/L	0.00881	1.06%

Sequence No.: 52
Sample ID: YE32 L SWC

Autosampler Location: 337
Date Collected: 4/1/2014 12:11:42 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 L SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929534.5	98.93	%	0.467			0.47%
ScR 361.383	251008.5	102.1	%	0.76			0.74%
Ag 328.068†	-347.4	-0.00142	mg/L	0.000225	-0.00284 mg/L	0.000450	15.84%
Al 308.215†	186694.0	143.1	mg/L	0.31	286.1 mg/L	0.62	0.22%
As 188.979†	-338.0	0.07441	mg/L	0.001295	0.1488 mg/L	0.00259	1.74%
B 249.677†	88.9	0.01536	mg/L	0.000704	0.03073 mg/L	0.001407	4.58%
Ba 233.527†	2537.5	0.6412	mg/L	0.00762	1.282 mg/L	0.0152	1.19%
Be 313.042†	1069.0	0.00194	mg/L	0.000033	0.00388 mg/L	0.000066	1.69%
Ca 317.933†	311826.4	31.82	mg/L	0.102	63.64 mg/L	0.204	0.32%
Cd 228.802†	-7.9	0.00199	mg/L	0.000074	0.00399 mg/L	0.000147	3.69%
Co 228.616†	3325.4	0.06812	mg/L	0.000463	0.1362 mg/L	0.00093	0.68%
Cr 267.716†	1787.9	0.3581	mg/L	0.00178	0.7163 mg/L	0.00356	0.50%
Cu 324.752†	33497.5	0.1183	mg/L	0.00068	0.2365 mg/L	0.00137	0.58%
Fe 273.955†	169526.1	147.4	mg/L	0.61	294.8 mg/L	1.23	0.42%
K 766.490†	12962.1	5.693	mg/L	0.0050	11.39 mg/L	0.010	0.09%
Mg 279.077†	49086.2	43.59	mg/L	0.035	87.17 mg/L	0.070	0.08%
Mn 257.610†	98425.0	3.094	mg/L	0.0073	6.189 mg/L	0.0146	0.24%
Mo 202.031†	69.6	0.00309	mg/L	0.000164	0.00618 mg/L	0.000328	5.31%
Na 589.592†	21565.7	1.617	mg/L	0.0033	3.235 mg/L	0.0065	0.20%
Na 330.237†	-8.9	1.342	mg/L	0.0398	2.685 mg/L	0.0795	2.96%
Ni 231.604†	8626.2	2.553	mg/L	0.0105	5.107 mg/L	0.0209	0.41%
Pb 220.353†	-115.6	0.01612	mg/L	0.000427	0.03224 mg/L	0.000854	2.65%
Sb 206.836†	35.7	0.01366	mg/L	0.000953	0.02732 mg/L	0.001905	6.97%
Se 196.026†	38.8	0.02763	mg/L	0.003979	0.05526 mg/L	0.007957	14.40%
Si 288.158†	6131.8	3.515	mg/L	0.0241	7.030 mg/L	0.0482	0.69%
Sn 189.927†	-62.1	-0.01209	mg/L	0.000392	-0.02418 mg/L	0.000783	3.24%
Sr 421.552†	147670.5	0.1778	mg/L	0.00008	0.3556 mg/L	0.00016	0.04%
Ti 334.903†	129416.7	7.660	mg/L	0.0100	15.32 mg/L	0.020	0.13%
Tl 190.801†	-25.1	0.00364	mg/L	0.001680	0.00728 mg/L	0.003359	46.16%
V 292.402†	54772.9	0.3429	mg/L	0.00086	0.6858 mg/L	0.00171	0.25%
Zn 206.200†	959.4	0.2818	mg/L	0.00174	0.5636 mg/L	0.00348	0.62%

YE34:00147

Sequence No.: 53
Sample ID: YE32 M SWC
Dilution: 2.000000X

Autosampler Location: 338
Date Collected: 4/1/2014 12:15:42 PM
Data Type: Original

DBZ
44-1-14

Nebulizer Parameters: YE32 M SWC
Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE32 M SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904685.9	98.09	%	0.733			0.75%
ScR 361.383	251005.8	102.1	%	0.29			0.28%
Ag 328.068†	332.7	0.00199	mg/L	0.000076	0.00398 mg/L	0.000152	3.81%
Al 308.215†	183876.3	140.9	mg/L	0.63	281.8 mg/L	1.25	0.45%
As 188.979†	-332.5	0.09810	mg/L	0.004976	0.1962 mg/L	0.00995	5.07%
B 249.677†	327.2	0.05676	mg/L	0.001348	0.1135 mg/L	0.00270	2.38%
Ba 233.527†	4960.5	1.255	mg/L	0.0004	2.510 mg/L	0.0009	0.04%
Be 313.042†	1199.5	0.00218	mg/L	0.000021	0.00437 mg/L	0.000041	0.95%
Ca 317.933†	417656.0	42.62	mg/L	0.255	85.24 mg/L	0.510	0.60%
Cd 228.802†	-771.7	0.01602	mg/L	0.000343	0.03204 mg/L	0.000686	2.14%
Co 228.616†	8404.4	0.1862	mg/L	0.00150	0.3725 mg/L	0.00299	0.80%
Cr 267.716†	23255.4	4.656	mg/L	0.0160	9.311 mg/L	0.0320	0.34%
Cu 324.752†	2929661.5	9.921	mg/L	0.0325	19.84 mg/L	0.065	0.33%
Fe 273.955†	288095.4	250.5	mg/L	0.82	501.0 mg/L	1.63	0.33%
K 766.490†	13410.5	5.890	mg/L	0.0425	11.78 mg/L	0.085	0.72%
Mg 279.077†	60273.0	53.48	mg/L	0.252	107.0 mg/L	0.50	0.47%
Mn 257.610†	101940.1	3.206	mg/L	0.0102	6.412 mg/L	0.0203	0.32%
Mo 202.031†	347.0	0.01721	mg/L	0.000357	0.03442 mg/L	0.000713	2.07%
Na 589.592†	21890.7	1.642	mg/L	0.0111	3.284 mg/L	0.0221	0.67%
Na 330.237†	4.4	1.586	mg/L	0.3834	3.172 mg/L	0.7668	24.17%
Ni 231.604†	137195.4	40.61	mg/L	0.205	81.22 mg/L	0.411	0.51%
Pb 220.353†	43411.1	5.089	mg/L	0.0241	10.18 mg/L	0.048	0.47%
Sb 206.836†	349.5	0.05671	mg/L	0.002400	0.1134 mg/L	0.00480	4.23%
Se 196.026†	25.9	0.01825	mg/L	0.005294	0.03650 mg/L	0.010587	29.00%
Si 288.158†	2062.9	1.190	mg/L	0.0101	2.380 mg/L	0.0202	0.85%
Sn 189.927†	125.1	0.04202	mg/L	0.002848	0.08403 mg/L	0.005696	6.78%
Sr 421.552†	150669.6	0.1814	mg/L	0.00080	0.3629 mg/L	0.00161	0.44%
Ti 334.903†	142524.4	8.435	mg/L	0.0361	16.87 mg/L	0.072	0.43%
Tl 190.801†	-47.0	0.00292	mg/L	0.002418	0.00584 mg/L	0.004837	82.80%
V 292.402†	59402.1	0.3843	mg/L	0.00127	0.7686 mg/L	0.00255	0.33%
Zn 206.200†	7050.0	2.067	mg/L	0.0068	4.134 mg/L	0.0136	0.33%

Sequence No.: 54
 Sample ID: YE32 N SWC

Autosampler Location: 339
 Date Collected: 4/1/2014 12:19:43 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 N SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE32 N SWC

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2933512.9	99.06 %	0.497			0.50%
ScR 361.383	252234.8	102.6 %	0.63			0.61%
Ag 328.068†	-293.0	-0.00107 mg/L	0.000144	-0.00214 mg/L	0.000288	13.48%
Al 308.215†	167908.8	128.7 mg/L	0.54	257.3 mg/L	1.08	0.42%
As 188.979†	-352.0	0.07707 mg/L	0.002321	0.1541 mg/L	0.00464	3.01%
B 249.677†	298.1	0.05191 mg/L	0.001101	0.1038 mg/L	0.00220	2.12%
Ba 233.527†	2314.2	0.5809 mg/L	0.00251	1.162 mg/L	0.0050	0.43%
Be 313.042†	1142.5	0.00207 mg/L	0.000030	0.00414 mg/L	0.000061	1.47%
Ca 317.933†	427272.7	43.60 mg/L	0.134	87.21 mg/L	0.269	0.31%
Cd 228.802†	18.5	0.00262 mg/L	0.000305	0.00524 mg/L	0.000609	11.62%
Co 228.616†	3697.5	0.07675 mg/L	0.000234	0.1535 mg/L	0.00047	0.30%
Cr 267.716†	1730.4	0.3457 mg/L	0.00097	0.6914 mg/L	0.00193	0.28%
Cu 324.752†	63649.4	0.2207 mg/L	0.00172	0.4413 mg/L	0.00345	0.78%
Fe 273.955†	183704.9	159.7 mg/L	0.86	319.5 mg/L	1.72	0.54%
K 766.490†	16914.3	7.429 mg/L	0.0231	14.86 mg/L	0.046	0.31%
Mg 279.077†	64579.7	57.36 mg/L	0.205	114.7 mg/L	0.41	0.36%
Mn 257.610†	84982.7	2.672 mg/L	0.0128	5.343 mg/L	0.0256	0.48%
Mo 202.031†	138.2	0.00644 mg/L	0.000183	0.01289 mg/L	0.000367	2.85%
Na 589.592†	26240.3	1.968 mg/L	0.0124	3.936 mg/L	0.0248	0.63%
Na 330.237†	-0.2	1.730 mg/L	0.1257	3.460 mg/L	0.2513	7.26%
Ni 231.604†	8319.7	2.463 mg/L	0.0085	4.925 mg/L	0.0169	0.34%
Pb 220.353†	-69.6	0.01718 mg/L	0.001407	0.03435 mg/L	0.002815	8.19%
Sb 206.836†	29.1	0.01218 mg/L	0.003772	0.02435 mg/L	0.007545	30.98%
Se 196.026†	35.0	0.02487 mg/L	0.003835	0.04974 mg/L	0.007671	15.42%
Si 288.158†	3218.4	1.849 mg/L	0.0170	3.698 mg/L	0.0340	0.92%
Sn 189.927†	-72.2	-0.01342 mg/L	0.000819	-0.02684 mg/L	0.001638	6.10%
Sr 421.552†	204808.2	0.2466 mg/L	0.00125	0.4932 mg/L	0.00250	0.51%
Ti 334.903†	135007.1	7.990 mg/L	0.0328	15.98 mg/L	0.066	0.41%
Tl 190.801†	-30.7	0.00226 mg/L	0.001833	0.00453 mg/L	0.003667	80.95%
V 292.402†	63016.2	0.3952 mg/L	0.00454	0.7903 mg/L	0.00907	1.15%
Zn 206.200†	1322.2	0.3877 mg/L	0.00305	0.7755 mg/L	0.00610	0.79%

Sequence No.: 55
 Sample ID: YE32 O SWC

Autosampler Location: 340
 Date Collected: 4/1/2014 12:23:43 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE32 O SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

 Mean Data: YE32 O SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2895970.9	97.80	%	0.301			0.31%
ScR 361.383	250293.4	101.9	%	0.07			0.07%
Ag 328.068†	-291.2	-0.00103	mg/L	0.000222	-0.00206 mg/L	0.000445	21.57%
Al 308.215†	177042.4	135.7	mg/L	0.41	271.3 mg/L	0.82	0.30%
As 188.979†	-349.2	0.08152	mg/L	0.002427	0.1630 mg/L	0.00485	2.98%
B 249.677†	341.5	0.05949	mg/L	0.001276	0.1190 mg/L	0.00255	2.14%
Ba 233.527†	2134.5	0.5322	mg/L	0.00164	1.064 mg/L	0.0033	0.31%
Be 313.042†	1050.2	0.00188	mg/L	0.000017	0.00376 mg/L	0.000033	0.89%
Ca 317.933†	465243.3	47.48	mg/L	0.185	94.96 mg/L	0.369	0.39%
Cd 228.802†	18.1	0.00265	mg/L	0.000096	0.00529 mg/L	0.000192	3.63%
Co 228.616†	3852.8	0.08041	mg/L	0.000149	0.1608 mg/L	0.00030	0.19%
Cr 267.716†	2040.0	0.4079	mg/L	0.00284	0.8157 mg/L	0.00567	0.70%
Cu 324.752†	57120.2	0.1990	mg/L	0.00132	0.3981 mg/L	0.00265	0.67%
Fe 273.955†	196058.8	170.5	mg/L	1.27	341.0 mg/L	2.54	0.75%
K 766.490†	19550.0	8.586	mg/L	0.0090	17.17 mg/L	0.018	0.11%
Mg 279.077†	65084.2	57.81	mg/L	0.186	115.6 mg/L	0.37	0.32%
Mn 257.610†	85251.9	2.680	mg/L	0.0237	5.360 mg/L	0.0473	0.88%
Mo 202.031†	225.8	0.01089	mg/L	0.000045	0.02178 mg/L	0.000090	0.41%
Na 589.592†	33922.6	2.544	mg/L	0.0060	5.089 mg/L	0.0119	0.23%
Na 330.237†	16.3	2.498	mg/L	0.2704	4.996 mg/L	0.5408	10.82%
Ni 231.604†	8787.2	2.601	mg/L	0.0129	5.202 mg/L	0.0258	0.50%
Pb 220.353†	-70.3	0.01851	mg/L	0.001147	0.03702 mg/L	0.002294	6.20%
Sb 206.836†	39.5	0.01477	mg/L	0.000983	0.02953 mg/L	0.001967	6.66%
Se 196.026†	40.3	0.02866	mg/L	0.007065	0.05731 mg/L	0.014129	24.65%
Si 288.158†	3873.0	2.224	mg/L	0.0187	4.448 mg/L	0.0375	0.84%
Sn 189.927†	-68.6	-0.01191	mg/L	0.000811	-0.02381 mg/L	0.001621	6.81%
Sr 421.552†	151126.1	0.1820	mg/L	0.00085	0.3640 mg/L	0.00170	0.47%
Ti 334.903†	136554.8	8.082	mg/L	0.0488	16.16 mg/L	0.098	0.60%
Tl 190.801†	-31.3	0.00311	mg/L	0.001727	0.00622 mg/L	0.003454	55.55%
V 292.402†	66357.4	0.4163	mg/L	0.00311	0.8327 mg/L	0.00621	0.75%
Zn 206.200†	1354.7	0.3974	mg/L	0.00289	0.7948 mg/L	0.00578	0.73%

Sequence No.: 56
 Sample ID: CV 6

Autosampler Location: 7
 Date Collected: 4/1/2014 12:27:43 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2889362.1	97.57	%	0.397			0.41%
ScR 361.383	243923.8	99.26	%	0.589			0.59%
Ag 328.068†	215404.5	1.057	mg/L	0.0040	1.057 mg/L	0.0040	0.38%
Al 308.215†	2724.1	2.055	mg/L	0.0120	2.055 mg/L	0.0120	0.58%
As 188.979†	3655.7	2.151	mg/L	0.0049	2.151 mg/L	0.0049	0.23%
B 249.677†	5896.5	1.029	mg/L	0.0030	1.029 mg/L	0.0030	0.29%
Ba 233.527†	4054.5	1.061	mg/L	0.0071	1.061 mg/L	0.0071	0.67%
Be 313.042†	512051.8	1.012	mg/L	0.0033	1.012 mg/L	0.0033	0.33%
Ca 317.933†	21136.6	2.157	mg/L	0.0098	2.157 mg/L	0.0098	0.45%
Cd 228.802†	35163.1	1.040	mg/L	0.0018	1.040 mg/L	0.0018	0.17%
Co 228.616†	41361.7	1.021	mg/L	0.0037	1.021 mg/L	0.0037	0.36%
Cr 267.716†	5349.3	1.070	mg/L	0.0033	1.070 mg/L	0.0033	0.31%
Cu 324.752†	308796.7	1.044	mg/L	0.0040	1.044 mg/L	0.0040	0.38%
Fe 273.955†	2481.2	2.151	mg/L	0.0070	2.151 mg/L	0.0070	0.33%
K 766.490†	45743.3	20.09	mg/L	0.092	20.09 mg/L	0.092	0.46%
Mg 279.077†	2327.7	2.078	mg/L	0.0080	2.078 mg/L	0.0080	0.39%
Mn 257.610†	31201.1	0.9818	mg/L	0.00515	0.9818 mg/L	0.00515	0.52%
Mo 202.031†	19159.1	0.9868	mg/L	0.00116	0.9868 mg/L	0.00116	0.12%
Na 589.592†	686390.4	51.48	mg/L	0.174	51.48 mg/L	0.174	0.34%
Na 330.237†	1109.1	51.61	mg/L	0.099	51.61 mg/L	0.099	0.19%
Ni 231.604†	3604.8	1.067	mg/L	0.0058	1.067 mg/L	0.0058	0.55%
Pb 220.353†	17841.0	2.083	mg/L	0.0044	2.083 mg/L	0.0044	0.21%
Sb 206.836†	6823.3	2.125	mg/L	0.0029	2.125 mg/L	0.0029	0.14%
Se 196.026†	2952.7	2.119	mg/L	0.0026	2.119 mg/L	0.0026	0.12%
Si 288.158†	3488.5	2.002	mg/L	0.0252	2.002 mg/L	0.0252	1.26%
Sn 189.927†	3545.7	0.9940	mg/L	0.00364	0.9940 mg/L	0.00364	0.37%
Sr 421.552†	846366.6	1.019	mg/L	0.0020	1.019 mg/L	0.0020	0.19%
Ti 334.903†	16845.5	0.9961	mg/L	0.00178	0.9961 mg/L	0.00178	0.18%
Tl 190.801†	4593.4	2.087	mg/L	0.0127	2.087 mg/L	0.0127	0.61%
V 292.402†	160001.8	1.038	mg/L	0.0041	1.038 mg/L	0.0041	0.40%
Zn 206.200†	3634.0	1.065	mg/L	0.0039	1.065 mg/L	0.0039	0.36%

Sequence No.: 57
 Sample ID: CB (2)

Autosampler Location: 1
 Date Collected: 4/1/2014 12:31:46 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2936672.7	99.17 %	%	0.264			0.27%
ScR 361.383	249399.1	101.5 %	%	0.57			0.57%
Ag 328.068†	-11.9	-0.00006 mg/L	mg/L	0.000112	-0.00006 mg/L	0.000112	190.62%
Al 308.215†	7.7	0.00585 mg/L	mg/L	0.003232	0.00585 mg/L	0.003232	55.27%
As 188.979†	-2.4	-0.00135 mg/L	mg/L	0.001040	-0.00135 mg/L	0.001040	77.03%
B 249.677†	12.3	0.00216 mg/L	mg/L	0.000821	0.00216 mg/L	0.000821	38.09%
Ba 233.527†	-2.7	-0.00070 mg/L	mg/L	0.000315	-0.00070 mg/L	0.000315	45.16%
Be 313.042†	-7.2	-0.00001 mg/L	mg/L	0.000038	-0.00001 mg/L	0.000038	265.00%
Ca 317.933†	-4.0	-0.00041 mg/L	mg/L	0.000895	-0.00041 mg/L	0.000895	218.39%
Cd 228.802†	18.1	0.00055 mg/L	mg/L	0.000116	0.00055 mg/L	0.000116	21.15%
Co 228.616†	0.5	0.00001 mg/L	mg/L	0.000163	0.00001 mg/L	0.000163	>999.9%
Cr 267.716†	-4.1	-0.00082 mg/L	mg/L	0.000751	-0.00082 mg/L	0.000751	91.15%
Cu 324.752†	827.4	0.00280 mg/L	mg/L	0.000220	0.00280 mg/L	0.000220	7.85%
Fe 273.955†	3.6	0.00312 mg/L	mg/L	0.000695	0.00312 mg/L	0.000695	22.28%
K 766.490†	56.7	0.02492 mg/L	mg/L	0.017705	0.02492 mg/L	0.017705	71.05%
Mg 279.077†	-2.7	-0.00243 mg/L	mg/L	0.009718	-0.00243 mg/L	0.009718	400.56%
Mn 257.610†	5.2	0.00016 mg/L	mg/L	0.000128	0.00016 mg/L	0.000128	78.23%
Mo 202.031†	22.3	0.00115 mg/L	mg/L	0.000208	0.00115 mg/L	0.000208	18.11%
Na 589.592†	42.8	0.00321 mg/L	mg/L	0.003428	0.00321 mg/L	0.003428	106.72%
Na 330.237†	-7.3	-0.3416 mg/L	mg/L	0.19521	-0.3416 mg/L	0.19521	57.15%
Ni 231.604†	-1.7	-0.00049 mg/L	mg/L	0.000559	-0.00049 mg/L	0.000559	115.16%
Pb 220.353†	4.3	0.00049 mg/L	mg/L	0.000550	0.00049 mg/L	0.000550	111.62%
Sb 206.836†	38.7	0.01208 mg/L	mg/L	0.001245	0.01208 mg/L	0.001245	10.31%
Se 196.026†	-3.1	-0.00225 mg/L	mg/L	0.003192	-0.00225 mg/L	0.003192	141.77%
Si 288.158†	12.2	0.00698 mg/L	mg/L	0.005379	0.00698 mg/L	0.005379	77.08%
Sn 189.927†	-1.4	-0.00039 mg/L	mg/L	0.001240	-0.00039 mg/L	0.001240	314.77%
Sr 421.552†	50.4	0.00006 mg/L	mg/L	0.000023	0.00006 mg/L	0.000023	37.65%
Ti 334.903†	22.8	0.00135 mg/L	mg/L	0.000182	0.00135 mg/L	0.000182	13.48%
Tl 190.801†	-4.4	-0.00199 mg/L	mg/L	0.001565	-0.00199 mg/L	0.001565	78.83%
V 292.402†	-21.2	-0.00014 mg/L	mg/L	0.000205	-0.00014 mg/L	0.000205	145.68%
Zn 206.200†	2.1	0.00060 mg/L	mg/L	0.000740	0.00060 mg/L	0.000740	122.78%

Sequence No.: 58
 Sample ID: YE32 E SWC

Autosampler Location: 341
 Date Collected: 4/1/2014 12:35:46 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 E SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE32 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2943640.6	99.41 %		0.710				0.71%
ScR 361.383	255082.6	103.8 %		0.44				0.43%
Ag 328.068†	-155.9	-0.00039 mg/L		0.000187	-0.00078 mg/L		0.000373	47.70%
Al 308.215†	192337.1	147.4 mg/L		0.25	294.7 mg/L		0.50	0.17%
As 188.979†	-343.5	0.08510 mg/L		0.000819	0.1702 mg/L		0.00164	0.96%
B 249.677†	130.9	0.02264 mg/L		0.000800	0.04527 mg/L		0.001600	3.53%
Ba 233.527†	2635.7	0.6579 mg/L		0.00549	1.316 mg/L		0.0110	0.84%
Be 313.042†	1080.4	0.00194 mg/L		0.000031	0.00388 mg/L		0.000062	1.60%
Ca 317.933†	425817.8	43.45 mg/L		0.151	86.91 mg/L		0.303	0.35%
Cd 228.802†	-176.9	0.00404 mg/L		0.000042	0.00808 mg/L		0.000083	1.03%
Co 228.616†	4835.5	0.1035 mg/L		0.00089	0.2069 mg/L		0.00177	0.86%
Cr 267.716†	5956.9	1.193 mg/L		0.0076	2.385 mg/L		0.0152	0.64%
Cu 324.752†	765732.9	2.598 mg/L		0.106	5.195 mg/L		0.0211	0.41%
Fe 273.955†	230151.5	200.1 mg/L		0.30	400.3 mg/L		0.61	0.15%
K 766.490†	13836.6	6.077 mg/L		0.0203	12.15 mg/L		0.041	0.33%
Mg 279.077†	65330.9	58.01 mg/L		0.119	116.0 mg/L		0.24	0.20%
Mn 257.610†	89621.1	2.817 mg/L		0.0026	5.635 mg/L		0.0053	0.09%
Mo 202.031†	237.9	0.01158 mg/L		0.000341	0.02315 mg/L		0.000682	2.95%
Na 589.592†	20775.7	1.558 mg/L		0.0029	3.116 mg/L		0.0058	0.19%
Na 330.237†	-7.6	1.334 mg/L		0.2726	2.667 mg/L		0.5452	20.44%
Ni 231.604†	34308.1	10.15 mg/L		0.047	20.31 mg/L		0.094	0.46%
Pb 220.353†	4849.3	0.5931 mg/L		0.00515	1.186 mg/L		0.0103	0.87%
Sb 206.836†	104.9	0.02508 mg/L		0.002299	0.05016 mg/L		0.004598	9.17%
Se 196.026†	39.6	0.02815 mg/L		0.003472	0.05630 mg/L		0.006945	12.34%
Si 288.158†	4470.1	2.566 mg/L		0.0326	5.132 mg/L		0.0653	1.27%
Sn 189.927†	-27.8	-0.00094 mg/L		0.000771	-0.00189 mg/L		0.001542	81.67%
Sr 421.552†	177045.6	0.2132 mg/L		0.00029	0.4264 mg/L		0.00057	0.13%
Ti 334.903†	137056.4	8.111 mg/L		0.0116	16.22 mg/L		0.023	0.14%
Tl 190.801†	-41.1	0.00157 mg/L		0.003466	0.00314 mg/L		0.006931	220.72%
V 292.402†	66733.4	0.4203 mg/L		0.00199	0.8406 mg/L		0.00398	0.47%
Zn 206.200†	2323.4	0.6815 mg/L		0.00291	1.363 mg/L		0.0058	0.43%

Sequence No.: 59
Sample ID: YE32 P SWC

Autosampler Location: 342
Date Collected: 4/1/2014 12:39:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 P SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 P SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2943046.4	99.39 %	%	0.370			0.37%
ScR 361.383	251787.4	102.5 %	%	0.71			0.69%
Ag 328.068†	-270.7	-0.00108 mg/L	mg/L	0.000079	-0.00217 mg/L	0.000157	7.24%
Al 308.215†	175757.1	134.7 mg/L	mg/L	0.46	269.3 mg/L	0.92	0.34%
As 188.979†	-288.0	0.06247 mg/L	mg/L	0.001426	0.1249 mg/L	0.00285	2.28%
B 249.677†	127.0	0.02201 mg/L	mg/L	0.001305	0.04402 mg/L	0.002609	5.93%
Ba 233.527†	1993.3	0.4987 mg/L	mg/L	0.00734	0.9974 mg/L	0.01468	1.47%
Be 313.042†	916.1	0.00166 mg/L	mg/L	0.000028	0.00331 mg/L	0.000055	1.67%
Ca 317.933†	252011.1	25.72 mg/L	mg/L	0.033	51.44 mg/L	0.066	0.13%
Cd 228.802†	1.4	0.00288 mg/L	mg/L	0.000054	0.00575 mg/L	0.000108	1.87%
Co 228.616†	3608.6	0.07709 mg/L	mg/L	0.000334	0.1542 mg/L	0.00067	0.43%
Cr 267.716†	1801.0	0.3604 mg/L	mg/L	0.00195	0.7208 mg/L	0.00390	0.54%
Cu 324.752†	86568.4	0.2980 mg/L	mg/L	0.00069	0.5961 mg/L	0.00138	0.23%
Fe 273.955†	169415.0	147.3 mg/L	mg/L	0.48	294.6 mg/L	0.96	0.33%
K 766.490†	12619.5	5.542 mg/L	mg/L	0.0067	11.08 mg/L	0.013	0.12%
Mg 279.077†	54435.4	48.35 mg/L	mg/L	0.155	96.69 mg/L	0.310	0.32%
Mn 257.610†	67555.3	2.123 mg/L	mg/L	0.0056	4.247 mg/L	0.0113	0.27%
Mo 202.031†	62.5	0.00282 mg/L	mg/L	0.000029	0.00564 mg/L	0.000059	1.04%
Na 589.592†	19661.1	1.475 mg/L	mg/L	0.0048	2.949 mg/L	0.0096	0.33%
Na 330.237†	-3.4	1.269 mg/L	mg/L	0.2996	2.538 mg/L	0.5993	23.61%
Ni 231.604†	11195.3	3.314 mg/L	mg/L	0.0176	6.627 mg/L	0.0351	0.53%
Pb 220.353†	-113.4	0.01414 mg/L	mg/L	0.000453	0.02829 mg/L	0.000907	3.21%
Sb 206.836†	46.2	0.01594 mg/L	mg/L	0.001304	0.03189 mg/L	0.002609	8.18%
Se 196.026†	25.2	0.01784 mg/L	mg/L	0.005451	0.03569 mg/L	0.010901	30.55%
Si 288.158†	5033.8	2.887 mg/L	mg/L	0.0267	5.774 mg/L	0.0533	0.92%
Sn 189.927†	-53.6	-0.01066 mg/L	mg/L	0.000972	-0.02131 mg/L	0.001943	9.12%
Sr 421.552†	128307.2	0.1545 mg/L	mg/L	0.00042	0.3090 mg/L	0.00084	0.27%
Ti 334.903†	109800.5	6.499 mg/L	mg/L	0.0151	13.00 mg/L	0.030	0.23%
Tl 190.801†	-30.7	0.00108 mg/L	mg/L	0.002700	0.00216 mg/L	0.005401	250.42%
V 292.402†	52676.0	0.3299 mg/L	mg/L	0.00117	0.6598 mg/L	0.00234	0.35%
Zn 206.200†	1657.2	0.4861 mg/L	mg/L	0.00174	0.9722 mg/L	0.00349	0.36%

Sequence No.: 60
 Sample ID: YE32 Q SWC

Autosampler Location: 343
 Date Collected: 4/1/2014 12:43:48 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 Q SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE32 Q SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2923204.6	98.72	%	0.492			0.50%
ScR 361.383	253390.2	103.1	%	0.03			0.03%
Ag 328.068†	-300.1	-0.00110	mg/L	0.000167	-0.00220 mg/L	0.000334	15.22%
Al 308.215†	195519.0	149.8	mg/L	0.72	299.6 mg/L	1.44	0.48%
As 188.979†	-379.3	0.08616	mg/L	0.002829	0.1723 mg/L	0.00566	3.28%
B 249.677†	599.1	0.1044	mg/L	0.00043	0.2089 mg/L	0.00085	0.41%
Ba 233.527†	2592.3	0.6484	mg/L	0.00184	1.297 mg/L	0.0037	0.28%
Be 313.042†	1149.3	0.00206	mg/L	0.000010	0.00413 mg/L	0.000020	0.49%
Ca 317.933†	414635.7	42.31	mg/L	0.102	84.63 mg/L	0.204	0.24%
Cd 228.802†	-87.6	0.00322	mg/L	0.000023	0.00643 mg/L	0.000047	0.73%
Co 228.616†	4779.8	0.1016	mg/L	0.00063	0.2033 mg/L	0.00125	0.62%
Cr 267.716†	2643.5	0.5285	mg/L	0.00162	1.057 mg/L	0.0032	0.31%
Cu 324.752†	175004.5	0.5986	mg/L	0.00545	1.197 mg/L	0.0109	0.91%
Fe 273.955†	219193.1	190.6	mg/L	0.54	381.2 mg/L	1.07	0.28%
K 766.490†	16214.7	7.121	mg/L	0.0256	14.24 mg/L	0.051	0.36%
Mg 279.077†	75348.7	66.93	mg/L	0.240	133.9 mg/L	0.48	0.36%
Mn 257.610†	79116.8	2.487	mg/L	0.0056	4.974 mg/L	0.0111	0.22%
Mo 202.031†	71.5	0.00303	mg/L	0.000188	0.00606 mg/L	0.000376	6.21%
Na 589.592†	26179.9	1.964	mg/L	0.0108	3.927 mg/L	0.0215	0.55%
Na 330.237†	-5.1	1.660	mg/L	0.3132	3.320 mg/L	0.6265	18.87%
Ni 231.604†	21788.7	6.449	mg/L	0.0242	12.90 mg/L	0.048	0.37%
Pb 220.353†	246.0	0.05815	mg/L	0.000392	0.1163 mg/L	0.00078	0.67%
Sb 206.836†	48.2	0.01651	mg/L	0.001510	0.03302 mg/L	0.003021	9.15%
Se 196.026†	35.9	0.02547	mg/L	0.006074	0.05093 mg/L	0.012148	23.85%
Si 288.158†	1452.6	0.8397	mg/L	0.00968	1.679 mg/L	0.0194	1.15%
Sn 189.927†	-62.7	-0.01076	mg/L	0.000696	-0.02152 mg/L	0.001393	6.47%
Sr 421.552†	165375.6	0.1991	mg/L	0.00069	0.3983 mg/L	0.00137	0.35%
Ti 334.903†	146837.0	8.691	mg/L	0.0348	17.38 mg/L	0.070	0.40%
Tl 190.801†	-37.1	0.00248	mg/L	0.003736	0.00496 mg/L	0.007473	150.56%
V 292.402†	71031.7	0.4455	mg/L	0.00367	0.8910 mg/L	0.00734	0.82%
Zn 206.200†	1768.9	0.5185	mg/L	0.00186	1.037 mg/L	0.0037	0.36%

Sequence No.: 61
 Sample ID: YE32 R SWC

Autosampler Location: 344
 Date Collected: 4/1/2014 12:47:48 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 R SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE32 R SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2937178.7	99.19	%	0.576			0.58%
ScR 361.383	252792.1	102.9	%	0.44			0.43%
Ag 328.068†	-271.5	-0.00097	mg/L	0.000247	-0.00193 mg/L	0.000495	25.60%
Al 308.215†	167180.5	128.1	mg/L	0.64	256.2 mg/L	1.27	0.50%
As 188.979†	-314.0	0.07388	mg/L	0.003989	0.1478 mg/L	0.00798	5.40%
B 249.677†	473.8	0.08262	mg/L	0.000943	0.1652 mg/L	0.00189	1.14%
Ba 233.527†	2471.1	0.6211	mg/L	0.00389	1.242 mg/L	0.0078	0.63%
Be 313.042†	1030.0	0.00186	mg/L	0.000029	0.00372 mg/L	0.000059	1.58%
Ca 317.933†	427792.7	43.66	mg/L	0.171	87.31 mg/L	0.341	0.39%
Cd 228.802†	17.8	0.00212	mg/L	0.000092	0.00425 mg/L	0.000184	4.32%
Co 228.616†	3555.5	0.07455	mg/L	0.000282	0.1491 mg/L	0.00056	0.38%
Cr 267.716†	1377.5	0.2753	mg/L	0.00138	0.5507 mg/L	0.00276	0.50%
Cu 324.752†	102191.5	0.3515	mg/L	0.00133	0.7029 mg/L	0.00266	0.38%
Fe 273.955†	190403.1	165.6	mg/L	0.60	331.1 mg/L	1.19	0.36%
K 766.490†	17138.2	7.527	mg/L	0.0425	15.05 mg/L	0.085	0.57%
Mg 279.077†	63654.6	56.54	mg/L	0.248	113.1 mg/L	0.50	0.44%
Mn 257.610†	77160.5	2.426	mg/L	0.0052	4.851 mg/L	0.0103	0.21%
Mo 202.031†	157.0	0.00741	mg/L	0.000055	0.01482 mg/L	0.000111	0.75%
Na 589.592†	31237.7	2.343	mg/L	0.0071	4.686 mg/L	0.0141	0.30%
Na 330.237†	8.3	1.951	mg/L	0.1692	3.903 mg/L	0.3384	8.67%
Ni 231.604†	7244.6	2.144	mg/L	0.0072	4.289 mg/L	0.0145	0.34%
Pb 220.353†	-86.1	0.01450	mg/L	0.000501	0.02900 mg/L	0.001003	3.46%
Sb 206.836†	38.5	0.01545	mg/L	0.000681	0.03089 mg/L	0.001363	4.41%
Se 196.026†	33.3	0.02360	mg/L	0.005264	0.04719 mg/L	0.010528	22.31%
Si 288.158†	3148.2	1.809	mg/L	0.0167	3.618 mg/L	0.0334	0.92%
Sn 189.927†	-68.9	-0.01263	mg/L	0.001259	-0.02525 mg/L	0.002518	9.97%
Sr 421.552†	144268.0	0.1737	mg/L	0.00047	0.3474 mg/L	0.00094	0.27%
Ti 334.903†	123029.0	7.281	mg/L	0.0278	14.56 mg/L	0.056	0.38%
Tl 190.801†	-32.3	0.00229	mg/L	0.001324	0.00458 mg/L	0.002648	57.81%
V 292.402†	61411.1	0.3845	mg/L	0.00192	0.7691 mg/L	0.00385	0.50%
Zn 206.200†	1187.8	0.3484	mg/L	0.00130	0.6967 mg/L	0.00260	0.37%

Sequence No.: 62
Sample ID: YE32 S SWC

Autosampler Location: 345
Date Collected: 4/1/2014 12:51:48 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 S SWC

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE32 S SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2912782.2	98.36	%	0.514			0.52%
ScR 361.383	255035.8	103.8	%	0.46			0.44%
Ag 328.068†	-381.9	-0.00145	mg/L	0.000295	-0.00290 mg/L	0.000591	20.36%
Al 308.215†	184556.5	141.4	mg/L	0.60	282.8 mg/L	1.20	0.43%
As 188.979†	-453.6	0.08820	mg/L	0.004132	0.1764 mg/L	0.00826	4.69%
B 249.677†	606.8	0.1058	mg/L	0.00070	0.2117 mg/L	0.00140	0.66%
Ba 233.527†	2040.2	0.5040	mg/L	0.00322	1.008 mg/L	0.0064	0.64%
Be 313.042†	1163.7	0.00206	mg/L	0.000030	0.00412 mg/L	0.000060	1.45%
Ca 317.933†	461154.8	47.06	mg/L	0.178	94.12 mg/L	0.356	0.38%
Cd 228.802†	21.8	0.00306	mg/L	0.000037	0.00612 mg/L	0.000074	1.20%
Co 228.616†	4079.7	0.08265	mg/L	0.000350	0.1653 mg/L	0.00070	0.42%
Cr 267.716†	1417.5	0.2843	mg/L	0.00256	0.5687 mg/L	0.00511	0.90%
Cu 324.752†	184775.2	0.6316	mg/L	0.00187	1.263 mg/L	0.0037	0.30%
Fe 273.955†	221791.1	192.9	mg/L	1.14	385.7 mg/L	2.28	0.59%
K 766.490†	15737.3	6.912	mg/L	0.0280	13.82 mg/L	0.056	0.40%
Mg 279.077†	60865.8	54.04	mg/L	0.282	108.1 mg/L	0.56	0.52%
Mn 257.610†	83870.6	2.636	mg/L	0.0094	5.273 mg/L	0.0188	0.36%
Mo 202.031†	260.7	0.01270	mg/L	0.000321	0.02540 mg/L	0.000643	2.53%
Na 589.592†	38971.8	2.923	mg/L	0.0072	5.846 mg/L	0.0145	0.25%
Na 330.237†	9.2	2.660	mg/L	0.1215	5.320 mg/L	0.2429	4.57%
Ni 231.604†	9441.9	2.795	mg/L	0.0252	5.589 mg/L	0.0504	0.90%
Pb 220.353†	-87.8	0.01606	mg/L	0.000387	0.03212 mg/L	0.000775	2.41%
Sb 206.836†	35.9	0.01713	mg/L	0.000826	0.03426 mg/L	0.001651	4.82%
Se 196.026†	31.2	0.02206	mg/L	0.004528	0.04412 mg/L	0.009056	20.53%
Si 288.158†	4185.0	2.402	mg/L	0.0150	4.804 mg/L	0.0300	0.62%
Sn 189.927†	-76.9	-0.01393	mg/L	0.000873	-0.02787 mg/L	0.001747	6.27%
Sr 421.552†	142171.9	0.1712	mg/L	0.00051	0.3424 mg/L	0.00102	0.30%
Ti 334.903†	168242.2	9.958	mg/L	0.0311	19.92 mg/L	0.062	0.31%
Tl 190.801†	-35.8	0.00328	mg/L	0.003582	0.00657 mg/L	0.007164	109.06%
V 292.402†	83433.4	0.5237	mg/L	0.00160	1.047 mg/L	0.0032	0.31%
Zn 206.200†	1419.1	0.4162	mg/L	0.00375	0.8325 mg/L	0.00750	0.90%

Sequence No.: 63
 Sample ID: YE32 T SWC

Autosampler Location: 346
 Date Collected: 4/1/2014 12:55:48 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE32 T SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE32 T SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2919770.2	98.60	%	0.249				0.25%
ScR 361.383	252973.1	102.9	%	0.35				0.34%
Ag 328.068†	-223.2	-0.00085	mg/L	0.000118	-0.00170	mg/L	0.000236	13.87%
Al 308.215†	197067.3	151.0	mg/L	0.26	302.0	mg/L	0.53	0.17%
As 188.979†	-328.5	0.07879	mg/L	0.003546	0.1576	mg/L	0.00709	4.50%
B 249.677†	456.1	0.07952	mg/L	0.001783	0.1590	mg/L	0.00357	2.24%
Ba 233.527†	2553.1	0.6439	mg/L	0.00478	1.288	mg/L	0.0096	0.74%
Be 313.042†	958.6	0.00172	mg/L	0.000022	0.00344	mg/L	0.000044	1.27%
Ca 317.933†	239488.3	24.44	mg/L	0.093	48.88	mg/L	0.186	0.38%
Cd 228.802†	29.6	0.00337	mg/L	0.000056	0.00675	mg/L	0.000113	1.67%
Co 228.616†	3602.9	0.07495	mg/L	0.000128	0.1499	mg/L	0.00026	0.17%
Cr 267.716†	6244.1	1.250	mg/L	0.0068	2.500	mg/L	0.0136	0.54%
Cu 324.752†	143562.1	0.4910	mg/L	0.00129	0.9821	mg/L	0.00257	0.26%
Fe 273.955†	179646.5	156.2	mg/L	0.39	312.4	mg/L	0.77	0.25%
K 766.490†	10864.4	4.772	mg/L	0.0128	9.543	mg/L	0.0255	0.27%
Mg 279.077†	52287.2	46.43	mg/L	0.075	92.86	mg/L	0.151	0.16%
Mn 257.610†	80222.8	2.522	mg/L	0.0047	5.044	mg/L	0.0095	0.19%
Mo 202.031†	52.7	0.00233	mg/L	0.000298	0.00467	mg/L	0.000596	12.77%
Na 589.592†	15005.0	1.125	mg/L	0.0024	2.251	mg/L	0.0048	0.21%
Na 330.237†	-16.5	0.9998	mg/L	0.15921	2.000	mg/L	0.3184	15.92%
Ni 231.604†	9866.7	2.920	mg/L	0.0177	5.841	mg/L	0.0354	0.61%
Pb 220.353†	-125.2	0.01779	mg/L	0.000933	0.03558	mg/L	0.001865	5.24%
Sb 206.836†	77.8	0.01527	mg/L	0.002251	0.03054	mg/L	0.004501	14.74%
Se 196.026†	30.8	0.02182	mg/L	0.003994	0.04364	mg/L	0.007989	18.31%
Si 288.158†	5646.2	3.238	mg/L	0.0225	6.476	mg/L	0.0450	0.69%
Sn 189.927†	-48.0	-0.00903	mg/L	0.001967	-0.01806	mg/L	0.003935	21.79%
Sr 421.552†	124558.2	0.1500	mg/L	0.00037	0.3000	mg/L	0.00074	0.25%
Ti 334.903†	129204.5	7.648	mg/L	0.0184	15.30	mg/L	0.037	0.24%
Tl 190.801†	-33.5	0.00033	mg/L	0.000688	0.00066	mg/L	0.001376	208.51%
V 292.402†	58152.4	0.3678	mg/L	0.00111	0.7357	mg/L	0.00223	0.30%
Zn 206.200†	1297.4	0.3810	mg/L	0.00171	0.7620	mg/L	0.00342	0.45%

Sequence No.: 64
 Sample ID: YE34 B SWC
 Dilution: 2.000000X

Autosampler Location: 347
 Date Collected: 4/1/2014 12:59:49 PM
 Data Type: Original

Nebulizer Parameters: YE34 B SWC
 Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2897883.1	97.86 %	0.730			0.75%
ScR 361.383	254427.8	103.5 %	0.72			0.69%
Ag 328.068†	-317.7	-0.00121 mg/L	0.000089	-0.00243 mg/L	0.000178	7.32%
Al 308.215†	175183.8	134.2 mg/L	0.66	268.5 mg/L	1.33	0.49%
As 188.979†	-327.4	0.08103 mg/L	0.002704	0.1621 mg/L	0.00541	3.34%
B 249.677†	999.5	0.1745 mg/L	0.00201	0.3489 mg/L	0.00402	1.15%
Ba 233.527†	2409.7	0.6031 mg/L	0.00796	1.206 mg/L	0.0159	1.32%
Be 313.042†	1077.4	0.00194 mg/L	0.000004	0.00388 mg/L	0.000007	0.19%
Ca 317.933†	382130.5	39.00 mg/L	0.207	77.99 mg/L	0.414	0.53%
Cd 228.802†	-0.4	0.00380 mg/L	0.000093	0.00760 mg/L	0.000186	2.45%
Co 228.616†	3990.2	0.08422 mg/L	0.000708	0.1684 mg/L	0.00142	0.84%
Cr 267.716†	1346.0	0.2693 mg/L	0.00372	0.5386 mg/L	0.00743	1.38%
Cu 324.752†	130996.2	0.4493 mg/L	0.00503	0.8987 mg/L	0.01005	1.12%
Fe 273.955†	202595.1	176.2 mg/L	0.77	352.3 mg/L	1.53	0.44%
K 766.490†	13277.8	5.832 mg/L	0.0245	11.66 mg/L	0.049	0.42%
Mg 279.077†	64909.4	57.65 mg/L	0.313	115.3 mg/L	0.63	0.54%
Mn 257.610†	77620.2	2.440 mg/L	0.0062	4.880 mg/L	0.0123	0.25%
Mo 202.031†	107.3	0.00492 mg/L	0.000334	0.00984 mg/L	0.000667	6.78%
Na 589.592†	88440.0	6.633 mg/L	0.0352	13.27 mg/L	0.070	0.53%
Na 330.237†	102.3	6.465 mg/L	0.2381	12.93 mg/L	0.476	3.68%
Ni 231.604†	14990.9	4.437 mg/L	0.0374	8.874 mg/L	0.0748	0.84%
Pb 220.353†	-80.6	0.01631 mg/L	0.001213	0.03261 mg/L	0.002426	7.44%
Sb 206.836†	40.4	0.01653 mg/L	0.001428	0.03307 mg/L	0.002856	8.64%
Se 196.026†	29.4	0.02083 mg/L	0.006234	0.04167 mg/L	0.012469	29.92%
Si 288.158†	2569.6	1.478 mg/L	0.0174	2.955 mg/L	0.0347	1.18%
Sn 189.927†	-61.8	-0.01111 mg/L	0.001552	-0.02223 mg/L	0.003104	13.96%
Sr 421.552†	149835.8	0.1804 mg/L	0.00085	0.3608 mg/L	0.00169	0.47%
Ti 334.903†	129890.5	7.688 mg/L	0.0300	15.38 mg/L	0.060	0.39%
Tl 190.801†	-38.3	0.00064 mg/L	0.005266	0.00128 mg/L	0.010531	822.21%
V 292.402†	65166.1	0.4079 mg/L	0.00484	0.8159 mg/L	0.00969	1.19%
Zn 206.200†	1189.1	0.3487 mg/L	0.00358	0.6974 mg/L	0.00716	1.03%

Sequence No.: 65
Sample ID: YE34 C SWC

Autosampler Location: 348
Date Collected: 4/1/2014 1:03:49 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 C SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2908722.1	98.23 %		0.304			0.31%
ScR 361.383	254619.8	103.6 %		0.61			0.59%
Ag 328.068†	-282.1	-0.00106 mg/L		0.000115	-0.00213 mg/L	0.000231	10.83%
Al 308.215†	158513.7	121.5 mg/L		0.46	242.9 mg/L	0.91	0.38%
As 188.979†	-311.7	0.07093 mg/L		0.003145	0.1419 mg/L	0.00629	4.43%
B 249.677†	925.3	0.1615 mg/L		0.00104	0.3231 mg/L	0.00208	0.64%
Ba 233.527†	2343.9	0.5883 mg/L		0.00423	1.177 mg/L	0.0085	0.72%
Be 313.042†	1005.0	0.00181 mg/L		0.000022	0.00362 mg/L	0.000044	1.21%
Ca 317.933†	354729.2	36.20 mg/L		0.203	72.40 mg/L	0.407	0.56%
Cd 228.802†	31.9	0.00349 mg/L		0.000177	0.00699 mg/L	0.000354	5.07%
Co 228.616†	3502.3	0.07334 mg/L		0.000434	0.1467 mg/L	0.00087	0.59%
Cr 267.716†	1337.5	0.2678 mg/L		0.00223	0.5355 mg/L	0.00446	0.83%
Cu 324.752†	124748.7	0.4277 mg/L		0.00230	0.8553 mg/L	0.00460	0.54%
Fe 273.955†	185669.6	161.5 mg/L		0.50	322.9 mg/L	1.01	0.31%
K 766.490†	21271.4	9.342 mg/L		0.0159	18.68 mg/L	0.032	0.17%
Mg 279.077†	57521.9	51.08 mg/L		0.190	102.2 mg/L	0.38	0.37%
Mn 257.610†	71462.4	2.246 mg/L		0.0074	4.493 mg/L	0.0147	0.33%
Mo 202.031†	217.1	0.01062 mg/L		0.000261	0.02124 mg/L	0.000522	2.46%
Na 589.592†	82860.1	6.215 mg/L		0.0291	12.43 mg/L	0.058	0.47%
Na 330.237†	98.7	6.177 mg/L		0.2560	12.35 mg/L	0.512	4.14%
Ni 231.604†	10375.7	3.071 mg/L		0.0122	6.142 mg/L	0.0244	0.40%
Pb 220.353†	-77.5	0.01403 mg/L		0.000439	0.02806 mg/L	0.000878	3.13%
Sb 206.836†	41.6	0.01641 mg/L		0.002015	0.03282 mg/L	0.004031	12.28%
Se 196.026†	38.0	0.02699 mg/L		0.003828	0.05398 mg/L	0.007657	14.19%
Si 288.158†	2984.1	1.714 mg/L		0.0063	3.428 mg/L	0.0126	0.37%
Sn 189.927†	-59.6	-0.01095 mg/L		0.002120	-0.02191 mg/L	0.004240	19.35%
Sr 421.552†	145448.6	0.1751 mg/L		0.00072	0.3503 mg/L	0.00143	0.41%
Ti 334.903†	120696.5	7.143 mg/L		0.0240	14.29 mg/L	0.048	0.34%
Tl 190.801†	-32.7	0.00168 mg/L		0.001408	0.00337 mg/L	0.002815	83.63%
V 292.402†	60427.9	0.3784 mg/L		0.00233	0.7569 mg/L	0.00466	0.62%
Zn 206.200†	1120.2	0.3285 mg/L		0.00136	0.6571 mg/L	0.00272	0.41%

Sequence No.: 66
Sample ID: YE34 D SWC

Autosampler Location: 349
Date Collected: 4/1/2014 1:07:49 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 D SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE34 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2919807.7	98.60	%	0.525			0.53%
ScR 361.383	252855.0	102.9	%	0.10			0.09%
Ag 328.068†	-346.2	-0.00142	mg/L	0.000228	-0.00284	0.000457	16.09%
Al 308.215†	236803.5	181.4	mg/L	0.80	362.9	1.60	0.44%
As 188.979†	-341.1	0.07163	mg/L	0.004151	0.1433	0.00830	5.80%
B 249.677†	684.5	0.1194	mg/L	0.00173	0.2389	0.00345	1.45%
Ba 233.527†	2615.8	0.6577	mg/L	0.00291	1.315	0.0058	0.44%
Be 313.042†	755.0	0.00130	mg/L	0.000034	0.00261	0.000068	2.60%
Ca 317.933†	278036.1	28.37	mg/L	0.059	56.75	0.118	0.21%
Cd 228.802†	86.5	0.00428	mg/L	0.000065	0.00857	0.000130	1.52%
Co 228.616†	3165.1	0.06386	mg/L	0.000150	0.1277	0.00030	0.24%
Cr 267.716†	29227.7	5.848	mg/L	0.0257	11.70	0.051	0.44%
Cu 324.752†	247673.4	0.8440	mg/L	0.00225	1.688	0.0045	0.27%
Fe 273.955†	199734.9	173.7	mg/L	0.86	347.4	1.72	0.50%
K 766.490†	11609.5	5.099	mg/L	0.0275	10.20	0.055	0.54%
Mg 279.077†	61228.2	54.38	mg/L	0.207	108.8	0.41	0.38%
Mn 257.610†	73193.4	2.300	mg/L	0.0083	4.601	0.0167	0.36%
Mo 202.031†	62.3	0.00277	mg/L	0.000224	0.00553	0.000448	8.10%
Na 589.592†	46634.0	3.498	mg/L	0.0135	6.995	0.0270	0.39%
Na 330.237†	39.6	3.666	mg/L	0.4644	7.331	0.9287	12.67%
Ni 231.604†	7579.1	2.243	mg/L	0.0156	4.487	0.0312	0.69%
Pb 220.353†	-226.2	0.02093	mg/L	0.001069	0.04186	0.002138	5.11%
Sb 206.836†	273.9	0.01692	mg/L	0.003285	0.03384	0.006571	19.42%
Se 196.026†	37.7	0.02681	mg/L	0.003477	0.05363	0.006955	12.97%
Si 288.158†	3374.4	1.941	mg/L	0.0258	3.883	0.0517	1.33%
Sn 189.927†	-55.6	-0.01059	mg/L	0.001108	-0.02118	0.002216	10.46%
Sr 421.552†	108811.9	0.1310	mg/L	0.00057	0.2621	0.00114	0.44%
Ti 334.903†	132643.7	7.850	mg/L	0.0203	15.70	0.041	0.26%
Tl 190.801†	-33.1	0.00057	mg/L	0.002376	0.00113	0.004751	419.81%
V 292.402†	64329.4	0.4256	mg/L	0.00058	0.8511	0.00115	0.14%
Zn 206.200†	1033.8	0.3048	mg/L	0.00260	0.6095	0.00521	0.85%

Sequence No.: 67

Autosampler Location: 350

Sample ID: YE34 MB1SPK SWC

Date Collected: 4/1/2014 1:11:04 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 MB1SPK SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 MB1SPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2942521.5	99.37	%	0.632			0.64%
ScR 361.383	251369.6	102.3	%	0.09			0.08%
Ag 328.068†	111921.1	0.5493	mg/L	0.00180	1.099 mg/L	0.0036	0.33%
Al 308.215†	2755.8	2.104	mg/L	0.0031	4.208 mg/L	0.0062	0.15%
As 188.979†	3858.1	2.236	mg/L	0.0158	4.472 mg/L	0.0315	0.71%
B 249.677†	15.9	0.00168	mg/L	0.001073	0.00335 mg/L	0.002145	63.99%
Ba 233.527†	8303.8	2.174	mg/L	0.0080	4.348 mg/L	0.0160	0.37%
Be 313.042†	262712.1	0.5191	mg/L	0.00282	1.038 mg/L	0.0056	0.54%
Ca 317.933†	104152.1	10.63	mg/L	0.061	21.26 mg/L	0.123	0.58%
Cd 228.802†	18433.7	0.5394	mg/L	0.00245	1.079 mg/L	0.0049	0.45%
Co 228.616†	21222.5	0.5248	mg/L	0.00172	1.050 mg/L	0.0034	0.33%
Cr 267.716†	2721.7	0.5434	mg/L	0.00075	1.087 mg/L	0.0015	0.14%
Cu 324.752†	151748.9	0.5135	mg/L	0.00238	1.027 mg/L	0.0048	0.46%
Fe 273.955†	2536.1	2.202	mg/L	0.0016	4.404 mg/L	0.0032	0.07%
K 766.490†	23659.4	10.39	mg/L	0.033	20.78 mg/L	0.066	0.32%
Mg 279.077†	12375.1	11.01	mg/L	0.037	22.02 mg/L	0.074	0.34%
Mn 257.610†	15994.1	0.5034	mg/L	0.00352	1.007 mg/L	0.0070	0.70%
Mo 202.031†	39.6	0.00187	mg/L	0.000136	0.00374 mg/L	0.000272	7.28%
Na 589.592†	141133.7	10.59	mg/L	0.042	21.17 mg/L	0.083	0.39%
Na 330.237†	235.9	10.77	mg/L	0.150	21.55 mg/L	0.299	1.39%
Ni 231.604†	1819.2	0.5376	mg/L	0.00334	1.075 mg/L	0.0067	0.62%
Pb 220.353†	18215.4	2.126	mg/L	0.0144	4.252 mg/L	0.0288	0.68%
Sb 206.836†	23.6	0.00216	mg/L	0.002891	0.00431 mg/L	0.005782	134.15%
Se 196.026†	3127.9	2.246	mg/L	0.0195	4.492 mg/L	0.0390	0.87%
Si 288.158†	1.1	0.00439	mg/L	0.003781	0.00877 mg/L	0.007563	86.23%
Sn 189.927†	-19.8	-0.00417	mg/L	0.000441	-0.00835 mg/L	0.000883	10.57%
Sr 421.552†	427246.0	0.5145	mg/L	0.00178	1.029 mg/L	0.0036	0.35%
Ti 334.903†	156.4	0.00840	mg/L	0.000188	0.01680 mg/L	0.000377	2.24%
Tl 190.801†	4599.1	2.093	mg/L	0.0126	4.186 mg/L	0.0252	0.60%
V 292.402†	81811.3	0.5305	mg/L	0.00074	1.061 mg/L	0.0015	0.14%
Zn 206.200†	1829.4	0.5362	mg/L	0.00265	1.072 mg/L	0.0053	0.49%

Sequence No.: 68

Autosampler Location: 7

Sample ID: CV-7

Date Collected: 4/1/2014 1:15:04 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2921178.7	98.65	%	0.329				0.33%
ScR 361.383	245985.6	100.1	%	1.23				1.23%
Ag 328.068†	211800.9	1.039	mg/L	0.0108	1.039	mg/L	0.0108	1.04%
Al 308.215†	2664.2	2.010	mg/L	0.0268	2.010	mg/L	0.0268	1.34%
As 188.979†	3604.7	2.121	mg/L	0.0083	2.121	mg/L	0.0083	0.39%
B 249.677†	5784.1	1.010	mg/L	0.0112	1.010	mg/L	0.0112	1.10%
Ba 233.527†	3976.1	1.041	mg/L	0.0145	1.041	mg/L	0.0145	1.40%
Be 313.042†	508985.1	1.006	mg/L	0.0030	1.006	mg/L	0.0030	0.30%
Ca 317.933†	20757.4	2.118	mg/L	0.0255	2.118	mg/L	0.0255	1.20%
Cd 228.802†	34598.2	1.023	mg/L	0.0102	1.023	mg/L	0.0102	1.00%
Co 228.616†	40482.9	0.9998	mg/L	0.01114	0.9998	mg/L	0.01114	1.11%
Cr 267.716†	5247.5	1.049	mg/L	0.0112	1.049	mg/L	0.0112	1.06%
Cu 324.752†	303411.4	1.026	mg/L	0.0110	1.026	mg/L	0.0110	1.07%
Fe 273.955†	2449.3	2.123	mg/L	0.0286	2.123	mg/L	0.0286	1.35%
K 766.490†	45436.7	19.96	mg/L	0.159	19.96	mg/L	0.159	0.80%
Mg 279.077†	2285.2	2.040	mg/L	0.0275	2.040	mg/L	0.0275	1.35%
Mn 257.610†	31035.0	0.9766	mg/L	0.00468	0.9766	mg/L	0.00468	0.48%
Mo 202.031†	18871.4	0.9719	mg/L	0.00433	0.9719	mg/L	0.00433	0.45%
Na 589.592†	679225.1	50.94	mg/L	0.371	50.94	mg/L	0.371	0.73%
Na 330.237†	1095.7	50.99	mg/L	0.598	50.99	mg/L	0.598	1.17%
Ni 231.604†	3541.6	1.049	mg/L	0.0114	1.049	mg/L	0.0114	1.09%
Pb 220.353†	17563.6	2.050	mg/L	0.0095	2.050	mg/L	0.0095	0.46%
Sb 206.836†	6725.9	2.094	mg/L	0.0120	2.094	mg/L	0.0120	0.57%
Se 196.026†	2917.2	2.094	mg/L	0.0107	2.094	mg/L	0.0107	0.51%
Si 288.158†	3417.0	1.961	mg/L	0.0185	1.961	mg/L	0.0185	0.94%
Sn 189.927†	3501.3	0.9816	mg/L	0.00788	0.9816	mg/L	0.00788	0.80%
Sr 421.552†	837571.8	1.009	mg/L	0.0062	1.009	mg/L	0.0062	0.61%
Ti 334.903†	16576.1	0.9801	mg/L	0.00288	0.9801	mg/L	0.00288	0.29%
Tl 190.801†	4513.1	2.050	mg/L	0.0090	2.050	mg/L	0.0090	0.44%
V 292.402†	157203.6	1.020	mg/L	0.0096	1.020	mg/L	0.0096	0.94%
Zn 206.200†	3572.7	1.047	mg/L	0.0127	1.047	mg/L	0.0127	1.21%

Sequence No.: 69

Autosampler Location: 1

Sample ID: CB 7

Date Collected: 4/1/2014 1:19:08 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2929809.7	98.94	%	0.834			0.84%
ScR 361.383	254814.3	103.7	%	0.80			0.77%
Ag 328.068†	-45.8	-0.00022	mg/L	0.000069	-0.00022 mg/L	0.000069	30.74%
Al 308.215†	-4.0	-0.00311	mg/L	0.003982	-0.00311 mg/L	0.003982	128.10%
As 188.979†	-1.1	-0.00059	mg/L	0.002089	-0.00059 mg/L	0.002089	351.31%
B 249.677†	14.5	0.00253	mg/L	0.001280	0.00253 mg/L	0.001280	50.61%
Ba 233.527†	1.7	0.00044	mg/L	0.000446	0.00044 mg/L	0.000446	101.10%
Be 313.042†	-1.9	-0.00000	mg/L	0.000023	-0.00000 mg/L	0.000023	622.59%
Ca 317.933†	3.1	0.00031	mg/L	0.001200	0.00031 mg/L	0.001200	385.50%
Cd 228.802†	14.8	0.00044	mg/L	0.000056	0.00044 mg/L	0.000056	12.64%
Co 228.616†	-2.2	-0.00006	mg/L	0.000040	-0.00006 mg/L	0.000040	71.15%
Cr 267.716†	0.2	0.00003	mg/L	0.001375	0.00003 mg/L	0.001375	>999.9%
Cu 324.752†	781.7	0.00264	mg/L	0.000239	0.00264 mg/L	0.000239	9.05%
Fe 273.955†	2.7	0.00236	mg/L	0.001062	0.00236 mg/L	0.001062	45.03%
K 766.490†	112.2	0.04927	mg/L	0.015305	0.04927 mg/L	0.015305	31.06%
Mg 279.077†	0.8	0.00076	mg/L	0.005004	0.00076 mg/L	0.005004	662.80%
Mn 257.610†	2.5	0.00008	mg/L	0.000088	0.00008 mg/L	0.000088	111.15%
Mo 202.031†	24.8	0.00128	mg/L	0.000437	0.00128 mg/L	0.000437	34.17%
Na 589.592†	66.1	0.00496	mg/L	0.003586	0.00496 mg/L	0.003586	72.30%
Na 330.237†	-2.7	-0.1276	mg/L	0.21757	-0.1276 mg/L	0.21757	170.57%
Ni 231.604†	-1.0	-0.00027	mg/L	0.000837	-0.00027 mg/L	0.000837	305.32%
Pb 220.353†	10.5	0.00122	mg/L	0.000540	0.00122 mg/L	0.000540	44.07%
Sb 206.836†	42.1	0.01311	mg/L	0.002659	0.01311 mg/L	0.002659	20.28%
Se 196.026†	-0.1	-0.00009	mg/L	0.005066	-0.00009 mg/L	0.005066	>999.9%
Si 288.158†	6.5	0.00372	mg/L	0.005515	0.00372 mg/L	0.005515	148.09%
Sn 189.927†	-1.7	-0.00047	mg/L	0.000257	-0.00047 mg/L	0.000257	55.05%
Sr 421.552†	29.3	0.00004	mg/L	0.000028	0.00004 mg/L	0.000028	79.28%
Ti 334.903†	27.1	0.00160	mg/L	0.000530	0.00160 mg/L	0.000530	33.12%
Tl 190.801†	-2.9	-0.00134	mg/L	0.001960	-0.00134 mg/L	0.001960	146.52%
V 292.402†	-16.2	-0.00010	mg/L	0.000231	-0.00010 mg/L	0.000231	220.41%
Zn 206.200†	2.0	0.00059	mg/L	0.000357	0.00059 mg/L	0.000357	60.63%

Sequence No.: 70
 Sample ID: YE34 MB1 SWC

Autosampler Location: 351
 Date Collected: 4/1/2014 1:23:24 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 MB1 SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE34 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905664.8	98.12 %	%	0.777			0.79%
ScR 361.383	248916.5	101.3 %	%	0.44			0.44%
Ag 328.068†	24.3	0.00012 mg/L	mg/L	0.000043	0.00024 mg/L	0.000086	36.00%
Al 308.215†	43.7	0.03348 mg/L	mg/L	0.003817	0.06696 mg/L	0.007635	11.40%
As 188.979†	-1.0	-0.00046 mg/L	mg/L	0.001513	-0.00091 mg/L	0.003026	330.83%
B 249.677†	6.5	0.00114 mg/L	mg/L	0.000974	0.00228 mg/L	0.001949	85.63%
Ba 233.527†	-2.5	-0.00067 mg/L	mg/L	0.001008	-0.00134 mg/L	0.002016	150.66%
Be 313.042†	49.5	0.00010 mg/L	mg/L	0.000005	0.00020 mg/L	0.000009	4.73%
Ca 317.933†	435.4	0.04444 mg/L	mg/L	0.001349	0.08887 mg/L	0.002697	3.04%
Cd 228.802†	13.9	0.00042 mg/L	mg/L	0.000035	0.00083 mg/L	0.000071	8.48%
Co 228.616†	4.8	0.00011 mg/L	mg/L	0.000077	0.00022 mg/L	0.000155	69.42%
Cr 267.716†	0.5	0.00010 mg/L	mg/L	0.000257	0.00021 mg/L	0.000515	247.81%
Cu 324.752†	846.2	0.00286 mg/L	mg/L	0.000277	0.00572 mg/L	0.000554	9.68%
Fe 273.955†	13.7	0.01188 mg/L	mg/L	0.001126	0.02376 mg/L	0.002251	9.47%
K 766.490†	69.5	0.03051 mg/L	mg/L	0.005787	0.06101 mg/L	0.011574	18.97%
Mg 279.077†	14.7	0.01304 mg/L	mg/L	0.007277	0.02609 mg/L	0.014555	55.79%
Mn 257.610†	6.8	0.00021 mg/L	mg/L	0.000089	0.00043 mg/L	0.000177	41.32%
Mo 202.031†	9.9	0.00051 mg/L	mg/L	0.000185	0.00102 mg/L	0.000370	36.33%
Na 589.592†	118.6	0.00890 mg/L	mg/L	0.003229	0.01780 mg/L	0.006459	36.29%
Na 330.237†	-1.0	-0.04731 mg/L	mg/L	0.025606	-0.09462 mg/L	0.051213	54.12%
Ni 231.604†	-2.2	-0.00064 mg/L	mg/L	0.001309	-0.00128 mg/L	0.002619	204.80%
Pb 220.353†	0.6	0.00007 mg/L	mg/L	0.000539	0.00014 mg/L	0.001078	751.65%
Sb 206.836†	6.8	0.00211 mg/L	mg/L	0.001092	0.00422 mg/L	0.002184	51.72%
Se 196.026†	0.2	0.00017 mg/L	mg/L	0.003540	0.00034 mg/L	0.007079	>999.9%
Si 288.158†	-5.1	-0.00292 mg/L	mg/L	0.002382	-0.00584 mg/L	0.004763	81.62%
Sn 189.927†	-4.2	-0.00116 mg/L	mg/L	0.000646	-0.00232 mg/L	0.001292	55.69%
Sr 421.552†	67.2	0.00008 mg/L	mg/L	0.000050	0.00016 mg/L	0.000100	61.94%
Ti 334.903†	67.0	0.00396 mg/L	mg/L	0.000079	0.00792 mg/L	0.000158	1.99%
Tl 190.801†	3.3	0.00152 mg/L	mg/L	0.001176	0.00304 mg/L	0.002352	77.31%
V 292.402†	-3.5	-0.00002 mg/L	mg/L	0.000104	-0.00005 mg/L	0.000207	421.56%
Zn 206.200†	6.3	0.00185 mg/L	mg/L	0.000594	0.00371 mg/L	0.001188	32.03%

Sequence No.: 71
 Sample ID: YE34 E SWC

Autosampler Location: 352
 Date Collected: 4/1/2014 1:27:25 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 E SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2922392.1	98.69 %	%	0.394			0.40%
ScR 361.383	252938.4	102.9 %	%	0.53			0.51%
Ag 328.068†	-289.7	-0.00110 mg/L	mg/L	0.000105	-0.00219 mg/L	0.000210	9.57%
Al 308.215†	221027.9	169.4 mg/L	mg/L	0.56	338.7 mg/L	1.12	0.33%
As 188.979†	-366.4	0.08004 mg/L	mg/L	0.003172	0.1601 mg/L	0.00634	3.96%
B 249.677†	484.0	0.08436 mg/L	mg/L	0.000682	0.1687 mg/L	0.00136	0.81%
Ba 233.527†	2254.1	0.5602 mg/L	mg/L	0.00321	1.120 mg/L	0.0064	0.57%
Be 213.042†	1384.5	0.00253 mg/L	mg/L	0.000014	0.00507 mg/L	0.000027	0.54%
Ca 317.933†	338653.9	34.56 mg/L	mg/L	0.152	69.12 mg/L	0.304	0.44%
Cd 228.802†	-44.5	0.00291 mg/L	mg/L	0.000043	0.00581 mg/L	0.000087	1.49%
Co 228.616†	4385.0	0.09283 mg/L	mg/L	0.000845	0.1857 mg/L	0.00169	0.91%
Cr 267.716†	3074.7	0.6163 mg/L	mg/L	0.00210	1.233 mg/L	0.0042	0.34%
Cu 324.752†	166148.2	0.5688 mg/L	mg/L	0.00365	1.138 mg/L	0.0073	0.64%
Fe 273.955†	218186.7	189.7 mg/L	mg/L	1.81	379.5 mg/L	3.62	0.95%
K 766.490†	13177.9	5.788 mg/L	mg/L	0.0492	11.58 mg/L	0.098	0.85%
Mg 279.077†	56435.9	50.10 mg/L	mg/L	0.185	100.2 mg/L	0.37	0.37%
Mn 257.610†	75890.8	2.385 mg/L	mg/L	0.0250	4.771 mg/L	0.0499	1.05%
Mo 202.031†	123.7	0.00583 mg/L	mg/L	0.000256	0.01167 mg/L	0.000512	4.39%
Na 589.592†	19798.6	1.485 mg/L	mg/L	0.0081	2.970 mg/L	0.0163	0.55%
Na 330.237†	-15.0	1.141 mg/L	mg/L	0.2304	2.283 mg/L	0.4608	20.19%
Ni 231.604†	16440.3	4.866 mg/L	mg/L	0.0128	9.732 mg/L	0.0256	0.26%
Pb 220.353†	1084.0	0.1608 mg/L	mg/L	0.00010	0.3217 mg/L	0.00020	0.06%
Sb 206.836†	60.4	0.01887 mg/L	mg/L	0.003303	0.03773 mg/L	0.006607	17.51%
Se 196.026†	37.1	0.02632 mg/L	mg/L	0.007879	0.05264 mg/L	0.015758	29.94%
Si 288.158†	1654.3	0.9532 mg/L	mg/L	0.00607	1.906 mg/L	0.0121	0.64%
Sn 189.927†	-45.8	-0.00704 mg/L	mg/L	0.001125	-0.01409 mg/L	0.002249	15.96%
Sr 421.552†	113964.5	0.1372 mg/L	mg/L	0.00081	0.2745 mg/L	0.00162	0.59%
Ti 334.903†	140167.7	8.296 mg/L	mg/L	0.0472	16.59 mg/L	0.094	0.57%
Tl 190.801†	-37.5	0.00227 mg/L	mg/L	0.001875	0.00454 mg/L	0.003749	82.51%
V 292.402†	69175.1	0.4341 mg/L	mg/L	0.00222	0.8682 mg/L	0.00444	0.51%
Zn 206.200†	1751.7	0.5135 mg/L	mg/L	0.00211	1.027 mg/L	0.0042	0.41%

Sequence No.: 72

Autosampler Location: 353

Sample ID: YE34 F SWC

Date Collected: 4/1/2014 1:31:25 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 F SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 F SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2925368.3	98.79 %	0.697			0.71%
ScR 361.383	252244.9	102.6 %	0.70			0.68%
Ag 328.068†	-227.4	-0.00076 mg/L	0.000130	-0.00153 mg/L	0.000260	17.04%
Al 308.215†	159948.1	122.6 mg/L	0.51	245.1 mg/L	1.01	0.41%
As 188.979†	-327.2	0.07868 mg/L	0.003376	0.1574 mg/L	0.00675	4.29%
B 249.677†	419.0	0.07306 mg/L	0.000415	0.1461 mg/L	0.00083	0.57%
Ba 233.527†	1723.3	0.4255 mg/L	0.00382	0.8510 mg/L	0.00765	0.90%
Be 313.042†	984.1	0.00176 mg/L	0.000018	0.00353 mg/L	0.000036	1.02%
Ca 317.933†	406907.0	41.53 mg/L	0.194	83.05 mg/L	0.389	0.47%
Cd 228.802†	75.2	0.00239 mg/L	0.000085	0.00478 mg/L	0.000169	3.55%
Co 228.616†	3376.9	0.06978 mg/L	0.000391	0.1396 mg/L	0.00078	0.56%
Cr 267.716†	1465.6	0.2928 mg/L	0.00307	0.5856 mg/L	0.00614	1.05%
Cu 324.752†	113540.7	0.3898 mg/L	0.00227	0.7796 mg/L	0.00454	0.58%
Fe 273.955†	190324.5	165.5 mg/L	0.89	331.0 mg/L	1.78	0.54%
K 766.490†	13124.7	5.764 mg/L	0.0246	11.53 mg/L	0.049	0.43%
Mg 279.077†	65596.1	58.27 mg/L	0.217	116.5 mg/L	0.43	0.37%
Mn 257.610†	81411.3	2.559 mg/L	0.0137	5.119 mg/L	0.0274	0.54%
Mo 202.031†	76.8	0.00331 mg/L	0.000286	0.00662 mg/L	0.000572	8.63%
Na 589.592†	58378.9	4.379 mg/L	0.0139	8.757 mg/L	0.0278	0.32%
Na 330.237†	52.8	4.136 mg/L	0.0156	8.272 mg/L	0.0312	0.38%
Ni 231.604†	2173.8	0.6434 mg/L	0.00620	1.287 mg/L	0.0124	0.96%
Pb 220.353†	-51.3	0.01698 mg/L	0.000270	0.03396 mg/L	0.000539	1.59%
Sb 206.836†	36.7	0.01492 mg/L	0.002982	0.02984 mg/L	0.005964	19.99%
Se 196.026†	31.6	0.02239 mg/L	0.002599	0.04478 mg/L	0.005198	11.61%
Si 288.158†	2476.2	1.424 mg/L	0.0113	2.849 mg/L	0.0226	0.79%
Sn 189.927†	-64.7	-0.01164 mg/L	0.001560	-0.02327 mg/L	0.003120	13.41%
Sr 421.552†	129713.9	0.1562 mg/L	0.00078	0.3124 mg/L	0.00155	0.50%
Ti 334.903†	128854.3	7.626 mg/L	0.0367	15.25 mg/L	0.073	0.48%
Tl 190.801†	-28.0	0.00425 mg/L	0.001818	0.00849 mg/L	0.003636	42.82%
V 292.402†	61419.4	0.3845 mg/L	0.00134	0.7690 mg/L	0.00269	0.35%
Zn 206.200†	1074.0	0.3150 mg/L	0.00146	0.6299 mg/L	0.00292	0.46%

YE34:00167

Sequence No.: 73
 Sample ID: YE34H SWC
 Dilution: 2.000000X

Autosampler Location: 354
 Date Collected: 4/1/2014 1:35:25 PM
 Data Type: Original

44-14

Nebulizer Parameters: YE34H SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34H SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2914229.1	98.41	%	0.470			0.48%
ScR 361.383	251232.3	102.2	%	0.51			0.50%
Ag 328.068†	-199.5	-0.00069	mg/L	0.000123	-0.00139 mg/L	0.000246	17.78%
Al 308.215†	122498.7	93.85	mg/L	0.484	187.7 mg/L	0.97	0.52%
As 188.979†	-296.9	0.08346	mg/L	0.003039	0.1669 mg/L	0.00608	3.64%
B 249.677†	1048.7	0.1831	mg/L	0.00064	0.3663 mg/L	0.00129	0.35%
Ba 233.527†	2296.4	0.5664	mg/L	0.00476	1.133 mg/L	0.0095	0.84%
Be 313.042†	633.7	0.00105	mg/L	0.000023	0.00210 mg/L	0.000046	2.18%
Ca 317.933†	257493.2	26.28	mg/L	0.037	52.55 mg/L	0.075	0.14%
Cd 228.802†	99.3	0.00339	mg/L	0.000173	0.00678 mg/L	0.000347	5.11%
Co 228.616†	2410.4	0.04595	mg/L	0.000180	0.09190 mg/L	0.000359	0.39%
Cr 267.716†	33211.0	6.648	mg/L	0.0374	13.30 mg/L	0.075	0.56%
Cu 324.752†	217341.6	0.7438	mg/L	0.00180	1.488 mg/L	0.0036	0.24%
Fe 273.955†	257742.6	224.1	mg/L	1.09	448.3 mg/L	2.17	0.48%
K 766.490†	14268.8	6.267	mg/L	0.0356	12.53 mg/L	0.071	0.57%
Mg 279.077†	47746.4	42.35	mg/L	0.115	84.71 mg/L	0.230	0.27%
Mn 257.610†	54387.6	1.710	mg/L	0.0029	3.419 mg/L	0.0057	0.17%
Mo 202.031†	89.3	0.00419	mg/L	0.000168	0.00838 mg/L	0.000336	4.00%
Na 589.592†	96411.5	7.231	mg/L	0.0267	14.46 mg/L	0.053	0.37%
Na 330.237†	112.1	6.974	mg/L	0.2572	13.95 mg/L	0.514	3.69%
Ni 231.604†	5168.5	1.530	mg/L	0.0110	3.060 mg/L	0.0219	0.72%
Pb 220.353†	-60.0	0.01783	mg/L	0.000043	0.03567 mg/L	0.000086	0.24%
Sb 206.836†	314.0	0.01907	mg/L	0.002591	0.03813 mg/L	0.005181	13.59%
Se 196.026†	25.7	0.01812	mg/L	0.008054	0.03623 mg/L	0.016108	44.45%
Si 288.158†	2269.0	1.308	mg/L	0.0142	2.615 mg/L	0.0284	1.09%
Sn 189.927†	-48.7	-0.00897	mg/L	0.000750	-0.01794 mg/L	0.001501	8.37%
Sr 421.552†	123316.1	0.1485	mg/L	0.00061	0.2970 mg/L	0.00122	0.41%
Ti 334.903†	126581.7	7.491	mg/L	0.0307	14.98 mg/L	0.061	0.41%
Tl 190.801†	-29.8	0.00737	mg/L	0.001579	0.01474 mg/L	0.003158	21.43%
V 292.402†	76317.9	0.5035	mg/L	0.00280	1.007 mg/L	0.0056	0.56%
Zn 206.200†	891.2	0.2631	mg/L	0.00127	0.5262 mg/L	0.00254	0.48%

Sequence No.: 74
 Sample ID: YE34 I SWC

Autosampler Location: 355
 Date Collected: 4/1/2014 1:39:25 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 I SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34 I SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253 *	2914123.2	98.41	%	0.595			0.60%
ScR 361.383	251001.3	102.1	%	0.80			0.78%
Ag 328.068†	-211.0	-0.00056	mg/L	0.000187	-0.00112 mg/L	0.000375	33.46%
Al 308.215†	211272.1	161.9	mg/L	1.00	323.8 mg/L	2.01	0.62%
As 188.979†	-310.9	0.09927	mg/L	0.005360	0.1985 mg/L	0.01072	5.40%
B 249.677†	713.9	0.1245	mg/L	0.00119	0.2491 mg/L	0.00238	0.95%
Ba 233.527†	3275.1	0.8270	mg/L	0.00585	1.654 mg/L	0.0117	0.71%
Be 313.042†	1246.6	0.00227	mg/L	0.000029	0.00453 mg/L	0.000058	1.29%
Ca 317.933†	586824.7	59.89	mg/L	0.211	119.8 mg/L	0.42	0.35%
Cd 228.802†	-37.7	0.00618	mg/L	0.000072	0.01236 mg/L	0.000144	1.16%
Co 228.616†	4336.1	0.09155	mg/L	0.000954	0.1831 mg/L	0.00191	1.04%
Cr 267.716†	7229.8	1.447	mg/L	0.0077	2.895 mg/L	0.0153	0.53%
Cu 324.752†	389190.7	1.323	mg/L	0.0146	2.647 mg/L	0.0292	1.10%
Fe 273.955†	219299.3	190.7	mg/L	0.47	381.4 mg/L	0.95	0.25%
K 766.490†	14981.4	6.580	mg/L	0.0438	13.16 mg/L	0.088	0.67%
Mg 279.077†	56154.5	49.85	mg/L	0.179	99.69 mg/L	0.357	0.36%
Mn 257.610†	101393.1	3.188	mg/L	0.0087	6.375 mg/L	0.0174	0.27%
Mo 202.031†	140.4	0.00630	mg/L	0.000438	0.01261 mg/L	0.000876	6.95%
Na 589.592†	26525.0	1.989	mg/L	0.0109	3.979 mg/L	0.0218	0.55%
Na 330.237†	5.7	1.813	mg/L	0.3107	3.627 mg/L	0.6214	17.13%
Ni 231.604†	27479.2	8.134	mg/L	0.0350	16.27 mg/L	0.070	0.43%
Pb 220.353†	3099.0	0.3950	mg/L	0.00301	0.7899 mg/L	0.00601	0.76%
Sb 206.836†	104.1	0.02143	mg/L	0.002212	0.04287 mg/L	0.004423	10.32%
Se 196.026†	40.8	0.02897	mg/L	0.002218	0.05795 mg/L	0.004435	7.65%
Si 288.158†	2337.0	1.344	mg/L	0.0106	2.689 mg/L	0.0212	0.79%
Sn 189.927†	-48.5	-0.00477	mg/L	0.002058	-0.00953 mg/L	0.004115	43.16%
Sr 421.552†	200526.9	0.2415	mg/L	0.00087	0.4829 mg/L	0.00175	0.36%
Ti 334.903†	135682.3	8.029	mg/L	0.0291	16.06 mg/L	0.058	0.36%
Tl 190.801†	-34.6	0.00342	mg/L	0.002115	0.00683 mg/L	0.004230	61.90%
V 292.402†	67868.7	0.4293	mg/L	0.00417	0.8587 mg/L	0.00835	0.97%
Zn 206.200†	2525.0	0.7403	mg/L	0.00307	1.481 mg/L	0.0061	0.41%

Sequence No.: 75
Sample ID: YE34 J SWC

Autosampler Location: 356
Date Collected: 4/1/2014 1:43:26 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 J SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE34 J SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2923602.8	98.73	%	0.670			0.68%
ScR 361.383	251088.0	102.2	%	0.43			0.42%
Ag 328.068†	-312.9	-0.00118	mg/L	0.000446	-0.00237 mg/L	0.000892	37.69%
Al 308.215†	173778.1	133.2	mg/L	0.50	266.3 mg/L	0.99	0.37%
As 188.979†	-322.8	0.07735	mg/L	0.005479	0.1547 mg/L	0.01096	7.08%
B 249.677†	168.5	0.02927	mg/L	0.001649	0.05854 mg/L	0.003299	5.64%
Ba 233.527†	2149.3	0.5360	mg/L	0.00356	1.072 mg/L	0.0071	0.66%
Be 313.042†	1153.6	0.00209	mg/L	0.000006	0.00418 mg/L	0.000012	0.29%
Ca 317.933†	386968.1	39.49	mg/L	0.196	78.98 mg/L	0.392	0.50%
Cd 228.802†	57.2	0.00174	mg/L	0.000020	0.00348 mg/L	0.000039	1.13%
Co 228.616†	3548.2	0.07421	mg/L	0.000403	0.1484 mg/L	0.00081	0.54%
Cr 267.716†	1648.2	0.3290	mg/L	0.00237	0.6580 mg/L	0.00473	0.72%
Cu 324.752†	42100.3	0.1484	mg/L	0.00179	0.2968 mg/L	0.00357	1.20%
Fe 273.955†	197890.6	172.1	mg/L	0.29	344.2 mg/L	0.58	0.17%
K 766.490†	24089.8	10.58	mg/L	0.021	21.16 mg/L	0.041	0.19%
Mg 279.077†	72701.2	64.59	mg/L	0.133	129.2 mg/L	0.27	0.21%
Mn 257.610†	74873.4	2.354	mg/L	0.0057	4.707 mg/L	0.0115	0.24%
Mo 202.031†	89.7	0.00401	mg/L	0.000453	0.00801 mg/L	0.000905	11.30%
Na 589.592†	22427.9	1.682	mg/L	0.0060	3.364 mg/L	0.0120	0.36%
Na 330.237†	-10.6	1.165	mg/L	0.1784	2.329 mg/L	0.3569	15.32%
Ni 231.604†	2032.2	0.6015	mg/L	0.00361	1.203 mg/L	0.0072	0.60%
Pb 220.353†	-78.9	0.01649	mg/L	0.000497	0.03298 mg/L	0.000993	3.01%
Sb 206.836†	40.0	0.01555	mg/L	0.002136	0.03110 mg/L	0.004272	13.74%
Se 196.026†	38.2	0.02712	mg/L	0.005641	0.05425 mg/L	0.011282	20.80%
Si 288.158†	2210.1	1.273	mg/L	0.0174	2.546 mg/L	0.0347	1.36%
Sn 189.927†	-59.7	-0.01051	mg/L	0.001384	-0.02102 mg/L	0.002767	13.17%
Sr 421.552†	116694.7	0.1405	mg/L	0.00052	0.2810 mg/L	0.00104	0.37%
Ti 334.903†	126941.8	7.513	mg/L	0.0238	15.03 mg/L	0.048	0.32%
Tl 190.801†	-27.6	0.00501	mg/L	0.001053	0.01002 mg/L	0.002107	21.03%
V 292.402†	67905.4	0.4262	mg/L	0.00451	0.8524 mg/L	0.00902	1.06%
Zn 206.200†	1090.5	0.3198	mg/L	0.00162	0.6395 mg/L	0.00324	0.51%

Sequence No.: 76

Sample ID: YE34 ADUP SWC

Autosampler Location: 357

Date Collected: 4/1/2014 1:47:26 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 ADUP SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE34 ADUP SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2945521.2		99.47 %	0.648			0.65%
ScR 361.383	253807.8		103.3 %	0.32			0.31%
Ag 328.068†	-324.1	-0.00131	mg/L	0.000179	-0.00261	mg/L	0.000357 13.66%
Al 308.215†	202610.3	155.2	mg/L	0.18	310.5	mg/L	0.35 0.11%
As 188.979†	-336.8	0.07829	mg/L	0.003094	0.1566	mg/L	0.00619 3.95%
B 249.677†	412.6	0.07188	mg/L	0.001365	0.1438	mg/L	0.00273 1.90%
Ba 233.527†	1919.8	0.4760	mg/L	0.00583	0.9520	mg/L	0.01165 1.22%
Be 313.042†	1170.4	0.00213	mg/L	0.000022	0.00427	mg/L	0.000045 1.05%
Ca 317.933†	298148.3	30.43	mg/L	0.053	60.85	mg/L	0.106 0.17%
Cd 228.802†	-104.3	0.00392	mg/L	0.000218	0.00784	mg/L	0.000436 5.56%
Co 228.616†	4139.5	0.08732	mg/L	0.000533	0.1746	mg/L	0.00107 0.61%
Cr 267.716†	1339.4	0.2688	mg/L	0.00058	0.5377	mg/L	0.00115 0.21%
Cu 324.752†	53227.7	0.1859	mg/L	0.00075	0.3717	mg/L	0.00151 0.41%
Fe 273.955†	191084.5	166.2	mg/L	0.75	332.3	mg/L	1.50 0.45%
K 766.490†	13507.2	5.932	mg/L	0.0234	11.86	mg/L	0.047 0.39%
Mg 279.077†	51141.8	45.40	mg/L	0.039	90.81	mg/L	0.078 0.09%
Mn 257.610†	81790.3	2.571	mg/L	0.0081	5.142	mg/L	0.0161 0.31%
Mo 202.031†	81.0	0.00370	mg/L	0.000258	0.00740	mg/L	0.000516 6.97%
Na 589.592†	23111.3	1.733	mg/L	0.0036	3.467	mg/L	0.0073 0.21%
Na 330.237†	-2.1	1.530	mg/L	0.0566	3.060	mg/L	0.1133 3.70%
Ni 231.604†	25572.5	7.569	mg/L	0.0588	15.14	mg/L	0.118 0.78%
Pb 220.353†	1120.8	0.1629	mg/L	0.00065	0.3258	mg/L	0.00130 0.40%
Sb 206.836†	35.4	0.01494	mg/L	0.002430	0.02989	mg/L	0.004860 16.26%
Se 196.026†	40.2	0.02856	mg/L	0.004091	0.05711	mg/L	0.008183 14.33%
Si 288.158†	1734.2	0.9981	mg/L	0.00750	1.996	mg/L	0.0150 0.75%
Sn 189.927†	-47.5	-0.00813	mg/L	0.000463	-0.01627	mg/L	0.000927 5.70%
Sr 421.552†	104177.6	0.1254	mg/L	0.00011	0.2509	mg/L	0.00023 0.09%
Ti 334.903†	130802.2	7.742	mg/L	0.0029	15.48	mg/L	0.006 0.04%
Tl 190.801†	-28.1	0.00426	mg/L	0.002119	0.00851	mg/L	0.004238 49.79%
V 292.402†	59436.9	0.3715	mg/L	0.00177	0.7430	mg/L	0.00355 0.48%
Zn 206.200†	2806.5	0.8224	mg/L	0.00421	1.645	mg/L	0.0084 0.51%

YE34 : 00171

Sequence No.: 77
 Sample ID: YE34 A SWC

Autosampler Location: 358
 Date Collected: 4/1/2014 1:51:26 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 A SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

 Mean Data: YE34 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932298.6	99.02	%	0.570			0.58%
ScR 361.383	255259.8	103.9	%	0.81			0.78%
Ag 328.068†	-303.6	-0.00116	mg/L	0.000062	-0.00232 mg/L	0.000124	5.36%
Al 308.215†	223960.3	171.6	mg/L	0.58	343.2 mg/L	1.17	0.34%
As 188.979†	-364.3	0.08488	mg/L	0.001224	0.1698 mg/L	0.00245	1.44%
B 249.677†	445.1	0.07756	mg/L	0.000489	0.1551 mg/L	0.00098	0.63%
Ba 233.527†	2351.7	0.5842	mg/L	0.00380	1.168 mg/L	0.0076	0.65%
Be 313.042†	1331.2	0.00242	mg/L	0.000025	0.00485 mg/L	0.000051	1.05%
Ca 317.933†	337557.7	34.45	mg/L	0.173	68.90 mg/L	0.346	0.50%
Cd 228.802†	-147.5	0.00458	mg/L	0.000227	0.00917 mg/L	0.000453	4.94%
Co 228.616†	4700.8	0.09969	mg/L	0.000297	0.1994 mg/L	0.00059	0.30%
Cr 267.716†	2568.4	0.5153	mg/L	0.00401	1.031 mg/L	0.0080	0.78%
Cu 324.752†	150634.1	0.5166	mg/L	0.00490	1.033 mg/L	0.0098	0.95%
Fe 273.955†	225141.9	195.8	mg/L	1.12	391.6 mg/L	2.24	0.57%
K 766.490†	13861.9	6.088	mg/L	0.0167	12.18 mg/L	0.033	0.27%
Mg 279.077†	54881.4	48.71	mg/L	0.257	97.43 mg/L	0.513	0.53%
Mn 257.610†	84609.5	2.660	mg/L	0.0125	5.319 mg/L	0.0250	0.47%
Mo 202.031†	290.9	0.01445	mg/L	0.000089	0.02890 mg/L	0.000179	0.62%
Na 589.592†	26879.1	2.016	mg/L	0.0080	4.032 mg/L	0.0160	0.40%
Na 330.237†	0.8	1.774	mg/L	0.0985	3.547 mg/L	0.1970	5.55%
Ni 231.604†	32831.3	9.718	mg/L	0.0622	19.44 mg/L	0.124	0.64%
Pb 220.353†	2881.2	0.3713	mg/L	0.00158	0.7425 mg/L	0.00316	0.43%
Sb 206.836†	57.1	0.01929	mg/L	0.002194	0.03859 mg/L	0.004388	11.37%
Se 196.026†	43.1	0.03064	mg/L	0.005605	0.06129 mg/L	0.011211	18.29%
Si 288.158†	1825.1	1.051	mg/L	0.0084	2.101 mg/L	0.0168	0.80%
Sn 189.927†	-42.7	-0.00618	mg/L	0.001336	-0.01235 mg/L	0.002672	21.63%
Sr 421.552†	117357.2	0.1413	mg/L	0.00040	0.2826 mg/L	0.00079	0.28%
Ti 334.903†	141803.2	8.393	mg/L	0.0343	16.79 mg/L	0.069	0.41%
Tl 190.801†	-36.3	0.00345	mg/L	0.000535	0.00689 mg/L	0.001070	15.52%
V 292.402†	71659.6	0.4494	mg/L	0.00398	0.8988 mg/L	0.00795	0.88%
Zn 206.200†	3307.2	0.9692	mg/L	0.00546	1.938 mg/L	0.0109	0.56%

Sequence No.: 78

Sample ID: YE34 ASPK SWC

Autosampler Location: 359

Date Collected: 4/1/2014 1:55:26 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 ASPK SWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE34 ASPK SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2982544.8	100.7 %	1.11			1.10%
ScR 361.383	132893.9	54.08 %	0.444			0.82%
Saturated within auto integration window (code 4)						
Ag 328.068†	102048.5	0.5009 mg/L	0.00411	1.002 mg/L	0.0082	0.82%
Al 308.215†	3920.6	2.990 mg/L	1.5476	5.980 mg/L	3.0953	51.76%
Saturated within auto integration window (code 4)						
As 188.979†	3052.2	1.774 mg/L	0.0262	3.548 mg/L	0.0523	1.47%
B 249.677†	768.8	0.1331 mg/L	0.06746	0.2661 mg/L	0.13491	50.69%
Saturated within auto integration window (code 4)						
Ba 233.527†	7387.0	1.933 mg/L	0.4340	3.867 mg/L	0.8681	22.45%
Saturated within auto integration window (code 4)						
Be 313.042†	2298.6	0.00430 mg/L	0.003106	0.00861 mg/L	0.006212	72.18%
Saturated within auto integration window (code 4)						
Ca 317.933†	188.4	0.01923 mg/L	0.010966	0.03846 mg/L	0.021933	57.03%
Saturated within auto integration window (code 4)						
Cd 228.802†	17528.6	0.5165 mg/L	0.00632	1.033 mg/L	0.0126	1.22%
Co 228.616†	24666.2	0.6095 mg/L	0.00704	1.219 mg/L	0.0141	1.15%
Cr 267.716†	5195.5	1.039 mg/L	0.4761	2.078 mg/L	0.9522	45.82%
Cu 324.752†	216681.2	0.7333 mg/L	0.00868	1.467 mg/L	0.0174	1.18%
Fe 273.955†	3608.8	3.132 mg/L	0.8106	6.264 mg/L	1.6213	25.88%
Saturated within auto integration window (code 4)						
K 766.490†	45300.0	19.90 mg/L	17.040	39.79 mg/L	34.079	85.65%
Mg 279.077†	2388.4	2.126 mg/L	2.7233	4.251 mg/L	5.4466	128.11%
Saturated within auto integration window (code 4)						
Mn 257.610†	9537.9	0.3004 mg/L	0.01239	0.6009 mg/L	0.02478	4.12%
Saturated within auto integration window (code 4)						
Mo 202.031†	103.1	0.00531 mg/L	0.000419	0.01062 mg/L	0.000839	7.90%
Na 589.592†	119680.8	8.976 mg/L	7.8042	17.95 mg/L	15.608	86.94%
Saturated within auto integration window (code 4)						
Na 330.237†	189.6	8.328 mg/L	8.1711	16.66 mg/L	16.342	98.12%
Ni 231.604†	7874.6	2.330 mg/L	0.0027	4.660 mg/L	0.0055	0.12%
Saturated within auto integration window (code 4)						
Pb 220.353†	17975.4	2.099 mg/L	0.0252	4.198 mg/L	0.0504	1.20%
Sb 206.836†	55.2	0.00717 mg/L	0.006187	0.01435 mg/L	0.012374	86.25%
Se 196.026†	2848.4	2.045 mg/L	0.0333	4.090 mg/L	0.0667	1.63%
Si 288.158†	2760.4	1.583 mg/L	0.3949	3.166 mg/L	0.7899	24.95%
Sn 189.927†	-66.2	-0.01842 mg/L	0.000544	-0.03684 mg/L	0.001088	2.95%
Sr 421.552†	167659.9	0.2019 mg/L	0.17457	0.4038 mg/L	0.34915	86.47%
Saturated within auto integration window (code 4)						
Ti 334.903†	2501.9	0.1479 mg/L	0.07317	0.2958 mg/L	0.14634	49.46%
Saturated within auto integration window (code 4)						
Tl 190.801†	4119.7	1.872 mg/L	0.0213	3.744 mg/L	0.0426	1.14%
V 292.402†	149342.7	0.9685 mg/L	0.00645	1.937 mg/L	0.0129	0.67%
Zn 206.200†	6433.8	1.885 mg/L	0.8823	3.771 mg/L	1.7646	46.79%

YE34 : 00173

Sequence No.: 79
Sample ID: YE34 APOST SWC

Autosampler Location: 360
Date Collected: 4/1/2014 1:59:26 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 APOST SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 APOST SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2960051.2	99.96 %		1.031			1.03%
ScR 361.383	255321.7	103.9 %		1.51			1.46%
Ag 328.068†	98329.6	0.4830 mg/L		0.00269	0.9659 mg/L	0.00537	0.56%
Al 308.215†	218724.9	167.6 mg/L		2.36	335.2 mg/L	4.71	1.41%
As 188.979†	3242.1	2.164 mg/L		0.0089	4.328 mg/L	0.0179	0.41%
B 249.677†	439.5	0.07554 mg/L		0.000395	0.1511 mg/L	0.00079	0.52%
Ba 233.527†	9981.9	2.583 mg/L		0.0239	5.166 mg/L	0.0479	0.93%
Be 313.042†	231031.4	0.4563 mg/L		0.00327	0.9126 mg/L	0.00653	0.72%
Ca 317.933†	421744.9	43.04 mg/L		0.508	86.08 mg/L	1.016	1.18%
Cd 228.802†	17513.4	0.5213 mg/L		0.00497	1.043 mg/L	0.0099	0.95%
Co 228.616†	24226.9	0.5832 mg/L		0.00547	1.166 mg/L	0.0109	0.94%
Cr 267.716†	5024.6	1.006 mg/L		0.0156	2.011 mg/L	0.0312	1.55%
Cu 324.752†	299069.0	1.019 mg/L		0.0062	2.037 mg/L	0.0125	0.61%
Fe 273.955†	216978.1	188.7 mg/L		2.44	377.3 mg/L	4.88	1.29%
K 766.490†	36048.3	15.83 mg/L		0.217	31.66 mg/L	0.433	1.37%
Mg 279.077†	63894.5	56.74 mg/L		0.758	113.5 mg/L	1.52	1.34%
Mn 257.610†	95761.2	3.011 mg/L		0.0356	6.022 mg/L	0.0713	1.18%
Mo 202.031†	289.2	0.01423 mg/L		0.000329	0.02845 mg/L	0.000658	2.31%
Na 589.592†	160443.6	12.03 mg/L		0.154	24.07 mg/L	0.309	1.28%
Na 330.237†	225.5	11.97 mg/L		0.258	23.95 mg/L	0.516	2.15%
Ni 231.604†	33097.1	9.796 mg/L		0.1664	19.59 mg/L	0.333	1.70%
Pb 220.353†	19612.8	2.323 mg/L		0.0167	4.646 mg/L	0.0333	0.72%
Sb 206.836†	72.2	0.01908 mg/L		0.001789	0.03816 mg/L	0.003578	9.38%
Se 196.026†	2964.2	2.128 mg/L		0.0209	4.256 mg/L	0.0418	0.98%
Si 288.158†	1799.0	1.039 mg/L		0.0115	2.078 mg/L	0.0229	1.10%
Sn 189.927†	-58.8	-0.00962 mg/L		0.001240	-0.01924 mg/L	0.002480	12.89%
Sr 421.552†	517928.8	0.6237 mg/L		0.00816	1.247 mg/L	0.0163	1.31%
Ti 334.903†	136578.8	8.083 mg/L		0.1014	16.17 mg/L	0.203	1.25%
Tl 190.801†	4112.9	1.891 mg/L		0.0120	3.781 mg/L	0.0240	0.63%
V 292.402†	145829.8	0.9310 mg/L		0.00553	1.862 mg/L	0.0111	0.59%
Zn 206.200†	4878.3	1.430 mg/L		0.0225	2.859 mg/L	0.0450	1.58%

Sequence No.: 80

Autosampler Location: 7

Sample ID: CV 9

Date Collected: 4/1/2014 2:03:27 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2963114.5	100.1 %	0.90			0.90%
ScR 361.383	250207.7	101.8 %	0.23			0.22%
Ag 328.068†	209585.7	1.029 mg/L	0.0179	1.029 mg/L	0.0179	1.74%
Al 308.215†	2647.3	1.997 mg/L	0.0034	1.997 mg/L	0.0034	0.17%
As 188.979†	3509.4	2.065 mg/L	0.0245	2.065 mg/L	0.0245	1.19%
B 249.677†	5725.6	0.9995 mg/L	0.00545	0.9995 mg/L	0.00545	0.55%
Ba 233.527†	3936.3	1.030 mg/L	0.0038	1.030 mg/L	0.0038	0.37%
Be 313.042†	498376.6	0.9847 mg/L	0.00309	0.9847 mg/L	0.00309	0.31%
Ca 317.933†	20500.2	2.092 mg/L	0.0115	2.092 mg/L	0.0115	0.55%
Cd 228.802†	34115.7	1.009 mg/L	0.0151	1.009 mg/L	0.0151	1.49%
Co 228.616†	40140.6	0.9913 mg/L	0.01550	0.9913 mg/L	0.01550	1.56%
Cr 267.716†	5197.5	1.039 mg/L	0.0040	1.039 mg/L	0.0040	0.39%
Cu 324.752†	300801.5	1.017 mg/L	0.0195	1.017 mg/L	0.0195	1.92%
Fe 273.955†	2416.0	2.094 mg/L	0.0115	2.094 mg/L	0.0115	0.55%
K 766.490†	44502.3	19.55 mg/L	0.048	19.55 mg/L	0.048	0.24%
Mg 279.077†	2256.9	2.014 mg/L	0.0072	2.014 mg/L	0.0072	0.36%
Mn 257.610†	30273.2	0.9526 mg/L	0.00174	0.9526 mg/L	0.00174	0.18%
Mo 202.031†	18385.2	0.9469 mg/L	0.00956	0.9469 mg/L	0.00956	1.01%
Na 589.592†	666911.5	50.02 mg/L	0.158	50.02 mg/L	0.158	0.32%
Na 330.237†	1083.4	50.42 mg/L	0.331	50.42 mg/L	0.331	0.66%
Ni 231.604†	3510.5	1.039 mg/L	0.0059	1.039 mg/L	0.0059	0.57%
Pb 220.353†	17117.7	1.998 mg/L	0.0183	1.998 mg/L	0.0183	0.92%
Sb 206.836†	6561.2	2.043 mg/L	0.0166	2.043 mg/L	0.0166	0.81%
Se 196.026†	2837.6	2.037 mg/L	0.0189	2.037 mg/L	0.0189	0.93%
Si 288.158†	3365.5	1.931 mg/L	0.0197	1.931 mg/L	0.0197	1.02%
Sn 189.927†	3397.5	0.9525 mg/L	0.01072	0.9525 mg/L	0.01072	1.13%
Sr 421.552†	823505.8	0.9916 mg/L	0.00270	0.9916 mg/L	0.00270	0.27%
Ti 334.903†	16352.8	0.9670 mg/L	0.00441	0.9670 mg/L	0.00441	0.46%
Tl 190.801†	4417.9	2.007 mg/L	0.0150	2.007 mg/L	0.0150	0.75%
V 292.402†	155242.6	1.007 mg/L	0.0175	1.007 mg/L	0.0175	1.74%
Zn 206.200†	3531.2	1.035 mg/L	0.0057	1.035 mg/L	0.0057	0.55%

Sequence No.: 81

Sample ID: CB ①

Autosampler Location: 1

Date Collected: 4/1/2014 2:07:31 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2894853.0	97.76 %	0.450			0.46%
ScR 361.383	251607.1	102.4 %	0.27			0.26%
Ag 328.068†	23.8	0.00012 mg/L	0.000191	0.00012 mg/L	0.000191	163.42%
Al 308.215†	10.6	0.00809 mg/L	0.001313	0.00809 mg/L	0.001313	16.23%
As 188.979†	-3.0	-0.00170 mg/L	0.001600	-0.00170 mg/L	0.001600	94.11%
B 249.677†	13.3	0.00232 mg/L	0.001757	0.00232 mg/L	0.001757	75.76%
Ba 233.527†	-3.2	-0.00084 mg/L	0.000474	-0.00084 mg/L	0.000474	56.09%
Be 313.042†	40.6	0.00008 mg/L	0.000044	0.00008 mg/L	0.000044	54.93%
Ca 317.933†	6.8	0.00069 mg/L	0.000148	0.00069 mg/L	0.000148	21.29%
Cd 228.802†	18.8	0.00057 mg/L	0.000157	0.00057 mg/L	0.000157	27.51%
Co 228.616†	3.3	0.00008 mg/L	0.000092	0.00008 mg/L	0.000092	115.96%
Cr 267.716†	-2.7	-0.00055 mg/L	0.000947	-0.00055 mg/L	0.000947	173.26%
Cu 324.752†	948.4	0.00321 mg/L	0.000290	0.00321 mg/L	0.000290	9.03%
Fe 273.955†	5.9	0.00514 mg/L	0.002197	0.00514 mg/L	0.002197	42.75%
K 766.490†	80.2	0.03520 mg/L	0.011483	0.03520 mg/L	0.011483	32.62%
Mg 279.077†	4.6	0.00406 mg/L	0.002815	0.00406 mg/L	0.002815	69.27%
Mn 257.610†	5.7	0.00018 mg/L	0.000084	0.00018 mg/L	0.000084	46.41%
Mo 202.031†	27.0	0.00139 mg/L	0.000326	0.00139 mg/L	0.000326	23.46%
Na 589.592†	88.4	0.00663 mg/L	0.003019	0.00663 mg/L	0.003019	45.54%
Na 330.237†	-4.4	-0.2027 mg/L	0.22450	-0.2027 mg/L	0.22450	110.75%
Ni 231.604†	-0.1	-0.00003 mg/L	0.001146	-0.00003 mg/L	0.001146	>999.9%
Pb 220.353†	6.9	0.00080 mg/L	0.000665	0.00080 mg/L	0.000665	82.92%
Sb 206.836†	42.7	0.01333 mg/L	0.002023	0.01333 mg/L	0.002023	15.18%
Se 196.026†	-0.9	-0.00061 mg/L	0.000698	-0.00061 mg/L	0.000698	114.17%
Si 288.158†	4.9	0.00283 mg/L	0.004893	0.00283 mg/L	0.004893	172.65%
Sn 189.927†	-0.7	-0.00020 mg/L	0.000494	-0.00020 mg/L	0.000494	251.18%
Sr 421.552†	67.6	0.00008 mg/L	0.000044	0.00008 mg/L	0.000044	54.55%
Ti 334.903†	24.9	0.00148 mg/L	0.000376	0.00148 mg/L	0.000376	25.51%
Tl 190.801†	0.0	0.00001 mg/L	0.000709	0.00001 mg/L	0.000709	>999.9%
V 292.402†	-18.5	-0.00012 mg/L	0.000126	-0.00012 mg/L	0.000126	103.33%
Zn 206.200†	3.6	0.00107 mg/L	0.000226	0.00107 mg/L	0.000226	21.21%

Sequence No.: 82
 Sample ID: YE34 K SWC

Autosampler Location: 361
 Date Collected: 4/1/2014 2:11:47 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 K SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: YE34 K SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2893074.2	97.70	%	0.538				0.55%
ScR 361.383	251107.0	102.2	%	0.42				0.41%
Ag 328.068†	-231.8	-0.00082	mg/L	0.000195	-0.00163	mg/L	0.000391	23.96%
Al 308.215†	158778.2	121.7	mg/L	0.12	243.3	mg/L	0.24	0.10%
As 188.979†	-298.7	0.07196	mg/L	0.002539	0.1439	mg/L	0.00508	3.53%
B 249.677†	210.1	0.03654	mg/L	0.000346	0.07308	mg/L	0.000692	0.95%
Ba 233.527†	1734.6	0.4297	mg/L	0.00198	0.8594	mg/L	0.00395	0.46%
Be 313.042†	1030.3	0.00186	mg/L	0.000006	0.00372	mg/L	0.000011	0.31%
Ca 317.933†	356732.3	36.40	mg/L	0.081	72.81	mg/L	0.162	0.22%
Cd 228.802†	28.5	0.00170	mg/L	0.000083	0.00340	mg/L	0.000166	4.87%
Co 228.616†	3458.7	0.07287	mg/L	0.000295	0.1457	mg/L	0.00059	0.40%
Cr 267.716†	1534.1	0.3065	mg/L	0.00096	0.6130	mg/L	0.00191	0.31%
Cu 324.752†	46420.2	0.1625	mg/L	0.00018	0.3250	mg/L	0.00035	0.11%
Fe 273.955†	180637.5	157.1	mg/L	0.77	314.2	mg/L	1.53	0.49%
K 766.490†	11742.5	5.157	mg/L	0.0413	10.31	mg/L	0.083	0.80%
Mg 279.077†	62723.1	55.72	mg/L	0.051	111.4	mg/L	0.10	0.09%
Mn 257.610†	69299.7	2.178	mg/L	0.0039	4.357	mg/L	0.0078	0.18%
Mo 202.031†	226.1	0.01108	mg/L	0.000442	0.02217	mg/L	0.000885	3.99%
Na 589.592†	21542.0	1.616	mg/L	0.0041	3.231	mg/L	0.0081	0.25%
Na 330.237†	-3.0	1.390	mg/L	0.2453	2.780	mg/L	0.4905	17.64%
Ni 231.604†	4626.4	1.369	mg/L	0.0034	2.739	mg/L	0.0067	0.25%
Pb 220.353†	-46.9	0.01809	mg/L	0.000580	0.03617	mg/L	0.001160	3.21%
Sb 206.836†	37.7	0.01455	mg/L	0.001956	0.02909	mg/L	0.003913	13.45%
Se 196.026†	31.2	0.02211	mg/L	0.005510	0.04423	mg/L	0.011020	24.92%
Si 288.158†	2145.4	1.235	mg/L	0.0066	2.469	mg/L	0.0131	0.53%
Sn 189.927†	-57.6	-0.01040	mg/L	0.002137	-0.02081	mg/L	0.004275	20.54%
Sr 421.552†	119028.0	0.1433	mg/L	0.00016	0.2867	mg/L	0.00031	0.11%
Ti 334.903†	117648.0	6.963	mg/L	0.0007	13.93	mg/L	0.001	0.01%
Tl 190.801†	-33.9	0.00059	mg/L	0.002885	0.00118	mg/L	0.005770	489.25%
V 292.402†	61079.4	0.3832	mg/L	0.00216	0.7663	mg/L	0.00432	0.56%
Zn 206.200†	1107.8	0.3248	mg/L	0.00112	0.6497	mg/L	0.00224	0.34%

Sequence No.: 83
 Sample ID: YE34 L SWC

Autosampler Location: 362
 Date Collected: 4/1/2014 2:15:49 PM
 Data Type: Original

Dilution: 2.000000X

Del

Nebulizer Parameters: YE34 L SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE34 L SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2985940.7	100.8 %	0.20			0.20%
ScR 361.383	261052.0	106.2 %	0.48			0.45%
Ag 328.068†	-388.7	-0.00164 mg/L	0.000287	-0.00327 mg/L	0.000573	17.50%
Al 308.215†	419650.5	321.6 mg/L	0.59	643.1 mg/L	1.18	0.18%
As 188.979†	-354.7	0.09228 mg/L	0.003349	0.1846 mg/L	0.00670	3.63%
B 249.677†	480.1	0.08372 mg/L	0.001760	0.1674 mg/L	0.00352	2.10%
Ba 233.527†	2952.1	0.7197 mg/L	0.00577	1.439 mg/L	0.0115	0.80%
Be 313.042†	1369.1	0.00243 mg/L	0.000007	0.00487 mg/L	0.000014	0.28%
Ca 317.933†	132166.5	13.49 mg/L	0.016	26.98 mg/L	0.031	0.12%
Cd 228.802†	53.5	0.00361 mg/L	0.000180	0.00722 mg/L	0.000360	4.98%
Co 228.616†	3434.6	0.06908 mg/L	0.000039	0.1382 mg/L	0.00008	0.06%
Cr 267.716†	15253.7	3.058 mg/L	0.0178	6.116 mg/L	0.0355	0.58%
Cu 324.752†	327770.8	1.123 mg/L	0.0042	2.245 mg/L	0.0085	0.38%
Fe 273.955†	391871.9	340.8 mg/L	1.66	681.5 mg/L	3.33	0.49%
K 766.490†	19089.8	8.384 mg/L	0.0185	16.77 mg/L	0.037	0.22%
Mg 279.077†	58398.3	51.76 mg/L	0.041	103.5 mg/L	0.08	0.08%
Mn 257.610†	56546.2	1.776 mg/L	0.0053	3.552 mg/L	0.0106	0.30%
Mo 202.031†	-3.5	-0.00039 mg/L	0.000415	-0.00078 mg/L	0.000830	106.65%
Na 589.592†	25418.6	1.906 mg/L	0.0081	3.813 mg/L	0.0162	0.42%
Na 330.237†	-6.9	1.710 mg/L	0.1820	3.419 mg/L	0.3639	10.64%
Ni 231.604†	13494.6	3.994 mg/L	0.0256	7.989 mg/L	0.0512	0.64%
Pb 220.353†	-211.5	0.04433 mg/L	0.000845	0.08866 mg/L	0.001690	1.91%
Sb 206.836†	191.3	0.02918 mg/L	0.002549	0.05836 mg/L	0.005098	8.74%
Se 196.026†	65.6	0.04660 mg/L	0.003086	0.09321 mg/L	0.006172	6.62%
Si 288.158†	2450.0	1.410 mg/L	0.0058	2.821 mg/L	0.0115	0.41%
Sn 189.927†	-43.0	-0.00877 mg/L	0.001543	-0.01754 mg/L	0.003085	17.58%
Sr 421.552†	94270.1	0.1135 mg/L	0.00025	0.2270 mg/L	0.00051	0.22%
Ti 334.903†	143558.9	8.498 mg/L	0.0160	17.00 mg/L	0.032	0.19%
Tl 190.801†	-76.8	-0.00013 mg/L	0.002925	-0.00026 mg/L	0.005849	>999.9%
V 292.402†	112724.3	0.7167 mg/L	0.00082	1.433 mg/L	0.0016	0.11%
Zn 206.200†	1654.9	0.4858 mg/L	0.00289	0.9717 mg/L	0.00577	0.59%

Sequence No.: 84
 Sample ID: YE34 M SWC

Autosampler Location: 363
 Date Collected: 4/1/2014 2:19:49 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 M SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE34 M SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2916001.8	98.47	%	0.391				0.40%
ScR 361.383	250370.5	101.9	%	0.40				0.39%
Ag 328.068†	-213.9	-0.00052	mg/L	0.000374	-0.00105	mg/L	0.000748	71.54%
Al 308.215†	237119.5	181.7	mg/L	0.54	363.4	mg/L	1.07	0.30%
As 188.979†	-301.2	0.1090	mg/L	0.00176	0.2180	mg/L	0.00352	1.62%
B 249.677†	573.0	0.09993	mg/L	0.001387	0.1999	mg/L	0.00277	1.39%
Ba 233.527†	3093.0	0.7796	mg/L	0.00615	1.559	mg/L	0.0123	0.79%
Be 313.042†	1427.7	0.00263	mg/L	0.000033	0.00526	mg/L	0.000066	1.26%
Ca 317.933†	682855.1	69.69	mg/L	0.081	139.4	mg/L	0.16	0.12%
Cd 228.802†	-60.4	0.00598	mg/L	0.000103	0.01196	mg/L	0.000206	1.73%
Co 228.616†	4139.6	0.08623	mg/L	0.000270	0.1725	mg/L	0.00054	0.31%
Cr 267.716†	16363.6	3.275	mg/L	0.0316	6.550	mg/L	0.0632	0.96%
Cu 324.752†	448151.8	1.523	mg/L	0.0061	3.045	mg/L	0.0121	0.40%
Fe 273.955†	216716.1	188.5	mg/L	1.07	376.9	mg/L	2.15	0.57%
K 766.490†	11493.6	5.048	mg/L	0.0078	10.10	mg/L	0.016	0.15%
Mg 279.077†	53454.6	47.45	mg/L	0.122	94.89	mg/L	0.244	0.26%
Mn 257.610†	91792.0	2.885	mg/L	0.0097	5.771	mg/L	0.0194	0.34%
Mo 202.031†	173.7	0.00787	mg/L	0.000221	0.01573	mg/L	0.000443	2.81%
Na 589.592†	37445.4	2.809	mg/L	0.0034	5.617	mg/L	0.0068	0.12%
Na 330.237†	27.9	2.780	mg/L	0.0877	5.559	mg/L	0.1753	3.15%
Ni 231.604†	29136.8	8.624	mg/L	0.0753	17.25	mg/L	0.151	0.87%
Pb 220.353†	5344.3	0.6652	mg/L	0.00217	1.330	mg/L	0.0043	0.33%
Sb 206.836†	202.0	0.02842	mg/L	0.001148	0.05684	mg/L	0.002296	4.04%
Se 196.026†	39.7	0.02823	mg/L	0.006472	0.05646	mg/L	0.012943	22.93%
Si 288.158†	1947.4	1.122	mg/L	0.0057	2.244	mg/L	0.0114	0.51%
Sn 189.927†	35.2	0.01990	mg/L	0.001062	0.03981	mg/L	0.002124	5.34%
Sr 421.552†	210255.7	0.2532	mg/L	0.00082	0.5064	mg/L	0.00163	0.32%
Ti 334.903†	139286.8	8.241	mg/L	0.0239	16.48	mg/L	0.048	0.29%
Tl 190.801†	-28.5	0.00530	mg/L	0.001537	0.01059	mg/L	0.003074	29.01%
V 292.402†	63308.0	0.4074	mg/L	0.00205	0.8148	mg/L	0.00409	0.50%
Zn 206.200†	3315.4	0.9723	mg/L	0.00954	1.945	mg/L	0.0191	0.98%

Sequence No.: 85
Sample ID: YE34 N SWC

Autosampler Location: 364
Date Collected: 4/1/2014 2:23:50 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 N SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE34 N SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2931599.5	99.00	%	0.417			0.42%
ScR 361.383	253905.4	103.3	%	0.73			0.71%
Ag 328.068†	-281.1	-0.00093	mg/L	0.000259	-0.00186 mg/L	0.000518	27.80%
Al 308.215†	173090.5	132.6	mg/L	0.34	265.2 mg/L	0.68	0.26%
As 188.979†	-324.9	0.08487	mg/L	0.001296	0.1697 mg/L	0.00259	1.53%
B 249.677†	390.4	0.06804	mg/L	0.000855	0.1361 mg/L	0.00171	1.26%
Ba 233.527†	2131.9	0.5316	mg/L	0.00353	1.063 mg/L	0.0071	0.66%
Be 313.042†	1222.0	0.00223	mg/L	0.000028	0.00445 mg/L	0.000056	1.25%
Ca 317.933†	551059.9	56.24	mg/L	0.236	112.5 mg/L	0.47	0.42%
Cd 228.802†	70.9	0.00294	mg/L	0.000043	0.00588 mg/L	0.000086	1.46%
Co 228.616†	3710.7	0.07759	mg/L	0.000557	0.1552 mg/L	0.00111	0.72%
Cr 267.716†	2252.6	0.4500	mg/L	0.00339	0.9000 mg/L	0.00678	0.75%
Cu 324.752†	68663.6	0.2381	mg/L	0.00041	0.4762 mg/L	0.00083	0.17%
Fe 273.955†	196072.8	170.5	mg/L	0.35	341.0 mg/L	0.70	0.21%
K 766.490†	13931.2	6.119	mg/L	0.0131	12.24 mg/L	0.026	0.21%
Mg 279.077†	69064.9	61.35	mg/L	0.082	122.7 mg/L	0.16	0.13%
Mn 257.610†	82209.8	2.584	mg/L	0.0011	5.168 mg/L	0.0021	0.04%
Mo 202.031†	92.5	0.00389	mg/L	0.000249	0.00778 mg/L	0.000498	6.40%
Na 589.592†	89889.1	6.742	mg/L	0.0131	13.48 mg/L	0.026	0.19%
Na 330.237†	108.3	6.672	mg/L	0.2476	13.34 mg/L	0.495	3.71%
Ni 231.604†	4665.6	1.381	mg/L	0.0113	2.762 mg/L	0.0225	0.81%
Pb 220.353†	-68.4	0.01786	mg/L	0.001222	0.03572 mg/L	0.002443	6.84%
Sb 206.836†	48.6	0.01679	mg/L	0.001800	0.03358 mg/L	0.003601	10.72%
Se 196.026†	37.4	0.02658	mg/L	0.003856	0.05317 mg/L	0.007712	14.51%
Si 288.158†	2865.3	1.648	mg/L	0.0015	3.295 mg/L	0.0029	0.09%
Sn 189.927†	-73.9	-0.01240	mg/L	0.000632	-0.02479 mg/L	0.001264	5.10%
Sr 421.552†	210273.1	0.2532	mg/L	0.00071	0.5064 mg/L	0.00141	0.28%
Ti 334.903†	131866.1	7.803	mg/L	0.0131	15.61 mg/L	0.026	0.17%
Tl 190.801†	-31.1	0.00323	mg/L	0.002422	0.00646 mg/L	0.004843	74.95%
V 292.402†	64647.1	0.4056	mg/L	0.00162	0.8112 mg/L	0.00324	0.40%
Zn 206.200†	1186.7	0.3481	mg/L	0.00188	0.6961 mg/L	0.00375	0.54%

Sequence No.: 86
 Sample ID: YE34 O SWC

Autosampler Location: 365
 Date Collected: 4/1/2014 2:27:51 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 O SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE34 O SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2967946.5	100.2	%	0.30				0.30%
ScR 361.383	255156.8	103.8	%	0.42				0.41%
Ag 328.068†	-297.4	-0.00106	mg/L	0.000093	-0.00211	mg/L	0.000187	8.84%
Al 308.215†	170599.8	130.7	mg/L	0.47	261.4	mg/L	0.95	0.36%
As 188.979†	-350.4	0.08450	mg/L	0.001915	0.1690	mg/L	0.00383	2.27%
B 249.677†	366.0	0.06380	mg/L	0.000634	0.1276	mg/L	0.00127	0.99%
Ba 233.527†	2730.0	0.6871	mg/L	0.00292	1.374	mg/L	0.0058	0.42%
Be 313.042†	986.5	0.00175	mg/L	0.000016	0.00350	mg/L	0.000032	0.90%
Ca 317.933†	472668.5	48.24	mg/L	0.191	96.47	mg/L	0.382	0.40%
Cd 228.802†	61.7	0.00279	mg/L	0.000113	0.00559	mg/L	0.000226	4.04%
Co 228.616†	3547.0	0.07277	mg/L	0.000697	0.1455	mg/L	0.00139	0.96%
Cr 267.716†	5252.6	1.051	mg/L	0.0066	2.102	mg/L	0.0133	0.63%
Cu 324.752†	87544.5	0.3022	mg/L	0.00038	0.6045	mg/L	0.00077	0.13%
Fe 273.955†	204065.9	177.4	mg/L	1.53	354.9	mg/L	3.06	0.86%
K 766.490†	19062.6	8.372	mg/L	0.0273	16.74	mg/L	0.055	0.33%
Mg 279.077†	65378.8	58.07	mg/L	0.211	116.1	mg/L	0.42	0.36%
Mn 257.610†	80845.2	2.541	mg/L	0.0127	5.083	mg/L	0.0254	0.50%
Mo 202.031†	401.3	0.01992	mg/L	0.000233	0.03984	mg/L	0.000466	1.17%
Na 589.592†	103391.7	7.755	mg/L	0.0296	15.51	mg/L	0.059	0.38%
Na 330.237†	128.3	7.763	mg/L	0.4584	15.53	mg/L	0.917	5.90%
Ni 231.604†	5047.8	1.494	mg/L	0.0124	2.988	mg/L	0.0247	0.83%
Pb 220.353†	631.8	0.09982	mg/L	0.001371	0.1996	mg/L	0.00274	1.37%
Sb 206.836†	61.2	0.01329	mg/L	0.002889	0.02658	mg/L	0.005778	21.74%
Se 196.026†	36.6	0.02596	mg/L	0.001165	0.05193	mg/L	0.002330	4.49%
Si 288.158†	3291.0	1.891	mg/L	0.0165	3.782	mg/L	0.0331	0.87%
Sn 189.927†	-71.9	-0.01273	mg/L	0.001077	-0.02546	mg/L	0.002155	8.46%
Sr 421.552†	186219.2	0.2242	mg/L	0.00098	0.4485	mg/L	0.00195	0.44%
Ti 334.903†	138795.2	8.214	mg/L	0.0285	16.43	mg/L	0.057	0.35%
Tl 190.801†	-20.3	0.00869	mg/L	0.002049	0.01737	mg/L	0.004098	23.59%
V 292.402†	67454.8	0.4256	mg/L	0.00086	0.8512	mg/L	0.00171	0.20%
Zn 206.200†	1142.9	0.3354	mg/L	0.00174	0.6709	mg/L	0.00348	0.52%

Sequence No.: 87
 Sample ID: YE34 P SWC

Autosampler Location: 366
 Date Collected: 4/1/2014 2:31:51 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE34 P SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE34 P SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2941977.5	99.35	%	0.304			0.31%
ScR 361.383	256684.9	104.5	%	0.51			0.49%
Ag 328.068†	-200.5	-0.00071	mg/L	0.000016	-0.00142 mg/L	0.000032	2.25%
Al 308.215†	159718.7	122.4	mg/L	0.63	244.8 mg/L	1.26	0.52%
As 188.979†	-242.4	0.06513	mg/L	0.001961	0.1303 mg/L	0.00392	3.01%
B 249.677†	814.6	0.1421	mg/L	0.00095	0.2842 mg/L	0.00189	0.67%
Ba 233.527†	2010.6	0.5024	mg/L	0.00247	1.005 mg/L	0.0049	0.49%
Be 313.042†	799.4	0.00143	mg/L	0.000039	0.00287 mg/L	0.000077	2.70%
Ca 317.933†	305196.2	31.15	mg/L	0.140	62.29 mg/L	0.281	0.45%
Cd 228.802†	-412.8	0.01486	mg/L	0.000124	0.02971 mg/L	0.000248	0.84%
Co 228.616†	4571.0	0.09802	mg/L	0.000305	0.1960 mg/L	0.00061	0.31%
Cr 267.716†	9187.5	1.838	mg/L	0.0028	3.676 mg/L	0.0056	0.15%
Cu 324.752†	743971.4	2.522	mg/L	0.0074	5.043 mg/L	0.0149	0.29%
Fe 273.955†	152714.3	132.8	mg/L	0.73	265.6 mg/L	1.45	0.55%
K 766.490†	12349.6	5.424	mg/L	0.0239	10.85 mg/L	0.048	0.44%
Mg 279.077†	51706.0	45.93	mg/L	0.269	91.86 mg/L	0.538	0.59%
Mn 257.610†	80450.4	2.529	mg/L	0.0141	5.058 mg/L	0.0281	0.56%
Mo 202.031†	70.2	0.00313	mg/L	0.000345	0.00626 mg/L	0.000689	11.01%
Na 589.592†	59794.8	4.485	mg/L	0.0181	8.970 mg/L	0.0362	0.40%
Na 330.237†	79.3	4.637	mg/L	0.2887	9.275 mg/L	0.5773	6.22%
Ni 231.604†	94122.5	27.86	mg/L	0.098	55.72 mg/L	0.197	0.35%
Pb 220.353†	-77.8	0.01858	mg/L	0.000336	0.03717 mg/L	0.000672	1.81%
Sb 206.836†	101.2	0.01335	mg/L	0.002279	0.02671 mg/L	0.004558	17.07%
Se 196.026†	34.9	0.02480	mg/L	0.003122	0.04960 mg/L	0.006243	12.59%
Si 288.158†	2416.4	1.390	mg/L	0.0060	2.779 mg/L	0.0121	0.43%
Sn 189.927†	-55.7	-0.01070	mg/L	0.000556	-0.02140 mg/L	0.001111	5.19%
Sr 421.552†	104402.5	0.1257	mg/L	0.00062	0.2514 mg/L	0.00125	0.50%
Ti 334.903†	99787.6	5.906	mg/L	0.0290	11.81 mg/L	0.058	0.49%
Tl 190.801†	-15.9	0.00545	mg/L	0.003349	0.01090 mg/L	0.006697	61.46%
V 292.402†	50233.4	0.3215	mg/L	0.00131	0.6429 mg/L	0.00262	0.41%
Zn 206.200†	5125.4	1.502	mg/L	0.0015	3.004 mg/L	0.0031	0.10%

Sequence No.: 88
 Sample ID: YE34 G SWC

Autosampler Location: 367
 Date Collected: 4/1/2014 2:35:52 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 G SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

 Mean Data: YE34 G SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2948445.8	99.57	%	0.130			0.13%
ScR 361.383	255497.3	104.0	%	0.51			0.49%
Ag 328.068†	-261.1	-0.00083	mg/L	0.000146	-0.00166 mg/L	0.000293	17.68%
Al 308.215†	181184.7	138.8	mg/L	0.20	277.6 mg/L	0.40	0.14%
As 188.979†	-383.3	0.09056	mg/L	0.001475	0.1811 mg/L	0.00295	1.63%
B 249.677†	463.9	0.08088	mg/L	0.000730	0.1618 mg/L	0.00146	0.90%
Ba 233.527†	2363.8	0.5917	mg/L	0.00261	1.183 mg/L	0.0052	0.44%
Be 313.042†	1111.0	0.00199	mg/L	0.000020	0.00397 mg/L	0.000041	1.02%
Ca 317.933†	546859.6	55.81	mg/L	0.077	111.6 mg/L	0.15	0.14%
Cd 228.802†	90.3	0.00323	mg/L	0.000131	0.00647 mg/L	0.000262	4.04%
Co 228.616†	3692.1	0.07522	mg/L	0.000153	0.1504 mg/L	0.00031	0.20%
Cr 267.716†	1801.8	0.3598	mg/L	0.00191	0.7196 mg/L	0.00383	0.53%
Cu 324.752†	134514.0	0.4608	mg/L	0.00075	0.9217 mg/L	0.00149	0.16%
Fe 273.955†	201067.4	174.8	mg/L	0.34	349.7 mg/L	0.68	0.20%
K 766.490†	13648.5	5.994	mg/L	0.0364	11.99 mg/L	0.073	0.61%
Mg 279.077†	71273.8	63.31	mg/L	0.067	126.6 mg/L	0.13	0.11%
Mn 257.610†	87689.2	2.757	mg/L	0.0042	5.513 mg/L	0.0084	0.15%
Mo 202.031†	224.1	0.01068	mg/L	0.000236	0.02136 mg/L	0.000473	2.21%
Na 589.592†	73568.4	5.518	mg/L	0.0067	11.04 mg/L	0.013	0.12%
Na 330.237†	74.0	5.369	mg/L	0.1578	10.74 mg/L	0.316	2.94%
Ni 231.604†	3232.8	0.9569	mg/L	0.00364	1.914 mg/L	0.0073	0.38%
Pb 220.353†	-53.8	0.02038	mg/L	0.000404	0.04075 mg/L	0.000808	1.98%
Sb 206.836†	42.8	0.01713	mg/L	0.001856	0.03427 mg/L	0.003711	10.83%
Se 196.026†	32.5	0.02299	mg/L	0.003632	0.04597 mg/L	0.007263	15.80%
Si 288.158†	3140.0	1.805	mg/L	0.0089	3.610 mg/L	0.0178	0.49%
Sn 189.927†	-76.7	-0.01303	mg/L	0.001416	-0.02605 mg/L	0.002831	10.87%
Sr 421.552†	178728.9	0.2152	mg/L	0.00031	0.4304 mg/L	0.00062	0.14%
Ti 334.903†	150495.7	8.906	mg/L	0.0109	17.81 mg/L	0.022	0.12%
Tl 190.801†	-27.6	0.00529	mg/L	0.003981	0.01058 mg/L	0.007963	75.23%
V 292.402†	69462.6	0.4355	mg/L	0.00037	0.8709 mg/L	0.00073	0.08%
Zn 206.200†	1173.6	0.3442	mg/L	0.00162	0.6884 mg/L	0.00323	0.47%

Sequence No.: 89
Sample ID: YE33 D SWC
Dilution: 2.000000X

Autosampler Location: 368
Date Collected: 4/1/2014 2:39:53 PM
Data Type: Original

Handwritten: 4-1-14

Nebulizer Parameters: YE33 D SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE33 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2930657.4	98.97	%	0.069			0.07%
ScR 361.383	253994.0	103.4	%	0.49			0.48%
Ag 328.068†	-304.1	-0.00123	mg/L	0.000215	-0.00245 mg/L	0.000431	17.57%
Al 308.215†	211327.8	161.9	mg/L	0.07	323.9 mg/L	0.14	0.04%
As 188.979†	-329.7	0.07525	mg/L	0.003105	0.1505 mg/L	0.00621	4.13%
B 249.677†	678.2	0.1184	mg/L	0.00419	0.2367 mg/L	0.00838	3.54%
Ba 233.527†	2937.4	0.7421	mg/L	0.00180	1.484 mg/L	0.0036	0.24%
Be 313.042†	938.0	0.00167	mg/L	0.000013	0.00334 mg/L	0.000025	0.76%
Ca 317.933†	262962.6	26.84	mg/L	0.030	53.67 mg/L	0.059	0.11%
Cd 228.802†	95.5	0.00345	mg/L	0.000078	0.00690 mg/L	0.000155	2.25%
Co 228.616†	2993.0	0.05988	mg/L	0.000256	0.1198 mg/L	0.00051	0.43%
Cr 267.716†	31652.1	6.333	mg/L	0.0758	12.67 mg/L	0.152	1.20%
Cu 324.752†	240680.4	0.8203	mg/L	0.00746	1.641 mg/L	0.0149	0.91%
Fe 273.955†	199699.2	173.7	mg/L	1.01	347.3 mg/L	2.01	0.58%
K 766.490†	10681.7	4.691	mg/L	0.0519	9.383 mg/L	0.1037	1.11%
Mg 279.077†	62095.7	55.15	mg/L	0.616	110.3 mg/L	1.23	1.12%
Mn 257.610†	65666.8	2.064	mg/L	0.0077	4.128 mg/L	0.0155	0.38%
Mo 202.031†	105.5	0.00502	mg/L	0.000082	0.01003 mg/L	0.000163	1.63%
Na 589.592†	18908.7	1.418	mg/L	0.0013	2.836 mg/L	0.0026	0.09%
Na 330.237†	-14.7	1.133	mg/L	0.1358	2.267 mg/L	0.2715	11.98%
Ni 231.604†	3936.9	1.165	mg/L	0.0136	2.331 mg/L	0.0273	1.17%
Pb 220.353†	-198.4	0.02015	mg/L	0.001057	0.04029 mg/L	0.002114	5.25%
Sb 206.836†	296.1	0.01741	mg/L	0.001931	0.03482 mg/L	0.003863	11.09%
Se 196.026†	35.2	0.02500	mg/L	0.000378	0.05000 mg/L	0.000756	1.51%
Si 288.158†	11150.3	6.392	mg/L	0.0570	12.78 mg/L	0.114	0.89%
Sn 189.927†	-55.6	-0.01080	mg/L	0.001287	-0.02161 mg/L	0.002574	11.91%
Sr 421.552†	112282.2	0.1352	mg/L	0.00011	0.2704 mg/L	0.00021	0.08%
Ti 334.903†	131491.7	7.782	mg/L	0.0050	15.56 mg/L	0.010	0.06%
Tl 190.801†	-36.6	-0.00118	mg/L	0.000857	-0.00236 mg/L	0.001715	72.56%
V 292.402†	62462.0	0.4155	mg/L	0.00344	0.8310 mg/L	0.00688	0.83%
Zn 206.200†	976.7	0.2890	mg/L	0.00198	0.5780 mg/L	0.00397	0.69%

Sequence No.: 90
 Sample ID: YE34 ASPK SWC

Autosampler Location: 369
 Date Collected: 4/1/2014 2:43:08 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YE34 ASPK SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE34 ASPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2947389.3	99.53	%	0.104				0.10%
ScR 361.383	253752.8	103.3	%	0.58				0.56%
Ag 328.068†	104847.7	0.5150	mg/L	0.00137	1.030	mg/L	0.0027	0.27%
Al 308.215†	248594.0	190.5	mg/L	0.34	380.9	mg/L	0.68	0.18%
As 188.979†	3133.3	2.156	mg/L	0.0065	4.311	mg/L	0.0130	0.30%
B 249.677†	502.5	0.08648	mg/L	0.001608	0.1730	mg/L	0.00322	1.86%
Ba 233.527†	10457.1	2.706	mg/L	0.0152	5.412	mg/L	0.0304	0.56%
Be 313.042†	252124.0	0.4979	mg/L	0.00284	0.9959	mg/L	0.00568	0.57%
Ca 317.933†	476408.6	48.62	mg/L	0.083	97.24	mg/L	0.166	0.17%
Cd 228.802†	17946.3	0.5337	mg/L	0.00081	1.067	mg/L	0.0016	0.15%
Co 228.616†	25423.5	0.6101	mg/L	0.00119	1.220	mg/L	0.0024	0.20%
Cr 267.716†	4273.8	0.8544	mg/L	0.00372	1.709	mg/L	0.0074	0.43%
Cu 324.752†	221133.8	0.7550	mg/L	0.00394	1.510	mg/L	0.0079	0.52%
Fe 273.955†	230759.9	200.7	mg/L	0.17	401.3	mg/L	0.33	0.08%
K 766.490†	36380.0	15.98	mg/L	0.046	31.96	mg/L	0.091	0.29%
Mg 279.077†	80032.7	71.09	mg/L	0.040	142.2	mg/L	0.08	0.06%
Mn 257.610†	112463.5	3.536	mg/L	0.0055	7.072	mg/L	0.0110	0.16%
Mo 202.031†	107.5	0.00478	mg/L	0.000479	0.00957	mg/L	0.000957	10.01%
Na 589.592†	167269.0	12.55	mg/L	0.031	25.09	mg/L	0.062	0.25%
Na 330.237†	225.6	12.34	mg/L	0.171	24.68	mg/L	0.342	1.39%
Ni 231.604†	30650.3	9.071	mg/L	0.0149	18.14	mg/L	0.030	0.16%
Pb 220.353†	18445.6	2.192	mg/L	0.0063	4.384	mg/L	0.0127	0.29%
Sb 206.836†	54.7	0.01696	mg/L	0.002658	0.03392	mg/L	0.005316	15.67%
Se 196.026†	2919.3	2.096	mg/L	0.0025	4.191	mg/L	0.0050	0.12%
Si 288.158†	1822.7	1.054	mg/L	0.0081	2.108	mg/L	0.0163	0.77%
Sn 189.927†	-67.1	-0.01099	mg/L	0.000696	-0.02199	mg/L	0.001392	6.33%
Sr 421.552†	545520.8	0.6569	mg/L	0.00146	1.314	mg/L	0.0029	0.22%
Ti 334.903†	162631.0	9.625	mg/L	0.0169	19.25	mg/L	0.034	0.18%
Tl 190.801†	4233.8	1.947	mg/L	0.0090	3.894	mg/L	0.0180	0.46%
V 292.402†	152802.4	0.9740	mg/L	0.00251	1.948	mg/L	0.0050	0.26%
Zn 206.200†	5020.7	1.471	mg/L	0.0046	2.943	mg/L	0.0092	0.31%

Sequence No.: 91

Sample ID: YE33 MB1SPK SWC

Autosampler Location: 370

Date Collected: 4/1/2014 2:47:09 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE33 MB1SPK SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE33 MB1SPK SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	2948246.6	99.56 %	0.400				0.40%	
ScR 361.383	250002.2	101.7 %	0.65				0.64%	
Ag 328.068†	109356.9	0.5368 mg/L	0.00329	1.074 mg/L	0.0066		0.61%	
Al 308.215†	2670.5	2.039 mg/L	0.0131	4.078 mg/L	0.0261		0.64%	
As 188.979†	3696.4	2.142 mg/L	0.0117	4.285 mg/L	0.0234		0.55%	
B 249.677†	16.9	0.00188 mg/L	0.000241	0.00377 mg/L	0.000481	12.77%		
Ba 233.527†	8193.4	2.145 mg/L	0.0064	4.290 mg/L	0.0129		0.30%	
Be 313.042†	250001.4	0.4940 mg/L	0.00072	0.9879 mg/L	0.00145		0.15%	
Ca 317.933†	100746.9	10.28 mg/L	0.033	20.56 mg/L	0.067		0.32%	
Cd 228.802†	17733.7	0.5190 mg/L	0.00270	1.038 mg/L	0.0054		0.52%	
Co 228.616†	20575.0	0.5088 mg/L	0.00341	1.018 mg/L	0.0068		0.67%	
Cr 267.716†	2641.2	0.5273 mg/L	0.00294	1.055 mg/L	0.0059		0.56%	
Cu 324.752†	148035.6	0.5009 mg/L	0.00280	1.002 mg/L	0.0056		0.56%	
Fe 273.955†	2422.9	2.103 mg/L	0.0244	4.207 mg/L	0.0488		1.16%	
K 766.490†	23112.0	10.15 mg/L	0.033	20.30 mg/L	0.067		0.33%	
Mg 279.077†	11980.2	10.66 mg/L	0.078	21.32 mg/L	0.156		0.73%	
Mn 257.610†	15395.9	0.4846 mg/L	0.00187	0.9691 mg/L	0.00374		0.39%	
Mo 202.031†	32.5	0.00151 mg/L	0.000227	0.00303 mg/L	0.000455	15.01%		
Na 589.592†	138090.1	10.36 mg/L	0.026	20.71 mg/L	0.052		0.25%	
Na 330.237†	229.6	10.48 mg/L	0.328	20.97 mg/L	0.655		3.13%	
Ni 231.604†	1784.0	0.5272 mg/L	0.00519	1.054 mg/L	0.0104		0.99%	
Pb 220.353†	17534.1	2.047 mg/L	0.0092	4.093 mg/L	0.0184		0.45%	
Sb 206.836†	19.6	0.00108 mg/L	0.002238	0.00217 mg/L	0.004475	206.41%		
Se 196.026†	2966.6	2.130 mg/L	0.0196	4.260 mg/L	0.0391		0.92%	
Si 288.158†	0.0	0.00364 mg/L	0.002466	0.00729 mg/L	0.004933		67.67%	
Sn 189.927†	-21.5	-0.00470 mg/L	0.001440	-0.00939 mg/L	0.002880		30.67%	
Sr 421.552†	415800.2	0.5007 mg/L	0.00094	1.001 mg/L	0.0019		0.19%	
Ti 334.903†	169.3	0.00919 mg/L	0.000757	0.01839 mg/L	0.001514		8.24%	
Tl 190.801†	4472.2	2.035 mg/L	0.0140	4.070 mg/L	0.0280		0.69%	
V 292.402†	79828.1	0.5176 mg/L	0.00311	1.035 mg/L	0.0062		0.60%	
Zn 206.200†	1773.8	0.5199 mg/L	0.00272	1.040 mg/L	0.0054		0.52%	

Sequence No.: 92

Sample ID: CV 9

Autosampler Location: 7

Date Collected: 4/1/2014 2:51:09 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
ScA 357.253	2956464.3	99.84	%	0.704			0.71%
ScR 361.383	250318.4	101.9	%	0.11			0.10%
Ag 328.068†	211685.0	1.039	mg/L	0.0135	1.039 mg/L	0.0135	1.30%
Al 308.215†	2658.5	2.006	mg/L	0.0061	2.006 mg/L	0.0061	0.30%
As 188.979†	3559.3	2.094	mg/L	0.0062	2.094 mg/L	0.0062	0.29%
B 249.677†	5798.7	1.012	mg/L	0.0026	1.012 mg/L	0.0026	0.26%
Ba 233.527†	4015.7	1.051	mg/L	0.0032	1.051 mg/L	0.0032	0.31%
Be 313.042†	499199.9	0.9864	mg/L	0.00387	0.9864 mg/L	0.00387	0.39%
Ca 317.933†	20628.9	2.105	mg/L	0.0083	2.105 mg/L	0.0083	0.39%
Cd 228.802†	34068.4	1.008	mg/L	0.0120	1.008 mg/L	0.0120	1.19%
Co 228.616†	40426.0	0.9984	mg/L	0.01175	0.9984 mg/L	0.01175	1.18%
Cr 267.716†	5248.2	1.050	mg/L	0.0033	1.050 mg/L	0.0033	0.31%
Cu 324.752†	301880.1	1.021	mg/L	0.0137	1.021 mg/L	0.0137	1.35%
Fe 273.955†	2406.6	2.086	mg/L	0.0069	2.086 mg/L	0.0069	0.33%
K 766.490†	45400.3	19.94	mg/L	0.079	19.94 mg/L	0.079	0.40%
Mg 279.077†	2286.7	2.041	mg/L	0.0088	2.041 mg/L	0.0088	0.43%
Mn 257.610†	30408.2	0.9569	mg/L	0.00260	0.9569 mg/L	0.00260	0.27%
Mo 202.031†	18589.2	0.9574	mg/L	0.00331	0.9574 mg/L	0.00331	0.35%
Na 589.592†	679693.1	50.98	mg/L	0.059	50.98 mg/L	0.059	0.12%
Na 330.237†	1089.4	50.69	mg/L	0.135	50.69 mg/L	0.135	0.27%
Ni 231.604†	3564.0	1.055	mg/L	0.0050	1.055 mg/L	0.0050	0.47%
Pb 220.353†	17365.2	2.027	mg/L	0.0085	2.027 mg/L	0.0085	0.42%
Sb 206.836†	6642.4	2.068	mg/L	0.0102	2.068 mg/L	0.0102	0.49%
Se 196.026†	2866.3	2.057	mg/L	0.0091	2.057 mg/L	0.0091	0.44%
Si 288.158†	3396.9	1.949	mg/L	0.0152	1.949 mg/L	0.0152	0.78%
Sn 189.927†	3415.9	0.9576	mg/L	0.00470	0.9576 mg/L	0.00470	0.49%
Sr 421.552†	833597.6	1.004	mg/L	0.0012	1.004 mg/L	0.0012	0.12%
Ti 334.903†	16417.3	0.9708	mg/L	0.00062	0.9708 mg/L	0.00062	0.06%
Tl 190.801†	4497.5	2.043	mg/L	0.0042	2.043 mg/L	0.0042	0.20%
V 292.402†	156336.1	1.014	mg/L	0.0126	1.014 mg/L	0.0126	1.24%
Zn 206.200†	3563.9	1.045	mg/L	0.0036	1.045 mg/L	0.0036	0.35%

Sequence No.: 93

Sample ID: CB ↑

Autosampler Location: 1

Date Collected: 4/1/2014 2:55:13 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2983614.2	100.8	%	0.45			0.45%
ScR 361.383	250090.3	101.8	%	0.43			0.42%
Ag 328.068†	-11.8	-0.00006	mg/L	0.000186	-0.00006 mg/L	0.000186	320.65%
Al 308.215†	1.5	0.00109	mg/L	0.006210	0.00109 mg/L	0.006210	567.37%
As 188.979†	-3.9	-0.00219	mg/L	0.001609	-0.00219 mg/L	0.001609	73.54%
B 249.677†	13.6	0.00237	mg/L	0.001305	0.00237 mg/L	0.001305	54.97%
Ba 233.527†	-2.4	-0.00064	mg/L	0.000280	-0.00064 mg/L	0.000280	43.70%
Be 313.042†	59.9	0.00012	mg/L	0.000014	0.00012 mg/L	0.000014	11.53%
Ca 317.933†	6.1	0.00063	mg/L	0.001064	0.00063 mg/L	0.001064	169.90%
Cd 228.802†	15.2	0.00047	mg/L	0.000108	0.00047 mg/L	0.000108	23.11%
Co 228.616†	3.8	0.00009	mg/L	0.000066	0.00009 mg/L	0.000066	71.66%
Cr 267.716†	0.6	0.00012	mg/L	0.000504	0.00012 mg/L	0.000504	404.06%
Cu 324.752†	828.5	0.00280	mg/L	0.000126	0.00280 mg/L	0.000126	4.49%
Fe 273.955†	3.0	0.00257	mg/L	0.000432	0.00257 mg/L	0.000432	16.83%
K 766.490†	122.9	0.05399	mg/L	0.007953	0.05399 mg/L	0.007953	14.73%
Mg 279.077†	-1.0	-0.00089	mg/L	0.002861	-0.00089 mg/L	0.002861	323.05%
Mn 257.610†	6.7	0.00021	mg/L	0.000094	0.00021 mg/L	0.000094	44.14%
Mo 202.031†	23.8	0.00123	mg/L	0.000061	0.00123 mg/L	0.000061	4.98%
Na 589.592†	73.4	0.00550	mg/L	0.000810	0.00550 mg/L	0.000810	14.72%
Na 330.237†	-5.5	-0.2567	mg/L	0.25072	-0.2567 mg/L	0.25072	97.66%
Ni 231.604†	2.7	0.00082	mg/L	0.001578	0.00082 mg/L	0.001578	192.56%
Pb 220.353†	3.3	0.00039	mg/L	0.000205	0.00039 mg/L	0.000205	53.12%
Sb 206.836†	38.1	0.01188	mg/L	0.001544	0.01188 mg/L	0.001544	12.99%
Se 196.026†	-0.4	-0.00028	mg/L	0.005824	-0.00028 mg/L	0.005824	>999.9%
Si 288.158†	10.9	0.00626	mg/L	0.004863	0.00626 mg/L	0.004863	77.74%
Sn 189.927†	-1.7	-0.00047	mg/L	0.000570	-0.00047 mg/L	0.000570	120.63%
Sr 421.552†	42.5	0.00005	mg/L	0.000047	0.00005 mg/L	0.000047	91.27%
Ti 334.903†	28.6	0.00169	mg/L	0.000522	0.00169 mg/L	0.000522	30.89%
Tl 190.801†	0.4	0.00019	mg/L	0.001011	0.00019 mg/L	0.001011	525.46%
V 292.402†	1.9	0.00001	mg/L	0.000118	0.00001 mg/L	0.000118	958.13%
Zn 206.200†	3.0	0.00087	mg/L	0.000648	0.00087 mg/L	0.000648	74.43%

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 4-2-14

	Analyst <u>43-14</u>	Peer <u>43</u>	Comment
Logbook:			
Analyst, Date, Method info	/	✓	
Sample ID's	/	✓	
Standard/QC solution ID's recorded	/	✓	
Prep codes	/	✓	
Dilution factors	/	✓	
Crossouts/Corrections/Deletions	/	✓	
Calibration:			
Blank & Standard intensities	/	✓	
Standard deviations	/	✓	
Curve fit	/	✓	
Calibration Verification:			
ICV/CCV	/	✓	
ICB/CCB	/	✓	
Samples:			
RSD's & SD's	/	✓	
Internal Standards	/	✓	
Carry-over	/	✓	
Method QC:			
CRI/CRA	/	✓	
ICSA/ICSAB	/	✓	
Post Spikes/Serial Dilutions	/	✓	
Analytic Spikes	/	✓	
Matrix QC:			
SRM/LCS	/	✓	
Matrix Spikes	/	✓	
Matrix Duplicates	/	✓	<u>YE42 - CAF</u>
Method Blanks	/	✓	
Data Distribution:			
Requested elements/isotope identified	/	✓	
Correct samples identified for distribution	/	✓	
Raw data match distributed data	/	✓	
Data filename correct	/	✓	
Necessary Analysts Notes and CAF's:	/	✓	<u>YE42</u>



IEC Date: 3-26-14

Analysis Date: 4-2-14

Analyst: EL

LR Date: 1-3-14

Page: 1 of 3

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1355
		↓ 2			C1331
		3			C1332
		4			C1333
		↓ 5			C1334
		ICV			C1377
		ICB			C1357
		ICSA			C532
		ICSAB			C533
		CCV1			
		CCB1			
		YE41 MB	SWC	2	
		Nexion New CV			
		Elan New CV			
		YE33 M	SWC	5	
		↓ Q			
		YE34 L			
		YE41 ADup		2	✓
		↓ A			
		↓ MSK			✓
		↓ MBSK			✓
		CCV2			
		CCB2			
		YE41 B	SWC	2	

✓ 4-314

Nebulizer Parameters: Hg ReAlign

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

4/2/2014 9:50:47 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.000 Slit adjustment: 0

Analysis Begun

Start Time: 4/2/2014 9:51:16 AM Plasma On Time: 4/2/2014 9:04:05 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: FAST-Verify-Install
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists various elements like Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn and their corresponding calibration and processing details.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 4/2/2014 9:51:26 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/2/2014 10:20:25 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/2/2014 9:04:05 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140402

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1

Sample ID: Calib Blank 1

Autosampler Location: 1

Date Collected: 4/2/2014 10:20:26 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2772466.1	2103.51	0.08%	100.0	%
ScR 361.383	232891.1	1957.60	0.84%	100.0	%
Ag 328.068†	80.0	25.16	31.44%	[0.00]	mg/L
Al 308.215†	111.0	3.12	2.81%	[0.00]	mg/L
As 188.979†	-7.0	4.66	66.38%	[0.00]	mg/L
B 249.677†	39.9	6.03	15.10%	[0.00]	mg/L
Ba 233.527†	14.0	1.46	10.39%	[0.00]	mg/L
Be 313.042†	713.9	9.66	1.35%	[0.00]	mg/L
Ca 317.933†	-137.7	3.87	2.81%	[0.00]	mg/L
Cd 228.802†	294.8	3.40	1.15%	[0.00]	mg/L
Co 228.616†	-76.4	3.26	4.27%	[0.00]	mg/L
Cr 267.716†	-83.3	3.28	3.93%	[0.00]	mg/L
Cu 324.752†	4620.8	22.58	0.49%	[0.00]	mg/L
Fe 273.955†	50.2	1.13	2.24%	[0.00]	mg/L
K 766.490†	576.9	7.12	1.23%	[0.00]	mg/L
Mg 279.077†	66.6	4.26	6.39%	[0.00]	mg/L
Mn 257.610†	142.0	3.43	2.41%	[0.00]	mg/L
Mo 202.031†	55.6	5.11	9.18%	[0.00]	mg/L
Na 589.592†	-389.9	21.52	5.52%	[0.00]	mg/L
Na 330.237†	-150.3	3.98	2.65%	[0.00]	mg/L
Ni 231.604†	-16.5	2.24	13.60%	[0.00]	mg/L
Pb 220.353†	46.0	5.87	12.77%	[0.00]	mg/L
Sb 206.836†	70.8	6.47	9.14%	[0.00]	mg/L
Se 196.026†	-28.8	2.55	8.85%	[0.00]	mg/L
Si 288.158†	79.6	9.99	12.54%	[0.00]	mg/L
Sn 189.927†	-5.3	3.32	62.85%	[0.00]	mg/L
Sr 421.552†	175.5	13.04	7.43%	[0.00]	mg/L
Ti 334.903†	-33.7	6.71	19.92%	[0.00]	mg/L
Tl 190.801†	-38.1	4.89	12.85%	[0.00]	mg/L
V 292.402†	75.1	9.17	12.22%	[0.00]	mg/L
Zn 206.200†	11.6	0.80	6.94%	[0.00]	mg/L

Sequence No.: 2

Sample ID: STD2

Autosampler Location: 2

Date Collected: 4/2/2014 10:24:26 AM

Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected

Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2755849.7	12874.04	0.47%	99.40	%
ScR 361.383	231254.5	1326.90	0.57%	99.30	%
Ba 233.527†	40694.4	318.95	0.78%	[10]	mg/L
Cd 228.802†	319652.3	1045.06	0.33%	[10]	mg/L
Co 228.616†	403212.6	952.13	0.24%	[10]	mg/L
Cr 267.716†	50313.1	89.90	0.18%	[10]	mg/L
Cu 324.752†	2859347.7	5813.08	0.20%	[10]	mg/L
Mn 257.610†	306636.6	1145.19	0.37%	[10]	mg/L
V 292.402†	1536933.3	6815.20	0.44%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/2/2014 10:26:13 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2764689.1	19424.15	0.70%	99.72	%
ScR 361.383	235006.0	1627.16	0.69%	100.9	%
Ag 328.068†	201324.5	838.57	0.42%	[1.0]	mg/L
As 188.979†	17185.8	117.17	0.68%	[10]	mg/L
B 249.677†	56413.1	143.88	0.26%	[10]	mg/L
Be 313.042†	2434094.0	28226.98	1.16%	[5.0]	mg/L
Na 589.592†	661745.3	6229.63	0.94%	[50]	mg/L
Ni 231.604†	34724.2	247.64	0.71%	[10]	mg/L
Pb 220.353†	83248.1	487.64	0.59%	[10]	mg/L
Se 196.026†	13785.9	45.06	0.33%	[10]	mg/L
Sr 421.552†	4063212.3	43402.73	1.07%	[5]	mg/L
Tl 190.801†	21487.1	191.69	0.89%	[10]	mg/L
Zn 206.200†	34993.2	166.43	0.48%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/2/2014 10:28:30 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2775633.0	12971.86	0.47%	100.1	%
ScR 361.383	233105.3	1223.87	0.53%	100.1	%
Mo 202.031†	183453.5	995.01	0.54%	[10]	mg/L
Sb 206.836†	31171.9	212.41	0.68%	[10]	mg/L
Si 288.158†	17301.3	298.26	1.72%	[10]	mg/L
Sn 189.927†	33307.1	190.19	0.57%	[10]	mg/L
Ti 334.903†	164039.4	453.36	0.28%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/2/2014 10:30:44 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2611648.5	12427.50	0.48%	94.20	%
ScR 361.383	231455.2	136.70	0.06%	99.38	%
Al 308.215†	38028.1	270.97	0.71%	[30]	mg/L
Ca 317.933†	292885.8	727.39	0.25%	[30]	mg/L
Fe 273.955†	110594.9	825.71	0.75%	[100]	mg/L
K 766.490†	224083.8	429.38	0.19%	[100]	mg/L
Mg 279.077†	33618.8	196.60	0.58%	[30]	mg/L
Na 330.237†	2078.0	11.32	0.54%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	201300	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1268	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1719	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5641	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	4069	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	486800	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9763	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	31970	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40320	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5031	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	285900	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1106	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2241	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1121	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	30660	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18350	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13230	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	20.78	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3472	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8325	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3117	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1379	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1730	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3331	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	812600	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16400	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2149	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	153700	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3499	0.00000	1.000000	

=====
Analysis Begun

Start Time: 4/2/2014 10:37:00 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/2/2014 9:04:05 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0402.sif

Batch ID:

Results Data Set: I2140402

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: CV

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/2/2014 10:37:01 AM

Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2759133.7	99.52 %	0.395			0.40%
ScR 361.383	228892.2	98.28 %	0.299			0.30%
Ag 328.068†	214359.3	1.065 mg/L	0.0005	1.065 mg/L	0.0005	0.05%
Al 308.215†	2643.7	2.053 mg/L	0.0113	2.053 mg/L	0.0113	0.55%
As 188.979†	3423.2	2.024 mg/L	0.0076	2.024 mg/L	0.0076	0.37%
B 249.677†	5758.0	1.020 mg/L	0.0082	1.020 mg/L	0.0082	0.81%
Ba 233.527†	4107.0	1.009 mg/L	0.0060	1.009 mg/L	0.0060	0.59%
Be 313.042†	475714.6	0.9769 mg/L	0.00464	0.9769 mg/L	0.00464	0.48%
Ca 317.933†	20543.9	2.104 mg/L	0.0185	2.104 mg/L	0.0185	0.88%
Cd 228.802†	33298.6	1.032 mg/L	0.0026	1.032 mg/L	0.0026	0.25%
Co 228.616†	40098.4	0.9926 mg/L	0.00189	0.9926 mg/L	0.00189	0.19%
Cr 267.716†	5170.0	1.027 mg/L	0.0077	1.027 mg/L	0.0077	0.75%
Cu 324.752†	283052.7	0.9897 mg/L	0.00351	0.9897 mg/L	0.00351	0.35%
Fe 273.955†	2316.4	2.088 mg/L	0.0199	2.088 mg/L	0.0199	0.95%
K 766.490†	45394.9	20.26 mg/L	0.052	20.26 mg/L	0.052	0.26%
Mg 279.077†	2277.7	2.039 mg/L	0.0128	2.039 mg/L	0.0128	0.63%
Mn 257.610†	29907.4	0.9758 mg/L	0.00468	0.9758 mg/L	0.00468	0.48%
Mo 202.031†	17930.6	0.9774 mg/L	0.00451	0.9774 mg/L	0.00451	0.46%
Na 589.592†	682262.0	51.55 mg/L	0.028	51.55 mg/L	0.028	0.05%
Na 330.237†	1087.1	52.28 mg/L	0.344	52.28 mg/L	0.344	0.66%
Ni 231.604†	3544.7	1.021 mg/L	0.0087	1.021 mg/L	0.0087	0.85%
Pb 220.353†	16744.6	2.013 mg/L	0.0054	2.013 mg/L	0.0054	0.27%
Sb 206.836†	6570.3	2.106 mg/L	0.0121	2.106 mg/L	0.0121	0.58%
Se 196.026†	2755.5	1.998 mg/L	0.0152	1.998 mg/L	0.0152	0.76%
Si 288.158†	3483.6	2.018 mg/L	0.0349	2.018 mg/L	0.0349	1.73%
Sn 189.927†	3337.0	1.004 mg/L	0.0065	1.004 mg/L	0.0065	0.65%
Sr 421.552†	826550.8	1.017 mg/L	0.0010	1.017 mg/L	0.0010	0.10%
Ti 334.903†	16503.8	1.005 mg/L	0.0011	1.005 mg/L	0.0011	0.10%
Tl 190.801†	4281.0	1.984 mg/L	0.0085	1.984 mg/L	0.0085	0.43%
V 292.402†	155574.8	1.016 mg/L	0.0010	1.016 mg/L	0.0010	0.10%
Zn 206.200†	3538.3	1.012 mg/L	0.0075	1.012 mg/L	0.0075	0.74%

Sequence No.: 2
 Sample ID: TCB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/2/2014 10:41:04 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2791977.3	100.7	%	0.33				0.32%
ScR 361.383	235399.4	101.1	%	1.23				1.22%
Ag 328.068†	1.4	0.00001	mg/L	0.000142	0.00001	mg/L	0.000142	>999.9%
Al 308.215†	2.4	0.00183	mg/L	0.003652	0.00183	mg/L	0.003652	199.12%
As 188.979†	1.7	0.00100	mg/L	0.000576	0.00100	mg/L	0.000576	57.53%
B 249.677†	8.4	0.00149	mg/L	0.000561	0.00149	mg/L	0.000561	37.66%
Ba 233.527†	3.2	0.00079	mg/L	0.000363	0.00079	mg/L	0.000363	45.66%
Be 313.042†	27.2	0.00006	mg/L	0.000056	0.00006	mg/L	0.000056	100.41%
Ca 317.933†	5.1	0.00053	mg/L	0.001212	0.00053	mg/L	0.001212	230.31%
Cd 228.802†	7.4	0.00023	mg/L	0.000177	0.00023	mg/L	0.000177	78.25%
Co 228.616†	-0.5	-0.00001	mg/L	0.000158	-0.00001	mg/L	0.000158	>999.9%
Cr 267.716†	-2.4	-0.00047	mg/L	0.000789	-0.00047	mg/L	0.000789	167.22%
Cu 324.752†	151.1	0.00053	mg/L	0.000206	0.00053	mg/L	0.000206	38.93%
Fe 273.955†	-0.7	-0.00067	mg/L	0.000310	-0.00067	mg/L	0.000310	45.87%
K 766.490†	-30.7	-0.01370	mg/L	0.007129	-0.01370	mg/L	0.007129	52.04%
Mg 279.077†	-13.9	-0.01240	mg/L	0.005962	-0.01240	mg/L	0.005962	48.08%
Mn 257.610†	-2.3	-0.00008	mg/L	0.000117	-0.00008	mg/L	0.000117	152.99%
Mo 202.031†	21.1	0.00115	mg/L	0.000380	0.00115	mg/L	0.000380	33.12%
Na 589.592†	21.1	0.00159	mg/L	0.003756	0.00159	mg/L	0.003756	235.80%
Na 330.237†	-0.5	-0.02499	mg/L	0.021753	-0.02499	mg/L	0.021753	87.04%
Ni 231.604†	1.5	0.00043	mg/L	0.001129	0.00043	mg/L	0.001129	265.53%
Pb 220.353†	3.7	0.00044	mg/L	0.000690	0.00044	mg/L	0.000690	157.17%
Sb 206.836†	13.1	0.00422	mg/L	0.002735	0.00422	mg/L	0.002735	64.78%
Se 196.026†	1.3	0.00093	mg/L	0.004463	0.00093	mg/L	0.004463	482.46%
Si 288.158†	-10.8	-0.00624	mg/L	0.001496	-0.00624	mg/L	0.001496	23.96%
Sn 189.927†	2.8	0.00083	mg/L	0.000776	0.00083	mg/L	0.000776	93.41%
Sr 421.552†	62.8	0.00008	mg/L	0.000023	0.00008	mg/L	0.000023	30.32%
Ti 334.903†	10.1	0.00062	mg/L	0.000169	0.00062	mg/L	0.000169	27.40%
Tl 190.801†	4.6	0.00216	mg/L	0.001583	0.00216	mg/L	0.001583	73.39%
V 292.402†	19.1	0.00012	mg/L	0.000171	0.00012	mg/L	0.000171	139.00%
Zn 206.200†	-1.2	-0.00034	mg/L	0.000348	-0.00034	mg/L	0.000348	102.11%

Sequence No.: 3

Autosampler Location: 301

Sample ID: CRI

Date Collected: 4/2/2014 10:45:04 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2793064.3	100.7	%	1.22			1.21%
ScR 361.383	233527.5	100.3	%	0.63			0.63%
Ag 328.068†	575.0	0.00286	mg/L	0.000198	0.00286 mg/L	0.000198	6.94%
Al 308.215†	65.3	0.05140	mg/L	0.006033	0.05140 mg/L	0.006033	11.74%
As 188.979†	80.3	0.04690	mg/L	0.001757	0.04690 mg/L	0.001757	3.75%
B 249.677†	124.2	0.02201	mg/L	0.001146	0.02201 mg/L	0.001146	5.20%
Ba 233.527†	16.2	0.00397	mg/L	0.000181	0.00397 mg/L	0.000181	4.56%
Be 313.042†	421.6	0.00087	mg/L	0.000036	0.00087 mg/L	0.000036	4.15%
Ca 317.933†	474.3	0.04859	mg/L	0.000698	0.04859 mg/L	0.000698	1.44%
Cd 228.802†	86.7	0.00248	mg/L	0.000042	0.00248 mg/L	0.000042	1.68%
Co 228.616†	113.4	0.00280	mg/L	0.000100	0.00280 mg/L	0.000100	3.58%
Cr 267.716†	29.5	0.00586	mg/L	0.000981	0.00586 mg/L	0.000981	16.74%
Cu 324.752†	724.0	0.00253	mg/L	0.000116	0.00253 mg/L	0.000116	4.59%
Fe 273.955†	53.5	0.04838	mg/L	0.001455	0.04838 mg/L	0.001455	3.01%
K 766.490†	1099.2	0.4905	mg/L	0.01798	0.4905 mg/L	0.01798	3.67%
Mg 279.077†	49.2	0.04395	mg/L	0.002685	0.04395 mg/L	0.002685	6.11%
Mn 257.610†	28.8	0.00094	mg/L	0.000055	0.00094 mg/L	0.000055	5.81%
Mo 202.031†	90.4	0.00493	mg/L	0.000165	0.00493 mg/L	0.000165	3.34%
Na 589.592†	6720.5	0.5078	mg/L	0.00201	0.5078 mg/L	0.00201	0.40%
Na 330.237†	8.3	0.3957	mg/L	0.07843	0.3957 mg/L	0.07843	19.82%
Ni 231.604†	37.0	0.01066	mg/L	0.001078	0.01066 mg/L	0.001078	10.11%
Pb 220.353†	173.1	0.02081	mg/L	0.000816	0.02081 mg/L	0.000816	3.92%
Sb 206.836†	168.2	0.05398	mg/L	0.002011	0.05398 mg/L	0.002011	3.73%
Se 196.026†	65.5	0.04754	mg/L	0.003838	0.04754 mg/L	0.003838	8.07%
Si 288.158†	84.8	0.04904	mg/L	0.006283	0.04904 mg/L	0.006283	12.81%
Sn 189.927†	36.1	0.01087	mg/L	0.000919	0.01087 mg/L	0.000919	8.46%
Sr 421.552†	832.5	0.00102	mg/L	0.000027	0.00102 mg/L	0.000027	2.64%
Ti 334.903†	82.4	0.00502	mg/L	0.000266	0.00502 mg/L	0.000266	5.30%
Tl 190.801†	104.8	0.04877	mg/L	0.000255	0.04877 mg/L	0.000255	0.52%
V 292.402†	460.3	0.00302	mg/L	0.000127	0.00302 mg/L	0.000127	4.20%
Zn 206.200†	34.8	0.00995	mg/L	0.000800	0.00995 mg/L	0.000800	8.03%

Sequence No.: 4
 Sample ID: ICSA
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 4/2/2014 10:49:05 AM
 Data Type: Original

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2696903.8	97.27	%	0.916				0.94%
ScR 361.383	230535.0	98.99	%	1.075				1.09%
Ag 328.068†	-246.2	-0.00061	mg/L	0.000182	-0.00061	mg/L	0.000182	29.85%
Al 308.215†	256959.2	202.7	mg/L	0.31	202.7	mg/L	0.31	0.15%
As 188.979†	51.6	0.02142	mg/L	0.005492	0.02142	mg/L	0.005492	25.64%
B 249.677†	-52.7	-0.00934	mg/L	0.001384	-0.00934	mg/L	0.001384	14.82%
Ba 233.527†	115.0	-0.00266	mg/L	0.001205	-0.00266	mg/L	0.001205	45.39%
Be 313.042†	12.1	0.00002	mg/L	0.000025	0.00002	mg/L	0.000025	111.50%
Ca 317.933†	988929.5	101.3	mg/L	0.20	101.3	mg/L	0.20	0.20%
Cd 228.802†	50.8	-0.00030	mg/L	0.000089	-0.00030	mg/L	0.000089	29.27%
Co 228.616†	70.0	0.00172	mg/L	0.000136	0.00172	mg/L	0.000136	7.93%
Cr 267.716†	12.6	-0.00119	mg/L	0.001525	-0.00119	mg/L	0.001525	127.99%
Cu 324.752†	-2302.4	0.00024	mg/L	0.000262	0.00024	mg/L	0.000262	109.48%
Fe 273.955†	221463.7	200.2	mg/L	1.89	200.2	mg/L	1.89	0.95%
K 766.490†	38.7	0.01729	mg/L	0.004285	0.01729	mg/L	0.004285	24.78%
Mg 279.077†	116090.4	103.5	mg/L	1.57	103.5	mg/L	1.57	1.52%
Mn 257.610†	27.5	-0.00160	mg/L	0.000290	-0.00160	mg/L	0.000290	18.09%
Mo 202.031†	75.8	0.00256	mg/L	0.000413	0.00256	mg/L	0.000413	16.13%
Na 589.592†	220.0	0.01662	mg/L	0.002366	0.01662	mg/L	0.002366	14.23%
Na 330.237†	11.3	-0.07359	mg/L	0.253045	-0.07359	mg/L	0.253045	343.84%
Ni 231.604†	2.2	0.00064	mg/L	0.001891	0.00064	mg/L	0.001891	293.94%
Pb 220.353†	-383.5	-0.00488	mg/L	0.001629	-0.00488	mg/L	0.001629	33.37%
Sb 206.836†	67.9	0.02156	mg/L	0.001689	0.02156	mg/L	0.001689	7.84%
Se 196.026†	43.1	0.03129	mg/L	0.008508	0.03129	mg/L	0.008508	27.19%
Si 288.158†	-31.1	-0.00564	mg/L	0.005104	-0.00564	mg/L	0.005104	90.46%
Sn 189.927†	-105.0	-0.01927	mg/L	0.000154	-0.01927	mg/L	0.000154	0.80%
Sr 421.552†	4532.1	0.00558	mg/L <i>cat.</i>	0.000087	0.00558	mg/L	0.000087	1.55%
Ti 334.903†	148.2	0.00188	mg/L	0.000373	0.00188	mg/L	0.000373	19.80%
Tl 190.801†	-39.0	0.00488	mg/L	0.004261	0.00488	mg/L	0.004261	87.31%
V 292.402†	1205.4	-0.00345	mg/L	0.000292	-0.00345	mg/L	0.000292	8.48%
Zn 206.200†	10.8	0.00307	mg/L	0.000561	0.00307	mg/L	0.000561	18.30%

Sequence No.: 5
 Sample ID: ICSAB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 4/2/2014 10:53:20 AM
 Data Type: Original

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2720716.3	98.13	%	0.199			0.20%
ScR 361.383	231372.8	99.35	%	0.099			0.10%
Ag 328.068†	215521.3	1.071	mg/L	0.0038	1.071	0.0038	0.36%
Al 308.215†	255182.9	201.3	mg/L	0.38	201.3	0.38	0.19%
As 188.979†	1766.4	1.019	mg/L	0.0073	1.019	0.0073	0.71%
B 249.677†	-37.7	-0.00866	mg/L	0.001168	-0.00866	0.001168	13.48%
Ba 233.527†	4117.6	0.9809	mg/L	0.00357	0.9809	0.00357	0.36%
Be 313.042†	480566.0	0.9869	mg/L	0.00497	0.9869	0.00497	0.50%
Ca 317.933†	983900.2	100.8	mg/L	0.15	100.8	0.15	0.15%
Cd 228.802†	32632.3	1.015	mg/L	0.0056	1.015	0.0056	0.55%
Co 228.616†	37855.2	0.9386	mg/L	0.00190	0.9386	0.00190	0.20%
Cr 267.716†	5009.6	0.9920	mg/L	0.00110	0.9920	0.00110	0.11%
Cu 324.752†	298723.1	1.053	mg/L	0.0042	1.053	0.0042	0.40%
Fe 273.955†	220582.2	199.4	mg/L	0.61	199.4	0.61	0.30%
K 766.490†	16.5	0.00737	mg/L	0.003135	0.00737	0.003135	42.53%
Mg 279.077†	111169.2	99.07	mg/L	0.069	99.07	0.069	0.07%
Mn 257.610†	28595.5	0.9303	mg/L	0.00281	0.9303	0.00281	0.30%
Mo 202.031†	71.4	0.00233	mg/L	0.000272	0.00233	0.000272	11.70%
Na 589.592†	65.1	0.00492	mg/L	0.002944	0.00492	0.002944	59.80%
Na 330.237†	14.4	-0.1908	mg/L	0.42861	-0.1908	0.42861	224.62%
Ni 231.604†	3312.6	0.9541	mg/L	0.00462	0.9541	0.00462	0.48%
Pb 220.353†	7744.5	0.9717	mg/L	0.00662	0.9717	0.00662	0.68%
Sb 206.836†	3211.0	1.020	mg/L	0.0060	1.020	0.0060	0.59%
Se 196.026†	1401.5	1.016	mg/L	0.0120	1.016	0.0120	1.18%
Si 288.158†	-49.1	-0.01206	mg/L	0.003533	-0.01206	0.003533	29.30%
Sn 189.927†	-100.3	-0.01732	mg/L	0.002266	-0.01732	0.002266	13.09%
Sr 421.552†	4395.9	0.00541	mg/L	0.000007	0.00541	0.000007	0.13%
Ti 334.903†	157.1	0.00227	mg/L	0.000050	0.00227	0.000050	2.21%
Tl 190.801†	1999.9	0.9443	mg/L	0.00471	0.9443	0.00471	0.50%
V 292.402†	150676.4	0.9734	mg/L	0.00326	0.9734	0.00326	0.34%
Zn 206.200†	3298.4	0.9429	mg/L	0.00048	0.9429	0.00048	0.05%

Sequence No.: 6
 Sample ID: CV/
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/2/2014 10:58:24 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2809518.7	101.3 %		0.19			0.19%
ScR 361.383	231461.9	99.39 %		0.346			0.35%
Ag 328.068†	207322.8	1.030 mg/L		0.0079	1.030 mg/L	0.0079	0.76%
Al 308.215†	2617.5	2.033 mg/L		0.0088	2.033 mg/L	0.0088	0.43%
As 188.979†	3311.0	1.958 mg/L		0.0092	1.958 mg/L	0.0092	0.47%
B 249.677†	5689.3	1.008 mg/L		0.0036	1.008 mg/L	0.0036	0.35%
Ba 233.527†	4103.8	1.008 mg/L		0.0054	1.008 mg/L	0.0054	0.53%
Be 313.042†	467703.3	0.9605 mg/L		0.01017	0.9605 mg/L	0.01017	1.06%
Ca 317.933†	20336.4	2.083 mg/L		0.0072	2.083 mg/L	0.0072	0.35%
Cd 228.802†	32342.4	1.003 mg/L		0.0064	1.003 mg/L	0.0064	0.63%
Co 228.616†	39138.1	0.9688 mg/L		0.00735	0.9688 mg/L	0.00735	0.76%
Cr 267.716†	5118.0	1.017 mg/L		0.0028	1.017 mg/L	0.0028	0.28%
Cu 324.752†	286862.1	1.003 mg/L		0.0075	1.003 mg/L	0.0075	0.75%
Fe 273.955†	2285.3	2.060 mg/L		0.0174	2.060 mg/L	0.0174	0.84%
K 766.490†	44617.6	19.91 mg/L		0.047	19.91 mg/L	0.047	0.23%
Mg 279.077†	2255.4	2.019 mg/L		0.0123	2.019 mg/L	0.0123	0.61%
Mn 257.610†	29267.7	0.9549 mg/L		0.00583	0.9549 mg/L	0.00583	0.61%
Mo 202.031†	17817.1	0.9712 mg/L		0.00446	0.9712 mg/L	0.00446	0.46%
Na 589.592†	671089.0	50.71 mg/L		0.224	50.71 mg/L	0.224	0.44%
Na 330.237†	1080.7	51.96 mg/L		0.129	51.96 mg/L	0.129	0.25%
Ni 231.604†	3508.3	1.011 mg/L		0.0055	1.011 mg/L	0.0055	0.54%
Pb 220.353†	16669.7	2.004 mg/L		0.0106	2.004 mg/L	0.0106	0.53%
Sb 206.836†	6393.0	2.049 mg/L		0.0106	2.049 mg/L	0.0106	0.52%
Se 196.026†	2671.8	1.937 mg/L		0.0105	1.937 mg/L	0.0105	0.54%
Si 288.158†	3409.6	1.975 mg/L		0.0235	1.975 mg/L	0.0235	1.19%
Sn 189.927†	3218.6	0.9680 mg/L		0.00627	0.9680 mg/L	0.00627	0.65%
Sr 421.552†	810763.4	0.9977 mg/L		0.00501	0.9977 mg/L	0.00501	0.50%
Ti 334.903†	16128.2	0.9819 mg/L		0.00574	0.9819 mg/L	0.00574	0.59%
Tl 190.801†	4178.0	1.937 mg/L		0.0092	1.937 mg/L	0.0092	0.48%
V 292.402†	150670.2	0.9845 mg/L		0.00798	0.9845 mg/L	0.00798	0.81%
Zn 206.200†	3504.4	1.002 mg/L		0.0058	1.002 mg/L	0.0058	0.57%

Sequence No.: 7
 Sample ID: CB |
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/2/2014 11:02:28 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2848791.2	102.8	%	0.34			0.33%
ScR 361.383	240348.5	103.2	%	0.79			0.77%
Ag 328.068†	-19.6	-0.00010	mg/L	0.000038	-0.00010 mg/L	0.000038	38.73%
Al 308.215†	0.0	0.00002	mg/L	0.007863	0.00002 mg/L	0.007863	>999.9%
As 188.979†	-0.7	-0.00041	mg/L	0.000858	-0.00041 mg/L	0.000858	211.13%
B 249.677†	6.9	0.00122	mg/L	0.000267	0.00122 mg/L	0.000267	21.83%
Ba 233.527†	-0.3	-0.00008	mg/L	0.000645	-0.00008 mg/L	0.000645	775.92%
Be 313.042†	22.6	0.00005	mg/L	0.000019	0.00005 mg/L	0.000019	40.94%
Ca 317.933†	2.7	0.00028	mg/L	0.001357	0.00028 mg/L	0.001357	483.88%
Cd 228.802†	7.4	0.00024	mg/L	0.000124	0.00024 mg/L	0.000124	52.82%
Co 228.616†	-0.2	-0.00001	mg/L	0.000217	-0.00001 mg/L	0.000217	>999.9%
Cr 267.716†	4.0	0.00080	mg/L	0.000370	0.00080 mg/L	0.000370	46.05%
Cu 324.752†	69.4	0.00024	mg/L	0.000275	0.00024 mg/L	0.000275	113.29%
Fe 273.955†	0.7	0.00063	mg/L	0.001991	0.00063 mg/L	0.001991	315.55%
K 766.490†	-21.3	-0.00953	mg/L	0.014169	-0.00953 mg/L	0.014169	148.72%
Mg 279.077†	-11.2	-0.01001	mg/L	0.007131	-0.01001 mg/L	0.007131	71.25%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000156	-0.00001 mg/L	0.000156	>999.9%
Mo 202.031†	10.9	0.00060	mg/L	0.000457	0.00060 mg/L	0.000457	76.67%
Na 589.592†	83.7	0.00632	mg/L	0.001088	0.00632 mg/L	0.001088	17.22%
Na 330.237†	1.4	0.06728	mg/L	0.241144	0.06728 mg/L	0.241144	358.41%
Ni 231.604†	1.7	0.00048	mg/L	0.001353	0.00048 mg/L	0.001353	280.33%
Pb 220.353†	0.1	0.00002	mg/L	0.000696	0.00002 mg/L	0.000696	>999.9%
Sb 206.836†	12.4	0.00397	mg/L	0.002194	0.00397 mg/L	0.002194	55.34%
Se 196.026†	0.6	0.00042	mg/L	0.000948	0.00042 mg/L	0.000948	226.45%
Si 288.158†	-14.2	-0.00820	mg/L	0.007390	-0.00820 mg/L	0.007390	90.17%
Sn 189.927†	2.4	0.00072	mg/L	0.000526	0.00072 mg/L	0.000526	72.61%
Sr 421.552†	43.1	0.00005	mg/L	0.000030	0.00005 mg/L	0.000030	57.39%
Ti 334.903†	12.7	0.00077	mg/L	0.000687	0.00077 mg/L	0.000687	88.86%
Tl 190.801†	-1.4	-0.00065	mg/L	0.002019	-0.00065 mg/L	0.002019	309.34%
V 292.402†	-3.8	-0.00002	mg/L	0.000035	-0.00002 mg/L	0.000035	166.26%
Zn 206.200†	-2.1	-0.00059	mg/L	0.000701	-0.00059 mg/L	0.000701	119.05%

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Analysis Begun

Start Time: 4/2/2014 11:38:58 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/2/2014 9:04:05 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0402.sif

Batch ID:

Results Data Set: I2140402

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1
Sample ID: YE41 MB SWC
Analyst: EL
Dilution: 2.000000X

Autosampler Location: 304
Date Collected: 4/2/2014 11:38:59 AM
Data Type: Original

Nebulizer Parameters: YE41 MB SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE41 MB SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2768671.5	99.86	%	0.196			0.20%
ScR 361.383	235961.7	101.3	%	0.33			0.33%
Ag 328.068†	-32.8	-0.00016	mg/L	0.000148	-0.00033	0.000296	91.11%
Al 308.215†	10.3	0.00816	mg/L	0.002747	0.01632	0.005495	33.66%
As 188.979†	-3.9	-0.00225	mg/L	0.001071	-0.00450	0.002142	47.61%
B 249.677†	-2.5	-0.00044	mg/L	0.001044	-0.00089	0.002088	234.81%
Ba 233.527†	1.1	0.00027	mg/L	0.000475	0.00055	0.000951	174.00%
Be 313.042†	7.4	0.00002	mg/L	0.000010	0.00003	0.000020	67.69%
Ca 317.933†	99.4	0.01018	mg/L	0.001011	0.02037	0.002023	9.93%
Cd 228.802†	4.5	0.00015	mg/L	0.000047	0.00030	0.000095	31.08%
Co 228.616†	-3.7	-0.00009	mg/L	0.000142	-0.00019	0.000285	153.18%
Cr 267.716†	3.3	0.00065	mg/L	0.000758	0.00130	0.001517	116.42%
Cu 324.752†	206.3	0.00072	mg/L	0.000043	0.00144	0.000086	5.99%
Fe 273.955†	4.7	0.00428	mg/L	0.001541	0.00856	0.003082	36.01%
K 766.490†	-13.3	-0.00594	mg/L	0.007816	-0.01187	0.015631	131.67%
Mg 279.077†	-9.1	-0.00816	mg/L	0.006575	-0.01632	0.013150	80.56%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000030	-0.00003	0.000060	215.22%
Mo 202.031†	0.1	0.00001	mg/L	0.000051	0.00001	0.000101	708.08%
Na 589.592†	111.5	0.00842	mg/L	0.001205	0.01685	0.002410	14.31%
Na 330.237†	2.9	0.1381	mg/L	0.09575	0.2763	0.19151	69.32%
Ni 231.604†	-0.2	-0.00007	mg/L	0.000509	-0.00014	0.001019	742.55%
Pb 220.353†	1.7	0.00021	mg/L	0.001235	0.00042	0.002469	585.83%
Sb 206.836†	8.2	0.00263	mg/L	0.001318	0.00527	0.002636	50.06%
Se 196.026†	1.1	0.00079	mg/L	0.000871	0.00158	0.001742	110.30%
Si 288.158†	-2.3	-0.00136	mg/L	0.004184	-0.00272	0.008368	308.17%
Sn 189.927†	2.7	0.00082	mg/L	0.000819	0.00164	0.001637	99.73%
Sr 421.552†	18.7	0.00002	mg/L	0.000022	0.00005	0.000045	97.24%
Ti 334.903†	6.2	0.00038	mg/L	0.000147	0.00075	0.000294	38.93%
Tl 190.801†	5.4	0.00253	mg/L	0.002717	0.00507	0.005434	107.26%
V 292.402†	3.6	0.00003	mg/L	0.000087	0.00005	0.000175	342.90%
Zn 206.200†	1.2	0.00033	mg/L	0.000430	0.00067	0.000861	128.62%

Sequence No.: 2
Sample ID: NEX NEW CV
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 305
Date Collected: 4/2/2014 11:43:00 AM
Data Type: Original

Nebulizer Parameters: NEX NEW CV

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: NEX NEW CV

Table with 8 columns: Analyte, Mean Corrected Intensity, Conc., Units, Std.Dev., Sample Conc., Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 3
 Sample ID: ELAN NEW CV
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 306
 Date Collected: 4/2/2014 11:47:00 AM
 Data Type: Original

Nebulizer Parameters: ELAN NEW CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: ELAN NEW CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2851362.2	102.8	%	0.39			0.38%
ScR 361.383	241650.7	103.8	%	0.47			0.46%
Ag 328.068†	10639.2	0.05289	mg/L	0.000563	0.05289	0.000563	1.06%
Al 308.215†	6369.6	5.023	mg/L	0.0237	5.023	0.0237	0.47%
As 188.979†	101.4	0.05840	mg/L	0.001238	0.05840	0.001238	2.12%
B 249.677†	21.5	0.00375	mg/L	0.001488	0.00375	0.001488	39.67%
Ba 233.527†	211.2	0.05111	mg/L	0.000484	0.05111	0.000484	0.95%
Be 313.042†	23543.9	0.04835	mg/L	0.000223	0.04835	0.000223	0.46%
Ca 317.933†	49746.3	5.095	mg/L	0.0136	5.095	0.0136	0.27%
Cd 228.802†	1736.6	0.05402	mg/L	0.000332	0.05402	0.000332	0.61%
Co 228.616†	2147.4	0.05325	mg/L	0.000402	0.05325	0.000402	0.76%
Cr 267.716†	276.0	0.05452	mg/L	0.001480	0.05452	0.001480	2.71%
Cu 324.752†	14415.4	0.05060	mg/L	0.000473	0.05060	0.000473	0.94%
Fe 273.955†	5641.9	5.101	mg/L	0.0174	5.101	0.0174	0.34%
K 766.490†	11260.0	5.025	mg/L	0.0215	5.025	0.0215	0.43%
Mg 279.077†	5634.8	5.025	mg/L	0.0127	5.025	0.0127	0.25%
Mn 257.610†	1570.3	0.05113	mg/L	0.000418	0.05113	0.000418	0.82%
Mo 202.031†	911.5	0.04960	mg/L	0.000533	0.04960	0.000533	1.07%
Na 589.592†	68110.3	5.146	mg/L	0.0172	5.146	0.0172	0.33%
Na 330.237†	110.7	5.283	mg/L	0.1400	5.283	0.1400	2.65%
Ni 231.604†	185.2	0.05335	mg/L	0.000724	0.05335	0.000724	1.36%
Pb 220.353†	435.5	0.05337	mg/L	0.000356	0.05337	0.000356	0.67%
Sb 206.836†	159.7	0.05069	mg/L	0.000720	0.05069	0.000720	1.42%
Se 196.026†	129.9	0.09415	mg/L	0.000204	0.09415	0.000204	0.22%
Si 288.158†	-18.6	-0.00991	mg/L	0.004120	-0.00991	0.004120	41.59%
Sn 189.927†	-11.6	-0.00283	mg/L	0.000250	-0.00283	0.000250	8.86%
Sr 421.552†	173.2	0.00021	mg/L	0.000002	0.00021	0.000002	0.75%
Ti 334.903†	14.4	0.00046	mg/L	0.000273	0.00046	0.000273	59.59%
Tl 190.801†	117.0	0.05460	mg/L	0.002737	0.05460	0.002737	5.01%
V 292.402†	7902.9	0.05139	mg/L	0.000534	0.05139	0.000534	1.04%
Zn 206.200†	184.9	0.05283	mg/L	0.000507	0.05283	0.000507	0.96%

Sequence No.: 4
 Sample ID: YE33 M SWC
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 307
 Date Collected: 4/2/2014 11:51:00 AM
 Data Type: Original

Nebulizer Parameters: YE33 M SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE33 M SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2757688.3	99.47	%	0.547			0.55%
ScR 361.383	234262.1	100.6	%	0.84			0.84%
Ag 328.068†	18.3	0.00027	mg/L	0.000211	0.00133 mg/L	0.001055	79.34%
Al 308.215†	89233.7	70.38	mg/L	0.159	351.9 mg/L	0.79	0.23%
As 188.979†	-145.1	0.05876	mg/L	0.001744	0.2938 mg/L	0.00872	2.97%
B 249.677†	170.3	0.03007	mg/L	0.001170	0.1504 mg/L	0.00585	3.89%
Ba 233.527†	1539.6	0.3584	mg/L	0.00451	1.792 mg/L	0.0226	1.26%
Be 313.042†	471.8	0.00088	mg/L	0.000013	0.00438 mg/L	0.000065	1.49%
Ca 317.933†	203543.3	20.85	mg/L	0.027	104.2 mg/L	0.14	0.13%
Cd 228.802†	107.6	0.00976	mg/L	0.000107	0.04881 mg/L	0.000534	1.09%
Co 228.616†	2422.3	0.05136	mg/L	0.000199	0.2568 mg/L	0.00100	0.39%
Cr 267.716†	19220.1	3.822	mg/L	0.0367	19.11 mg/L	0.184	0.96%
Cu 324.752†	686709.9	2.406	mg/L	0.0050	12.03 mg/L	0.025	0.21%
Fe 273.955†	136277.7	123.2	mg/L	0.65	616.1 mg/L	3.26	0.53%
K 766.490†	6757.6	3.016	mg/L	0.0212	15.08 mg/L	0.106	0.70%
Mg 279.077†	24558.3	21.84	mg/L	0.238	109.2 mg/L	1.19	1.09%
Mn 257.610†	37335.9	1.217	mg/L	0.0048	6.086 mg/L	0.0240	0.39%
Mo 202.031†	174.2	0.00917	mg/L	0.000679	0.04587 mg/L	0.003396	7.40%
Na 589.592†	12894.6	0.9743	mg/L	0.00387	4.871 mg/L	0.0193	0.40%
Na 330.237†	4.9	1.008	mg/L	0.0642	5.039 mg/L	0.3212	6.37%
Ni 231.604†	24673.0	7.105	mg/L	0.0795	35.53 mg/L	0.397	1.12%
Pb 220.353†	11740.3	1.427	mg/L	0.0141	7.135 mg/L	0.0704	0.99%
Sb 206.836†	245.9	0.03344	mg/L	0.000145	0.1672 mg/L	0.00072	0.43%
Se 196.026†	12.9	0.00920	mg/L	0.003375	0.04599 mg/L	0.016873	36.69%
Si 288.158†	2829.2	1.640	mg/L	0.0151	8.201 mg/L	0.0754	0.92%
Sn 189.927†	89.4	0.03026	mg/L	0.001355	0.1513 mg/L	0.00677	4.48%
Sr 421.552†	59816.6	0.07361	mg/L	0.000160	0.3680 mg/L	0.00080	0.22%
Ti 334.903†	69184.7	4.215	mg/L	0.0064	21.08 mg/L	0.032	0.15%
Tl 190.801†	-20.7	0.00198	mg/L	0.000569	0.00990 mg/L	0.002845	28.74%
V 292.402†	29172.0	0.1964	mg/L	0.00097	0.9818 mg/L	0.00485	0.49%
Zn 206.200†	2621.4	0.7506	mg/L	0.00957	3.753 mg/L	0.0478	1.27%

Sequence No.: 5
 Sample ID: YE33 Q SWC
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 308
 Date Collected: 4/2/2014 11:55:00 AM
 Data Type: Original

Nebulizer Parameters: YE33 Q SWC
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE33 Q SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2811294.3	101.4 %		0.13			0.13%
ScR 361.383	241862.2	103.9 %		0.47			0.45%
Ag 328.068†	-54.8	-0.00009 mg/L		0.000271	-0.00044 mg/L	0.001355	309.38%
Al 308.215†	84882.4	66.95 mg/L		0.405	334.8 mg/L	2.02	0.60%
As 188.979†	-129.6	0.05213 mg/L		0.004098	0.2607 mg/L	0.02049	7.86%
B 249.677†	122.8	0.02165 mg/L		0.000663	0.1082 mg/L	0.00331	3.06%
Ba 233.527†	1436.5	0.3347 mg/L		0.00125	1.673 mg/L	0.0063	0.37%
Be 313.042†	437.7	0.00082 mg/L		0.000024	0.00408 mg/L	0.000121	2.96%
Ca 317.933†	227401.0	23.29 mg/L		0.195	116.5 mg/L	0.97	0.84%
Cd 228.802†	-113.8	0.00401 mg/L		0.000221	0.02003 mg/L	0.001103	5.51%
Co 228.616†	2335.9	0.04998 mg/L		0.001283	0.2499 mg/L	0.00642	2.57%
Cr 267.716†	8095.3	1.610 mg/L		0.0150	8.051 mg/L	0.0748	0.93%
Cu 324.752†	505957.8	1.774 mg/L		0.0335	8.869 mg/L	0.1676	1.89%
Fe 273.955†	123403.1	111.6 mg/L		1.25	557.9 mg/L	6.23	1.12%
K 766.490†	4886.3	2.181 mg/L		0.0142	10.90 mg/L	0.071	0.65%
Mg 279.077†	25109.8	22.34 mg/L		0.207	111.7 mg/L	1.04	0.93%
Mn 257.610†	39577.4	1.290 mg/L		0.0139	6.451 mg/L	0.0694	1.08%
Mo 202.031†	134.7	0.00698 mg/L		0.000667	0.03492 mg/L	0.003337	9.56%
Na 589.592†	9851.6	0.7444 mg/L		0.00470	3.722 mg/L	0.0235	0.63%
Na 330.237†	7.3	1.048 mg/L		0.2155	5.242 mg/L	1.0773	20.55%
Ni 231.604†	28570.1	8.228 mg/L		0.0372	41.14 mg/L	0.186	0.45%
Pb 220.353†	8513.0	1.036 mg/L		0.0235	5.179 mg/L	0.1176	2.27%
Sb 206.836†	140.2	0.02761 mg/L		0.001123	0.1381 mg/L	0.00562	4.07%
Se 196.026†	16.5	0.01185 mg/L		0.005393	0.05927 mg/L	0.026963	45.49%
Si 288.158†	3232.7	1.872 mg/L		0.0164	9.360 mg/L	0.0819	0.87%
Sn 189.927†	16.2	0.00843 mg/L		0.000429	0.04216 mg/L	0.002144	5.09%
Sr 421.552†	56578.7	0.06962 mg/L		0.000548	0.3481 mg/L	0.00274	0.79%
Ti 334.903†	60605.2	3.693 mg/L		0.0322	18.46 mg/L	0.161	0.87%
Tl 190.801†	-15.8	0.00390 mg/L		0.002233	0.01952 mg/L	0.011166	57.20%
V 292.402†	25981.7	0.1675 mg/L		0.00370	0.8373 mg/L	0.01849	2.21%
Zn 206.200†	1693.1	0.4847 mg/L		0.00610	2.423 mg/L	0.0305	1.26%

Sequence No.: 6
 Sample ID: YE34 L SWC
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 309
 Date Collected: 4/2/2014 11:59:00 AM
 Data Type: Original

Nebulizer Parameters: YE34 L SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE34 L SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2864460.3	103.3	%	0.55			0.53%
ScR 361.383	245204.7	105.3	%	1.06			1.01%
Ag 328.068†	-159.4	-0.00068	mg/L	0.000112	-0.00339	0.000559	16.49%
Al 308.215†	179136.4	141.3	mg/L	0.50	706.5	2.51	0.36%
As 188.979†	-148.5	0.04386	mg/L	0.002447	0.2193	0.01224	5.58%
B 249.677†	194.4	0.03439	mg/L	0.001687	0.1720	0.00844	4.91%
Ba 233.527†	1322.9	0.3022	mg/L	0.00503	1.511	0.0251	1.66%
Be 313.042†	524.9	0.00096	mg/L	0.000023	0.00481	0.000115	2.38%
Ca 317.933†	56337.3	5.771	mg/L	0.0251	28.85	0.125	0.43%
Cd 228.802†	24.5	0.00162	mg/L	0.000122	0.00810	0.000608	7.51%
Co 228.616†	1440.3	0.02878	mg/L	0.000903	0.1439	0.00451	3.14%
Cr 267.716†	6536.7	1.302	mg/L	0.0194	6.508	0.0971	1.49%
Cu 324.752†	131031.0	0.4641	mg/L	0.00997	2.321	0.0498	2.15%
Fe 273.955†	162127.2	146.6	mg/L	1.48	733.0	7.40	1.01%
K 766.490†	8152.6	3.638	mg/L	0.0237	18.19	0.119	0.65%
Mg 279.077†	25805.3	22.94	mg/L	0.363	114.7	1.82	1.58%
Mn 257.610†	24176.1	0.7873	mg/L	0.01253	3.937	0.0626	1.59%
Mo 202.031†	0.9	-0.00004	mg/L	0.000234	-0.00021	0.001169	546.01%
Na 589.592†	10939.9	0.8266	mg/L	0.00162	4.133	0.0081	0.20%
Na 330.237†	7.3	1.240	mg/L	0.0814	6.200	0.4072	6.57%
Ni 231.604†	5957.5	1.716	mg/L	0.0285	8.578	0.1425	1.66%
Pb 220.353†	-94.2	0.01911	mg/L	0.000415	0.09555	0.002076	2.17%
Sb 206.836†	82.3	0.01349	mg/L	0.001239	0.06747	0.006197	9.18%
Se 196.026†	27.7	0.01988	mg/L	0.002001	0.09940	0.010007	10.07%
Si 288.158†	852.3	0.4962	mg/L	0.01261	2.481	0.0631	2.54%
Sn 189.927†	-15.8	-0.00333	mg/L	0.002188	-0.01663	0.010939	65.77%
Sr 421.552†	40131.2	0.04938	mg/L	0.000195	0.2469	0.00098	0.40%
Ti 334.903†	60929.8	3.714	mg/L	0.0123	18.57	0.062	0.33%
Tl 190.801†	-21.8	0.00489	mg/L	0.001979	0.02444	0.009895	40.49%
V 292.402†	46758.2	0.2993	mg/L	0.00642	1.496	0.0321	2.15%
Zn 206.200†	721.1	0.2065	mg/L	0.00488	1.033	0.0244	2.37%

Sequence No.: 7
 Sample ID: YE41 ADUP SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 310
 Date Collected: 4/2/2014 12:03:00 PM
 Data Type: Original

Nebulizer Parameters: YE41 ADUP SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE41 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2940111.9	106.0	%	0.49			0.46%
ScR 361.383	247616.4	106.3	%	0.80			0.75%
Ag 328.068†	199.0	0.00106	mg/L	0.000290	0.00212 mg/L	0.000579	27.27%
Al 308.215†	152995.2	120.7	mg/L	0.48	241.4 mg/L	0.95	0.40%
As 188.979†	8021.3	4.710	mg/L	0.0200	9.419 mg/L	0.0401	0.43%
B 249.677†	164.0	0.02905	mg/L	0.000781	0.05810 mg/L	0.001562	2.69%
Ba 233.527†	3689.9	0.8998	mg/L	0.00589	1.800 mg/L	0.0118	0.65%
Be 313.042†	-493.6	-0.00103	mg/L	0.000020	-0.00207 mg/L	0.000041	1.96%
Ca 317.933†	106868.2	10.95	mg/L	0.024	21.89 mg/L	0.047	0.21%
Cd 228.802†	954.1	0.00817	mg/L	0.000401	0.01635 mg/L	0.000803	4.91%
Co 228.616†	584.0	0.01179	mg/L	0.000190	0.02358 mg/L	0.000379	1.61%
Cr 267.716†	96.0	0.01837	mg/L	0.000580	0.03674 mg/L	0.001159	3.16%
Cu 324.752†	51805.5	0.1827	mg/L	0.00125	0.3655 mg/L	0.00251	0.69%
Fe 273.955†	46862.5	42.37	mg/L	0.236	84.75 mg/L	0.471	0.56%
K 766.490†	11316.1	5.050	mg/L	0.0225	10.10 mg/L	0.045	0.44%
Mg 279.077†	24649.1	21.97	mg/L	0.072	43.94 mg/L	0.145	0.33%
Mn 257.610†	12166.0	0.3958	mg/L	0.00170	0.7915 mg/L	0.00340	0.43%
Mo 202.031†	73.5	0.00384	mg/L	0.000493	0.00768 mg/L	0.000987	12.85%
Na 589.592†	58127.9	4.392	mg/L	0.0202	8.784 mg/L	0.0405	0.46%
Na 330.237†	103.3	5.171	mg/L	0.2621	10.34 mg/L	0.524	5.07%
Ni 231.604†	9502.7	2.737	mg/L	0.0276	5.473 mg/L	0.0551	1.01%
Pb 220.353†	610.6	0.1015	mg/L	0.00134	0.2030 mg/L	0.00269	1.32%
Sb 206.836†	9.5	0.00396	mg/L	0.003601	0.00792 mg/L	0.007202	90.90%
Se 196.026†	47.4	0.03437	mg/L	0.001476	0.06874 mg/L	0.002952	4.29%
Si 288.158†	6967.9	4.030	mg/L	0.0350	8.060 mg/L	0.0700	0.87%
Sn 189.927†	45.0	0.01506	mg/L	0.000740	0.03011 mg/L	0.001480	4.91%
Sr 421.552†	174829.1	0.2151	mg/L	0.00071	0.4303 mg/L	0.00143	0.33%
Ti 334.903†	19898.1	1.212	mg/L	0.0018	2.424 mg/L	0.0036	0.15%
Tl 190.801†	-10.0	0.00002	mg/L	0.002897	0.00004 mg/L	0.005793	>999.9%
V 292.402†	4479.1	0.02619	mg/L	0.000110	0.05238 mg/L	0.000219	0.42%
Zn 206.200†	664.0	0.1905	mg/L	0.00244	0.3810 mg/L	0.00489	1.28%

Sequence No.: 8
 Sample ID: YE41 A SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 311
 Date Collected: 4/2/2014 12:07:00 PM
 Data Type: Original

 Nebulizer Parameters: YE41 A SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: YE41 A SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2936347.3	105.9	%	0.63				0.59%
ScR 361.383	249932.8	107.3	%	0.57				0.53%
Ag 328.068†	169.7	0.00092	mg/L	0.000172	0.00183	mg/L	0.000343	18.75%
Al 308.215†	136407.0	107.6	mg/L	0.65	215.2	mg/L	1.31	0.61%
As 188.979†	7987.5	4.684	mg/L	0.0460	9.369	mg/L	0.0921	0.98%
B 249.677†	137.7	0.02438	mg/L	0.000724	0.04876	mg/L	0.001448	2.97%
Ba 233.527†	3620.3	0.8833	mg/L	0.00201	1.767	mg/L	0.0040	0.23%
Be 313.042†	-494.7	-0.00103	mg/L	0.000026	-0.00207	mg/L	0.000053	2.54%
Ca 317.933†	106258.8	10.88	mg/L	0.042	21.77	mg/L	0.083	0.38%
Cd 228.802†	956.7	0.00834	mg/L	0.000230	0.01669	mg/L	0.000461	2.76%
Co 228.616†	564.4	0.01160	mg/L	0.000276	0.02319	mg/L	0.000551	2.38%
Cr 267.716†	92.2	0.01770	mg/L	0.000171	0.03541	mg/L	0.000342	0.96%
Cu 324.752†	50574.6	0.1783	mg/L	0.00247	0.3566	mg/L	0.00495	1.39%
Fe 273.955†	43219.3	39.08	mg/L	0.204	78.16	mg/L	0.407	0.52%
K 766.490†	10972.9	4.897	mg/L	0.0454	9.794	mg/L	0.0908	0.93%
Mg 279.077†	22373.9	19.94	mg/L	0.062	39.88	mg/L	0.125	0.31%
Mn 257.610†	11486.6	0.3737	mg/L	0.00145	0.7474	mg/L	0.00289	0.39%
Mo 202.031†	69.1	0.00360	mg/L	0.000228	0.00719	mg/L	0.000457	6.35%
Na 589.592†	57674.1	4.358	mg/L	0.0287	8.715	mg/L	0.0574	0.66%
Na 330.237†	102.6	5.098	mg/L	0.0405	10.20	mg/L	0.081	0.79%
Ni 231.604†	9351.9	2.693	mg/L	0.0093	5.386	mg/L	0.0187	0.35%
Pb 220.353†	630.1	0.1007	mg/L	0.00097	0.2015	mg/L	0.00193	0.96%
Sb 206.836†	12.5	0.00482	mg/L	0.002191	0.00964	mg/L	0.004383	45.45%
Se 196.026†	49.5	0.03585	mg/L	0.002006	0.07170	mg/L	0.004012	5.60%
Si 288.158†	8871.7	5.130	mg/L	0.0153	10.26	mg/L	0.031	0.30%
Sn 189.927†	47.1	0.01567	mg/L	0.000514	0.03134	mg/L	0.001028	3.28%
Sr 421.552†	172013.9	0.2117	mg/L	0.00130	0.4233	mg/L	0.00259	0.61%
Ti 334.903†	17308.9	1.054	mg/L	0.0063	2.109	mg/L	0.0126	0.60%
Tl 190.801†	0.8	0.00468	mg/L	0.002683	0.00937	mg/L	0.005366	57.27%
V 292.402†	4189.2	0.02458	mg/L	0.000257	0.04915	mg/L	0.000515	1.05%
Zn 206.200†	631.4	0.1814	mg/L	0.00051	0.3628	mg/L	0.00102	0.28%

Sequence No.: 9
 Sample ID: YE41 ASPK SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 312
 Date Collected: 4/2/2014 12:11:00 PM
 Data Type: Original

Nebulizer Parameters: YE41 ASPK SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE41 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2903444.9	104.7	%	0.70			0.66%
ScR 361.383	242933.0	104.3	%	1.00			0.95%
Ag 328.068†	102222.3	0.5080	mg/L	0.00348	1.016 mg/L	0.0070	0.69%
Al 308.215†	170436.4	134.4	mg/L	0.68	268.9 mg/L	1.35	0.50%
As 188.979†	11553.3	6.773	mg/L	0.0456	13.55 mg/L	0.091	0.67%
B 249.677†	161.9	0.02767	mg/L	0.000398	0.05535 mg/L	0.000795	1.44%
Ba 233.527†	11669.7	2.860	mg/L	0.0368	5.720 mg/L	0.0735	1.29%
Be 313.042†	233204.4	0.4789	mg/L	0.00101	0.9578 mg/L	0.00202	0.21%
Ca 317.933†	203262.4	20.82	mg/L	0.142	41.64 mg/L	0.283	0.68%
Cd 228.802†	16960.8	0.4988	mg/L	0.00285	0.9977 mg/L	0.00571	0.57%
Co 228.616†	19504.4	0.4803	mg/L	0.00365	0.9606 mg/L	0.00731	0.76%
Cr 267.716†	2549.6	0.5049	mg/L	0.00507	1.010 mg/L	0.0101	1.00%
Cu 324.752†	196472.4	0.6888	mg/L	0.00476	1.378 mg/L	0.0095	0.69%
Fe 273.955†	52756.4	47.70	mg/L	0.218	95.40 mg/L	0.435	0.46%
K 766.490†	32545.8	14.52	mg/L	0.091	29.05 mg/L	0.181	0.62%
Mg 279.077†	38216.1	34.07	mg/L	0.238	68.14 mg/L	0.477	0.70%
Mn 257.610†	28369.4	0.9244	mg/L	0.00700	1.849 mg/L	0.0140	0.76%
Mo 202.031†	95.3	0.00487	mg/L	0.000284	0.00974 mg/L	0.000569	5.84%
Na 589.592†	191986.3	14.51	mg/L	0.071	29.01 mg/L	0.143	0.49%
Na 330.237†	310.9	15.02	mg/L	0.399	30.04 mg/L	0.799	2.66%
Ni 231.604†	11651.3	3.355	mg/L	0.0282	6.709 mg/L	0.0564	0.84%
Pb 220.353†	16243.7	1.983	mg/L	0.0074	3.966 mg/L	0.0148	0.37%
Sb 206.836†	31.5	0.00685	mg/L	0.001984	0.01371 mg/L	0.003967	28.95%
Se 196.026†	2786.4	2.021	mg/L	0.0103	4.041 mg/L	0.0206	0.51%
Si 288.158†	7144.4	4.136	mg/L	0.0318	8.272 mg/L	0.0637	0.77%
Sn 189.927†	210.6	0.06609	mg/L	0.000377	0.1322 mg/L	0.00075	0.57%
Sr 421.552†	576554.5	0.7095	mg/L	0.00292	1.419 mg/L	0.0058	0.41%
Ti 334.903†	23941.8	1.458	mg/L	0.0068	2.916 mg/L	0.0137	0.47%
Tl 190.801†	3725.5	1.735	mg/L	0.0092	3.469 mg/L	0.0184	0.53%
V 292.402†	71818.4	0.4660	mg/L	0.00372	0.9320 mg/L	0.00745	0.80%
Zn 206.200†	2385.1	0.6826	mg/L	0.00467	1.365 mg/L	0.0093	0.68%

Sequence No.: 10
 Sample ID: YE41 MBSPK SWC
 Analyst: EL
 Dilution: 2.00000X

Autosampler Location: 313
 Date Collected: 4/2/2014 12:15:01 PM
 Data Type: Original

Nebulizer Parameters: YE41 MBSPK SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE41 MBSPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2804144.4	101.1	%	0.30			0.30%
ScR 361.383	238062.9	102.2	%	0.99			0.97%
Ag 328.068†	113118.7	0.5621	mg/L	0.00642	1.124 mg/L	0.0128	1.14%
Al 308.215†	2825.0	2.221	mg/L	0.0183	4.442 mg/L	0.0365	0.82%
As 188.979†	3707.3	2.156	mg/L	0.0230	4.312 mg/L	0.0459	1.07%
B 249.677†	4.8	-0.00026	mg/L	0.000554	-0.00052 mg/L	0.001109	213.16%
Ba 233.527†	8927.0	2.193	mg/L	0.0163	4.386 mg/L	0.0326	0.74%
Be 313.042†	255888.1	0.5255	mg/L	0.00172	1.051 mg/L	0.0034	0.33%
Ca 317.933†	104897.7	10.74	mg/L	0.057	21.49 mg/L	0.113	0.53%
Cd 228.802†	17644.8	0.5413	mg/L	0.00336	1.083 mg/L	0.0067	0.62%
Co 228.616†	21179.1	0.5250	mg/L	0.00403	1.050 mg/L	0.0081	0.77%
Cr 267.716†	2802.8	0.5559	mg/L	0.00498	1.112 mg/L	0.0100	0.90%
Cu 324.752†	148753.2	0.5203	mg/L	0.00492	1.041 mg/L	0.0098	0.95%
Fe 273.955†	2478.9	2.238	mg/L	0.0236	4.476 mg/L	0.0472	1.05%
K 766.490†	24167.8	10.79	mg/L	0.068	21.57 mg/L	0.136	0.63%
Mg 279.077†	12658.1	11.29	mg/L	0.093	22.59 mg/L	0.186	0.82%
Mn 257.610†	15792.5	0.5154	mg/L	0.00119	1.031 mg/L	0.0024	0.23%
Mo 202.031†	24.7	0.00118	mg/L	0.000235	0.00236 mg/L	0.000470	19.91%
Na 589.592†	145676.2	11.01	mg/L	0.036	22.01 mg/L	0.072	0.33%
Na 330.237†	243.6	11.50	mg/L	0.176	23.00 mg/L	0.351	1.53%
Ni 231.604†	1920.2	0.5521	mg/L	0.00267	1.104 mg/L	0.0053	0.48%
Pb 220.353†	17700.1	2.127	mg/L	0.0137	4.254 mg/L	0.0275	0.65%
Sb 206.836†	15.5	-0.00040	mg/L	0.003170	-0.00081 mg/L	0.006340	785.72%
Se 196.026†	2982.9	2.163	mg/L	0.0279	4.326 mg/L	0.0558	1.29%
Si 288.158†	-7.1	-0.00030	mg/L	0.004566	-0.00060 mg/L	0.009133	>999.9%
Sn 189.927†	-20.4	-0.00475	mg/L	0.000254	-0.00951 mg/L	0.000507	5.34%
Sr 421.552†	438178.3	0.5392	mg/L	0.00174	1.078 mg/L	0.0035	0.32%
Ti 334.903†	53.7	0.00241	mg/L	0.000400	0.00482 mg/L	0.000800	16.60%
Tl 190.801†	4559.2	2.117	mg/L	0.0171	4.234 mg/L	0.0341	0.81%
V 292.402†	81175.7	0.5304	mg/L	0.00571	1.061 mg/L	0.0114	1.08%
Zn 206.200†	1888.8	0.5401	mg/L	0.00779	1.080 mg/L	0.0156	1.44%

Sequence No.: 11
 Sample ID: CV 2
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/2/2014 12:19:01 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2738991.3	98.79 %	0.241			0.24%
ScR 361.383	232914.5	100.0 %	0.48			0.48%
Ag 328.068†	216992.5	1.078 mg/L	0.0033	1.078 mg/L	0.0033	0.31%
Al 308.215†	2653.5	2.060 mg/L	0.0145	2.060 mg/L	0.0145	0.70%
As 188.979†	3487.6	2.061 mg/L	0.0006	2.061 mg/L	0.0006	0.03%
B 249.677†	5771.8	1.022 mg/L	0.0021	1.022 mg/L	0.0021	0.20%
Ba 233.527†	4173.5	1.025 mg/L	0.0012	1.025 mg/L	0.0012	0.11%
Be 313.042†	480405.4	0.9866 mg/L	0.00472	0.9866 mg/L	0.00472	0.48%
Ca 317.933†	20635.3	2.114 mg/L	0.0042	2.114 mg/L	0.0042	0.20%
Cd 228.802†	33713.3	1.045 mg/L	0.0022	1.045 mg/L	0.0022	0.21%
Co 228.616†	40987.0	1.015 mg/L	0.0018	1.015 mg/L	0.0018	0.18%
Cr 267.716†	5217.4	1.036 mg/L	0.0031	1.036 mg/L	0.0031	0.29%
Cu 324.752†	300044.9	1.049 mg/L	0.0024	1.049 mg/L	0.0024	0.23%
Fe 273.955†	2309.5	2.081 mg/L	0.0093	2.081 mg/L	0.0093	0.45%
K 766.490†	45346.5	20.24 mg/L	0.105	20.24 mg/L	0.105	0.52%
Mg 279.077†	2293.7	2.053 mg/L	0.0062	2.053 mg/L	0.0062	0.30%
Mn 257.610†	29730.1	0.9700 mg/L	0.00566	0.9700 mg/L	0.00566	0.58%
Mo 202.031†	18706.5	1.020 mg/L	0.0025	1.020 mg/L	0.0025	0.25%
Na 589.592†	679967.1	51.38 mg/L	0.302	51.38 mg/L	0.302	0.59%
Na 330.237†	1091.1	52.47 mg/L	0.046	52.47 mg/L	0.046	0.09%
Ni 231.604†	3592.3	1.035 mg/L	0.0035	1.035 mg/L	0.0035	0.34%
Pb 220.353†	17515.8	2.105 mg/L	0.0061	2.105 mg/L	0.0061	0.29%
Sb 206.836†	6665.7	2.137 mg/L	0.0060	2.137 mg/L	0.0060	0.28%
Se 196.026†	2813.4	2.040 mg/L	0.0062	2.040 mg/L	0.0062	0.30%
Si 288.158†	3473.3	2.012 mg/L	0.0263	2.012 mg/L	0.0263	1.31%
Sn 189.927†	3382.2	1.017 mg/L	0.0023	1.017 mg/L	0.0023	0.22%
Sr 421.552†	822616.1	1.012 mg/L	0.0058	1.012 mg/L	0.0058	0.57%
Ti 334.903†	16480.3	1.003 mg/L	0.0058	1.003 mg/L	0.0058	0.58%
Tl 190.801†	4393.4	2.036 mg/L	0.0040	2.036 mg/L	0.0040	0.20%
V 292.402†	157841.0	1.031 mg/L	0.0037	1.031 mg/L	0.0037	0.36%
Zn 206.200†	3567.3	1.020 mg/L	0.0028	1.020 mg/L	0.0028	0.28%

Sequence No.: 12
 Sample ID: CB 2
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/2/2014 12:23:03 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2734922.6	98.65 %	%	0.565			0.57%
ScR 361.383	231479.6	99.39 %	%	0.643			0.65%
Ag 328.068†	3.7	0.00002 mg/L	mg/L	0.000172	0.00002 mg/L	0.000172	943.56%
Al 308.215†	6.7	0.00524 mg/L	mg/L	0.002045	0.00524 mg/L	0.002045	39.05%
As 188.979†	1.5	0.00088 mg/L	mg/L	0.000088	0.00088 mg/L	0.000088	9.97%
B 249.677†	8.9	0.00158 mg/L	mg/L	0.001774	0.00158 mg/L	0.001774	112.58%
Ba 233.527†	-0.2	-0.00005 mg/L	mg/L	0.000283	-0.00005 mg/L	0.000283	544.11%
Be 313.042†	1.0	0.00000 mg/L	mg/L	0.000033	0.00000 mg/L	0.000033	>999.9%
Ca 317.933†	-5.7	-0.00059 mg/L	mg/L	0.000109	-0.00059 mg/L	0.000109	18.64%
Cd 228.802†	7.8	0.00024 mg/L	mg/L	0.000075	0.00024 mg/L	0.000075	31.10%
Co 228.616†	-3.4	-0.00009 mg/L	mg/L	0.000061	-0.00009 mg/L	0.000061	71.29%
Cr 267.716†	1.7	0.00034 mg/L	mg/L	0.000963	0.00034 mg/L	0.000963	280.45%
Cu 324.752†	358.8	0.00125 mg/L	mg/L	0.000196	0.00125 mg/L	0.000196	15.60%
Fe 273.955†	0.0	0.00004 mg/L	mg/L	0.000445	0.00004 mg/L	0.000445	>999.9%
K 766.490†	8.7	0.00387 mg/L	mg/L	0.003270	0.00387 mg/L	0.003270	84.41%
Mg 279.077†	-4.9	-0.00439 mg/L	mg/L	0.003256	-0.00439 mg/L	0.003256	74.16%
Mn 257.610†	3.9	0.00013 mg/L	mg/L	0.000051	0.00013 mg/L	0.000051	39.63%
Mo 202.031†	15.8	0.00086 mg/L	mg/L	0.000147	0.00086 mg/L	0.000147	17.03%
Na 589.592†	29.1	0.00220 mg/L	mg/L	0.004357	0.00220 mg/L	0.004357	198.38%
Na 330.237†	-4.0	-0.1920 mg/L	mg/L	0.17108	-0.1920 mg/L	0.17108	89.11%
Ni 231.604†	0.1	0.00003 mg/L	mg/L	0.000683	0.00003 mg/L	0.000683	>999.9%
Pb 220.353†	6.4	0.00076 mg/L	mg/L	0.000324	0.00076 mg/L	0.000324	42.41%
Sb 206.836†	24.7	0.00792 mg/L	mg/L	0.001561	0.00792 mg/L	0.001561	19.71%
Se 196.026†	3.5	0.00251 mg/L	mg/L	0.002213	0.00251 mg/L	0.002213	88.23%
Si 288.158†	-11.4	-0.00661 mg/L	mg/L	0.003878	-0.00661 mg/L	0.003878	58.70%
Sn 189.927†	5.0	0.00149 mg/L	mg/L	0.000638	0.00149 mg/L	0.000638	42.70%
Sr 421.552†	42.7	0.00005 mg/L	mg/L	0.000022	0.00005 mg/L	0.000022	41.50%
Ti 334.903†	5.2	0.00032 mg/L	mg/L	0.000317	0.00032 mg/L	0.000317	99.51%
Tl 190.801†	-2.1	-0.00096 mg/L	mg/L	0.003040	-0.00096 mg/L	0.003040	317.31%
V 292.402†	22.9	0.00015 mg/L	mg/L	0.000067	0.00015 mg/L	0.000067	44.12%
Zn 206.200†	2.4	0.00069 mg/L	mg/L	0.000415	0.00069 mg/L	0.000415	60.07%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YE34

228-14

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET
 (dry at 104 (12-24 hr) then combust at 550 (30 min))
 DATE: 3/27/14 (C)
 ANALYST: KE 7:32

Instrumentation
 Drying Ovens: 12
 Muffle Furnace: N/A
 Analytical Balance: 1123230597

Batch drying time		CV-02		CV-02		CV-02		CV-02		CV-02		CV-02	
record times as mm/dd/yy hh:mm	date/time in oven	date/time out	elapsed hrs =	TS (%)	Final dry wt (g) = (Dry Wt - Tare Wt)	TS = (Final Dry Wt)/(grams Sample-Tare)	Final ash wt (g) = (min ash wt - tare wt)	TVS (mg/kg dry wt) calculated as:	Final ash wt (g) = (min ash wt - tare wt)	TVS (mg/kg) = [(Dry wt-Ash wt)/(dry weight)] *1,000,000	if ash wt > dry wt, "Chk for Err"	if dry wt-ash wt < 0.001 g, "< (1/dry wt) *1,000,000"	CV-02
3/27/2014 7:32	KE	3/27/14 7:06	21.4	10.0000	1.1407	1.1477	1.1462	10.0000	1.1407	6.8988	7.4899	0.00	1
3/28/2014 4:56	KE	10.0000		10.0000	1.1407	6.8988	7.4899	10.0000	1.1407	6.8988	7.4899	5.75	2
		Cal OK!		Cal OK!				Cal OK!				6.34	
SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)	dry Wt (g)	TS (%)	ASH WT 550C (grams)	Ash Wt (g)	TVS (mg/kg) (%)				
Blank					0.00								
YE34 A1		7.3608	1.1477	6.8988	5.75	92.56%							
YE34 A1 dup		7.9878	1.1462	7.4899	6.34	92.72%							

SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)	dry Wt (g)	TS (%)	ASH WT 550C (grams)	Ash Wt (g)	TVS (mg/kg) (%)
YE34 B1		7.5801	1.1331	7.3143	6.18	95.88%			
YE34 C1		7.0507	1.1478	6.7015	5.55	94.08%			
YE34 D1		8.9694	1.1380	8.1220	6.98	99.18%			
YE34 E1		7.2612	1.1777	6.8275	5.65	92.87%			
YE34 F1		8.9458	1.0963	8.6009	7.50	95.61%			
YE34 G1		8.5240	1.1311	8.1960	7.06	95.56%			
YE34 H1		7.7778	1.1652	7.1430	5.98	90.40%			
YE34 I 1		7.9679	1.1710	7.5333	6.36	93.61%			
YE34 J 1		8.4981	1.1394	8.1846	7.05	95.74%			
YE34 K1		8.8845	1.1757	8.4212	7.25	93.99%			
YE34 L1		7.8109	1.1420	6.1196	4.98	74.64%			
YE34 M1		7.7512	1.1414	7.1569	6.02	91.01%			
YE34 N1		8.0650	1.1346	7.7713	6.64	95.76%			
YE34 O1		7.2744	1.1236	6.9295	5.81	94.39%			
YE34 P1		8.6729	1.1140	7.8085	6.69	88.56%			

RPD = 0.17%
 RPD = NA

82151



TOTAL / VOLATILE SOLIDS (TS/TVS) BENCHSHEET

① 3-27-14 (10)

Analyst:	Time in Oven:	Date:	Oven ID:	Time Out of Oven:	Muffle ID:	Balance ID:	Elapsed Time (> 12 Hrs):		
							CV-02	CV-02	CV-02
YB24	3-27-14	7:32	3-27-14	5:37	9:56	1123230597	TVS (mg/kg dry weight) calculated as: Final Ash Weight (g) = (Minimum Ash Weight - Tare Weight) TVS (mg/kg) = ((Dry Weight - Ash Weight) / (Dry Weight) * 1,000,000 If Ash Weight > Dry Weight then "Check for Error" If Dry Weight - Ash Weight < 0.001 < (1/Dry Weight) * 1,000,000		
Sample ID	Dish #	Sample	Tare	Dry Weight 104°C	Dry Weight 550°C				
BLANK	45	1.1407	1.1407	7.3608	Red 2				
A1	46	7.48957	1.1477	6.8988	7.9878	Soil/Sand/Rock			
B1	47	7.4004	1.1462	7.4899	7.5801	Sand			
C1	48	7.2356	1.1331	7.3143	2.0507	Sand/Rock			
D1	49	7.2318	1.1478	6.7015	8.9694	chip Sand/Hood			
E1	50	7.9733	1.1380	8.1230	7.2612	Rock/Sand/Sand/Rock			
F1	51	7.2664	1.1777	6.8275	8.9458	Sand/Rock			
G1	52	7.9769	1.0963	8.6009	8.5240	Red Sand/Clayish Rock			
H1	53	7.9391	1.1211	8.1960	7.7778	Rock/Sand			
I1	54	8.1858	1.1652	7.1430	7.9679	Rock			
J1	55	7.27	1.1710	7.5333		Sand/Rock			
K1	56	8.4981	1.1394	8.1846		Clay			
L1	57	8.8545	1.1757	8.4212		Sand/Sand/Rock			
M1	58	7.8109	1.1420	6.1196		Sand/Rock			
N1	59	7.2512	1.1414	7.1569		Sand/Rock			
O1	60	8.0650	1.1346	7.7713		Sand/Rock			
P1	61	7.2744	1.1236	6.9295		Sand/Rock			
Q1	62	8.6729	1.1140	7.8085		Sand/Rock			
				9:27:41					

YE34:00216

4-8-14

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction)	Digested	Analyzed
Diphenyl carbazide finish (SW-846 7196A)	Date / Time 4/5/14 19:45	Date / Time: 4/7/14 15:35
REAGENTS	Analyst: RR	Analyst: CDE
EQUIPMENT	pH Meter ID: ACCUMET AR60	Electrode ID: 1320016P 16
Sulfuric acid: C001431	Balance ID: 19350128	Spec ID: SPEC 1
Diphenylcarbazine: C001434		

CALIBRATION		
Curve Standard		
ARI ID: C000892	stock 0.0709 g K2Cr2O7	500 mL pH2 = 50.1 mg/L Cr+6
Date Prepared: 4/7/2014	Intermediate 5 mL Stock to	50 mL pH2 = 5.01 mg/L Cr+6

Standard Curve Data				final volume of prepared standards = 50 mL	
mL intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs	Regression Data Conc = (abs-intercept)/slope intercept = 0.0029 slope = 0.7965 r = 1.000 Comment: Calibration OK! maxabs = 0.798
0.0	0.00	0.000		0.000 = blank abs	
0.1	0.01	0.008		0.008 E 0.006 #VALUE!	
0.5	0.05	0.042		0.042 0.049 98%	
1.0	0.10	0.083		0.083 0.101 100%	
5.0	0.50	0.409		0.409 0.510 102%	
10.0	1.00	0.798		0.798 0.998 100%	

Calibration Verification Standard			
Source	ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6
intermediate	ml stock to	mL DI =	mg/L Cr+6
CVS =	0.050 ml stock to	200 mL DI =	0.25 mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)			
Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6 as K2Cr2O7
DQL Intermediate	Dilute 0.1 mL stock to	10	10 mg/L Cr+6 as K2Cr2O8
DQL Standard	Dilute 0.40 mL Int to	100	0.04 mg/L Cr+6 as K2Cr2O8
Insoluble Chk	source = Fisher 053150/ B002310	16.088%	percent Cr+6 as PbCrO4

SAMPLE DATA mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	Extraction Data				Spectrophotometric Data				Conc (mg/L)	NOTES
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	ABS @ 540nm	Background	Extract mg/L		
ICB					1	0.000		-0.004	< 0.01	Blk OK
ICV					1	0.206		0.255	0.255	102.00%
Prep Blk	100.00%	2.501	0.100	1.250	1	0.000		-0.005	< 0.4	Blk OK
Prep Chk Sol	100.00%	2.503	0.100	1.250	1	0.313		0.487	19.444	87.3%
Sol Spk at 0.05 mL Solstk = 0.05 mg Cr+6								19.98	mg/kg	
Prep Chk Insol	100.00%	2.502	0.100	1.250	20	0.507		0.791	632	95.5%
Insol Spk at 10.3 mg PbCrO4 = 1.657 mg Cr+6								662	mg/kg	
YE34 A1	92.56%	2.547	0.100	1.250	1	0.004		0.002	< 0.43	
YE34 A1 dup	92.56%	2.538	0.100	1.250	1	0.005		0.003	< 0.43	RPD NA
soluble ms 92.56% 2.572 0.100 1.250								0.043	1.8	% Rec = 8.5
Sol Spk at 0.05 mL Solstk = 0.05 mg Cr+6								21.0	mg/kg	
insoluble ms 92.56% 2.570 0.100 1.250								0.978	822.2	% Rec = 90.1
Insol Spk at 13.5 mg PbCrO4 = 2.172 mg Cr+6								913	mg/kg	
YE34 B1	95.88%	2.508	0.100	1.250	1	0.002		-0.001	< 0.42	
YE34 C1	94.08%	2.519	0.100	1.250	1	0.001		-0.003	< 0.42	
YE34 D1	89.18%	2.508	0.100	1.250	1	0.173		0.267	11.9	
CCB					1	0.000		-0.004	< 0.01	Blk OK
CCV					1	0.206		0.255	0.255	102.00%
YE34 E1	92.87%	2.597	0.100	1.250	1	0.003		0.000	< 0.42	
YE34 F1	95.61%	2.517	0.100	1.250	1	0.002		-0.001	< 0.42	
YE34 G1	95.56%	2.546	0.100	1.250	1	0.002		-0.001	< 0.41	
YE34 H1	90.40%	2.502	0.100	1.250	1	0.157		0.242	10.7	
YE34 I1	93.61%	2.540	0.100	1.250	1	0.003		0.000	< 0.42	
YE34 J1	95.74%	2.527	0.100	1.250	1	0.002		-0.001	< 0.41	
YE34 K1	93.99%	2.545	0.100	1.250	1	0.001		-0.003	< 0.42	
YE34 L1	74.64%	2.553	0.100	1.250	1	0.096		0.146	7.7	
YE34 M1	91.01%	2.549	0.100	1.250	1	0.007		0.006	< 0.43	
YE34 N1	95.76%	2.505	0.100	1.250	1	0.016	0.001	0.019	0.8	
CCB					1	0.000		-0.004	< 0.01	Blk OK
CCV					1	0.207		0.256	0.256	102.50%
YE34 O1	94.39%	2.506	0.100	1.250	1	0.050	0.002	0.071	3.0	
YE34 P1	88.56%	2.586	0.100	1.250	1	0.052	0.002	0.074	3.2	

Format for Post-digestion spikes Spike at 40 mg/kg or 2 times the sample concentration, whichever is greater										
YE34 A1	92.56%	2.547	0.100	1.250	1	0.004		0.002	< 0.43	Recovery
YE34 A1 ver	92.56%	2.547	0.100	1.000	1	0.628		0.785	33	83%
desired spike = 0.94 mg/L by diluting				0.19 mL stock to	10 mL extract =	0.94		40.0		interference
CCB					1	0.002		-0.001	< 0.01	Blk OK
CCV					1	0.208		0.258	0.258	103.00%

ARI 6020 Cr+6
Revised: 4/19/05

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time: 4/5/14 19:45	Date / Time: 4-7-14 15:35
REAGENTS	Analyst: RL	Analyst: ORL
Sulfuric acid: C001431	EQUIPMENT	pH Meter ID: ACCUMET AR60
Diphenylcarbazide: C001434		Electrode ID: 1320016P 16
		Balance ID: 19350128
		Spec ID: SPEC 1

CALIBRATION

Curve Standard

ARI ID: C000892 stock 0.0709 g K2Cr2O7 to 500 mL pH2 = 50.1 mg/L Cr+6
 Date Prepared: 4-7-14 Intermediate 5 mL Stock to 50 mL pH2 = 5.01 mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL

mL intermediate	Conc (mg/L)	Absorbance @ 540 nm	Avg Blk Corr Abs	
		1	2	
0.0	0.00	0.000		= blank abs
0.1	0.01	0.003		#VALUE!
0.5	0.05	0.042		#VALUE!
1.0	0.10	0.083		#VALUE!
5.0	0.50	0.409		#VALUE!
10.0	1.00	0.793		#VALUE!

Regression Data
 Conc = (abs-intercept)/slope
 intercept =
 slope =
 r =
 Comment:
 maxabs =

Calibration Verification Standard

Source	ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6
intermediate		mL stock to	mL DI =
CVS =	0.050 mL stock to	200 mL DI =	0.25 mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)

Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6 as K2Cr2O7
DQL Intermediate	Dilute 0.1 mL stock to	10	10 mg/L Cr+6 as K2Cr2O8
DQL Standard	Dilute 0.40 mL Int to	100	0.04 mg/L Cr+6 as K2Cr2O8
Insoluble Chk	source = Fisher 053150/ B002310	16.088%	percent Cr+6 as PbCrO4

SAMPLE DATA

mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	Extraction Data				Spectrophotometric Data			Conc (mg/L)	NOTES
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	ABS @ 540nm	Background		
ICB					1	0.000			
ICV					1	0.206			
Prep Blk	100.00%	2.501	0.100	1.250	1	0.000			
Prep Chk Sol	100.00%	2.503	0.100	1.250	1	0.313			
	Sol Spk at 0.05	mL Solstk = 0.05						19.98	mg/kg
Prep Chk Insol	100.00%	2.502	0.100	1.250	20	0.007			
	Insol Spk at 0.3	mg PbCrO4 = 0.000						0	mg/kg
YE34 A1	92.56%	2.547	0.100	1.250	1	0.004			
YE34 A1 dup	92.56%	2.538	0.100	1.250	1	0.005			
soluble ms	92.56%	2.572	0.100	1.250	1	0.030			
	Sol Spk at 0.05	mL Solstk = 0.05						21.0	mg/kg
insoluble ms	92.56%	2.570	0.100	1.250	20	0.626			
	Insol Spk at 3.5	mg PbCrO4 = 0.000						0	mg/kg
YE34 B1	95.88%	2.508	0.100	1.250	1	0.002			
YE34 C1	94.08%	2.519	0.100	1.250	1	0.001			
YE34 D1	89.18%	2.508	0.100	1.250	1	0.173			
CCB					1	0.000			
CCV					1	0.206			
YE34 E1	92.87%	2.597	0.100	1.250	1	0.003			
YE34 F1	95.61%	2.517	0.100	1.250	1	0.002			
YE34 G1	95.56%	2.546	0.100	1.250	1	0.002			
YE34 H1	90.40%	2.502	0.100	1.250	1	0.157			
YE34 I1	93.61%	2.540	0.100	1.250	1	0.003			
YE34 J1	95.74%	2.527	0.100	1.250	1	0.002			
YE34 K1	93.99%	2.545	0.100	1.250	1	0.001			
YE34 L1	74.64%	2.553	0.100	1.250	1	0.096			
YE34 M1	91.01%	2.549	0.100	1.250	1	0.007			
YE34 N1	95.76%	2.505	0.100	1.250	1	0.016	0.001		
CCB					1	0.000			
CCV					1	0.207			
YE34 O1	94.39%	2.506	0.100	1.250	1	0.050	0.002		
YE34 P1	88.56%	2.586	0.100	1.250	1	0.052	0.002		
YE34 A1 rev	92.56	2.547	0.100	1.250	1	0.629			
CCB			0.100	1.250	1	0.002			
CCV			0.100	1.250	1	0.208			
			0.100	1.250	1				
			0.100	1.250	1				
			0.100	1.250	1				
CCB			0.100	1.250	1				
CCV			0.100	1.250	1				

**Hexavalent Chromium
3060 Alkaline Digestion Protocol**

Date: 4/5/14 19:45
Analyst: FF

1) Digest

Balance ID: 19850128

Sample	2.5	g	
soluble spike (K ₂ Cr ₂ O ₇)	0.05	mL	use 1000 mg/L LCS = 0.5 mg/L = 20ppm solid
insoluble spike (PbCrO ₄)	10-20	mg PbCrO ₄	PbCrO ₄ = 16.888% Cr
optional trivalent spike (Cr(III)•6H ₂ O)	5	mg Cr(III)•6H ₂ O	Cr(III)•6H ₂ O = 19.500% Cr
ID: <u>C001345</u> Alk-CO ₃ Digest Soln	50	mL	20 g NaOH + 30 g Na ₂ CO ₃ , dilute to 1 liter (pH >11.5)
ID: <u>B002852</u> MgCl ₂	0.4	g	anhydrous powder
ID: <u>C001352</u> 1M Phosphate buffer	0.5	mL	87.09 g K ₂ HPO ₄ + 68.04 g KH ₂ PO ₄ to 1 liter
mix	5	minutes	
heat (90-95 °C)	60	minutes	Set Block temp to 115 °C (AIM Prgm #3)

2) Transfer to filtration funnel (3X10 mL rinses) and filter (0.45µm membrane)

3) Neutralize filtrate to pH 7.5 ±0.5

ID: 5M Nitric acid dropwise

Soluble Spike: _____ ERA # 160412 / B001620 _____

4) Dilute to 100 mL

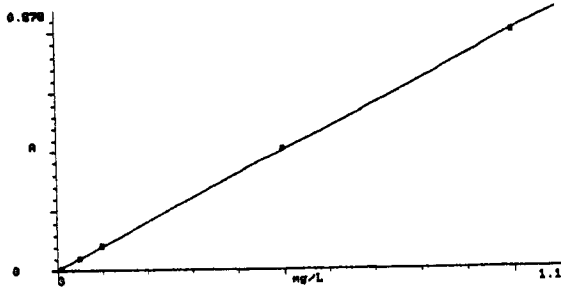
Insoluble Spike: _____ Fisher: 053150 / B002310 _____

reagent water

Sample	Client ID	grams	mL	Notes
Dig Blank		2.501	100	Temp: _____ °C pH: _____
Blk Spk	Soluble (K ₂ Cr ₂ O ₇)	2.503	100	added <u>0.05</u> mL 1000 ppm stock
Blk Spk	Insoluble (PbCrO ₄)	2.502	100	added <u>10.8</u> mg PbCrO ₄
YE34 A1		2.547	100	
YE34 A1 dup		2.538	100	
YE34 A1 sol spk		2.572	100	added <u>0.05</u> mL 1000 ppm stock
YE34 A1 insol spk		2.570	100	added <u>13.5</u> mg PbCrO ₄
YE34 B1		2.508	100	
YE34 C1		2.519	100	
YE34 D1		2.508	100	
YE34 E1		2.597	100	
YE34 F1		2.517	100	
YE34 G1		2.546	100	
YE34 H1		2.502	100	
YE34 I1		2.540	100	
YE34 J1		2.527	100	
YE34 K1		2.545	100	
YE34 L1		2.553	100	soft clay + orange dust
YE34 M1		2.549	100	
YE34 N1		2.585	100	
YE34 O1		2.506	100	
YE34 P1		2.586	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 15:35 7Apr14
 Test Name CHROME 6
 Date Standards Measured 7Apr14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.799
 Intercept 0.00214
 Std Dev 0.004
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.042
0.100	0.083
0.500	0.409
1.000	0.798

*4-7-14
CAC*

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-XT-C 15:36 7Apr14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On

ID#	Abs 540nm
1	0.000

2 0.206

3 0.000

4 0.313

5 0.507

6 0.004

7 0.005

8 0.030

9 0.626

10 0.002

11 0.001

12 0.173

13 0.000

14 0.206

15 0.003

16 0.002

17 0.002

18 0.157

19 0.003

20 0.002

21 0.001

22 0.096

23 0.007

24 0.016

25 0.000

26 0.207

27 0.050

28 0.052

29 0.628 -*ver*

30 0.001 *Backgrounds*

31 0.002 -*0'*

32 0.002 -*P1*

33 0.002

34 0.208



Corrective Actions Inorganic Analyses

Criteria Flagged:

ARI Job No.: YE34

Unacceptable Blank:

Date of Event: 4-7-14

Unacceptable Duplicate:

Client ID: _____

Unacceptable Spike:

Method/Element: Cr⁶⁺

Unacceptable Reference:

Prep Code: _____

Details of Problem/Recommended Corrective Action:

Low Soluble M.S. @ \approx ~~12.0%~~ 9.0%
USA

Samples Affected: YE34 #1

Corrective Action Taken: post spike verification performed on pH adjusted sample with a low recovery of \approx 83%.
Sample flagged as matrix interference.
Data entered as-is.

Analyst Initials: _____

Supervisor: W

Date: _____

4-7-14

Date: _____

4-8-14

Table of Contents: ARI Job YE36

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

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Metals Analysis		
Report and Summary QC Forms	<u>12</u>	<u>49</u>
General Chemistry Analysis		
Report and Summary QC Forms	<u>60</u>	<u>55</u>
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Signature

April-03-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 3, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YE36

Dear Ian:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro".

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YE36

Enclosures

Chain of Custody Documentation

ARI Job ID: YE36

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: Turn-around Requested:	Date: <u>3/25/14</u> Page: <u>1</u> of <u>1</u>
ARI Client Company: GeoEngineers Client Contact: Ian Young	Phone: 253-383-4940 No. of Coolers: _____ Cooler Temps: _____

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Client Project Name: Aladden Plating	Analysis Requested				Notes/Comments												
	EPA 200.7/6010C Total Metals ¹	Dissolved Nickel ²	Hexavalent Chromium EPA 200.7/6010C	EPA 200.7/6010C													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Client Project #:</th> <th style="width: 30%;">Samplers:</th> <th style="width: 15%;">Date</th> <th style="width: 15%;">Time</th> <th style="width: 15%;">Matrix</th> <th style="width: 15%;">No. Containers</th> </tr> <tr> <td>0504-095-00</td> <td>Paul Robinette</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Client Project #:	Samplers:	Date	Time	Matrix	No. Containers	0504-095-00	Paul Robinette					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
Client Project #:	Samplers:	Date	Time	Matrix	No. Containers												
0504-095-00	Paul Robinette																
<u>GEI-SB15-140325</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>3</u>												
<u>GEI-SB26-140325</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>3</u>												
<u>GEI-SB17-140325</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>3</u>												

Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered	Relinquished by: (Signature) <i>[Signature]</i> Printed Name: Paul Robinette Company: GeoE Date & Time: 3/26/14 9:35	Received by: (Signature) <i>[Signature]</i> Printed Name: Rick Huber Company: ARI Date & Time: 3/26/14 9:35
--	---	--

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: Geo Eng
 COC No(s): _____ (NA)
 Assigned ARI Job No: YE36

Project Name: Aladdin plating
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No. _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)
 Were custody papers included with the cooler? YES (NO)
 Were custody papers properly filled out (ink, signed, etc.) YES (NO)
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
 Time: 1105
 If cooler temperature is out of compliance fill out form 00070F
 Cooler Accepted by: _____ Date: 3/26/14 Time: 935 Temp Gun ID#: 122412224

Complete custody forms and attach all shipping documents

Log-In Phase:

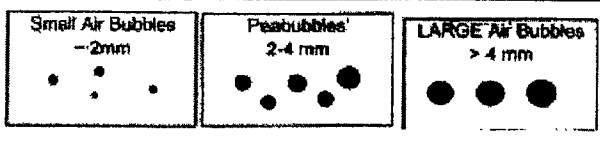
Was a temperature blank included in the cooler? YES (NO)
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES (NO)
 Were all bottles sealed in individual plastic bags? YES (NO)
 Did all bottles arrive in good condition (unbroken)? YES (NO)
 Were all bottle labels complete and legible? YES (NO)
 Did the number of containers listed on COC match with the number of containers received? YES (NO)
 Did all bottle labels and tags agree with custody papers? YES (NO)
 Were all bottles used correct for the requested analyses? YES (NO)
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs). NA YES (NO)
 Were all VOC vials free of air bubbles? (NA) YES (NO)
 Was sufficient amount of sample sent in each bottle? YES (NO)
 Date VOC Trip Blank was made at ARI _____ (NA)
 Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____
 Samples Logged by: IS Date: 3-26-14 Time: 1156

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)
 Peabubbles → "pb" (2 to < 4 mm)
 Large → "lg" (4 to < 6 mm)
 Headspace → "hs" (> 6 mm)



ARI Job No: YE36
PC: Cheronne
VTSR: 03/26/14

Inquiry Number: NONE
Analysis Requested: 03/26/14
Contact: Young, Ian
Client: GeoEngineers
Logged by: TS
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #: 0504-095-00
Project: Aladden Plating
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET DOC FLT FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
14-5525 YE36A	GEI-SB15-140325						DIS FA									N		62	4055	4ml	18 3/26/14
14-5526 YE36B	GEI-SB16-140325						DIS FA									N					
14-5527 YE36C	GEI-SB17-140325						DIS FA									N					
14-5528 YE36D	GEI-SB15-140325						DIS FA									Y					
14-5529 YE36E	GEI-SB16-140325						DIS FA									Y					
14-5530 YE36F	GEI-SB17-140325						DIS FA									Y					
14-5531 YE36G	GEI-SB15-140325						TOT FA														
14-5532 YE36H	GEI-SB16-140325						TOT FA														
14-5533 YE36I	GEI-SB17-140325						TOT FA														

CONV to deliver not filtered

Filter A-C
in lab
CS 3/26/14

Checked By TS Date 3.26.14

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YE36



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YE36

Sample Receipt

Three water samples were received on March 26, 2014 under ARI job YE36. The cooler temperature measured by IR thermometer following ARI SOP was 6.1°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total and Dissolved Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters (Hexavalent Chromium)

The samples and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blank was clean at the reporting limit. The SRM percent recovery was within control limits.

The matrix spike and replicate RPD were within control limits.

Sample ID Cross Reference Report



ARI Job No: YE36
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. GEI-SB15-140325	YE36A	14-5525	Water	03/25/14 11:50	03/26/14 09:35
2. GEI-SB16-140325	YE36B	14-5526	Water	03/25/14 13:10	03/26/14 09:35
3. GEI-SB17-140325	YE36C	14-5527	Water	03/25/14 15:20	03/26/14 09:35
4. GEI-SB15-140325	YE36D	14-5528	Water	03/25/14 11:50	03/26/14 09:35
5. GEI-SB16-140325	YE36E	14-5529	Water	03/25/14 13:10	03/26/14 09:35
6. GEI-SB17-140325	YE36F	14-5530	Water	03/25/14 15:20	03/26/14 09:35
7. GEI-SB15-140325	YE36G	14-5531	Water	03/25/14 11:50	03/26/14 09:35
8. GEI-SB16-140325	YE36H	14-5532	Water	03/25/14 13:10	03/26/14 09:35
9. GEI-SB17-140325	YE36I	14-5533	Water	03/25/14 15:20	03/26/14 09:35



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	Matrix Spike RPD	Blank Spike / LCS %R	Blank Spike / LCS RPD
Met 6010C (EPA 6010C) in Water								
Preservation: pH<2; HNO ₃ , Cool <6°C								
Container: HDPE NM, 500 mL								
Minimum Sample Volume: 500 mL								
Hold Time: 180 days								
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120	20
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120	20
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120	20
Sodium-I	1.14	50.0 mg/L		20	75 - 125	20	80 - 120	20
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120	20



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	RPD	Blank Spike / LCS %R	RPD
Met Diss 6010C (EPA 6010C) in Water								
Preservation: pH<2; HNO ₃ , Cool <6°C								
Container: HDPE NM, 500 mL								
Minimum Sample Weight: 500 mL								
Hold Time: 180 days								
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120	20
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120	20
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120	20
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120	20
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120	20



Spike Recovery Control Limits for Conventional Wet Chemistry Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
Sample Matrix:	ARI's Control Limits	
	Water	Soil / Sediment
<i>Matrix Spike Recoveries</i>	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
<i>Duplicate RPDs</i>		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YE36

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB15-140325	YE36A	14-5525	
GEI-SB15-140325D	YE36ADUP	14-5525	
GEI-SB15-140325S	YE36ASPK	14-5525	
GEI-SB16-140325	YE36B	14-5526	
PBW	YE36MB1	14-5526	
LCSW	YE36MB1SPK	14-5526	
GEI-SB17-140325	YE36C	14-5527	
GEI-SB15-140325	YE36D	14-5528	
GEI-SB15-140325D	YE36DDUP	14-5528	
GEI-SB15-140325S	YE36DSPK	14-5528	
GEI-SB16-140325	YE36E	14-5529	
PBW	YE36MB2	14-5529	
LCSW	YE36MB2SPK	14-5529	
GEI-SB17-140325	YE36F	14-5530	
GEI-SB15-140325	YE36G	14-5531	
GEI-SB15-140325D	YE36GDUP	14-5531	
GEI-SB15-140325S	YE36GSPK	14-5531	
GEI-SB16-140325	YE36H	14-5532	
PBW	YE36MB3	14-5532	
LCSW	YE36MB3SPK	14-5532	
GEI-SB17-140325	YE36I	14-5533	

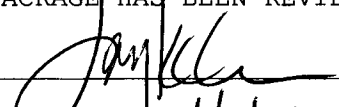
Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn

Date: 4/3/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

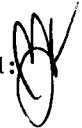
Sample ID: GEI-SB15-140325

SAMPLE

Lab Sample ID: YE36A

LIMS ID: 14-5525

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0039	0.01	1.29	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: GEI-SB16-140325

SAMPLE

Lab Sample ID: YE36B

LIMS ID: 14-5526

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0039	0.01	3.21	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: GEI-SB17-140325

SAMPLE

Lab Sample ID: YE36C

LIMS ID: 14-5527

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0039	0.01	0.23	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: **GEI-SB15-140325**
SAMPLE

Lab Sample ID: YE36D

LIMS ID: 14-5528

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00124	0.005	0.038	
6010C	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

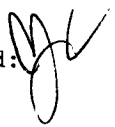
Sample ID: GEI-SB16-140325

SAMPLE

Lab Sample ID: YE36E

LIMS ID: 14-5529

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00124	0.005	0.005	
6010C	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0016	0.02	0.02	U


Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: **GEI-SB17-140325**
SAMPLE

Lab Sample ID: YE36F
LIMS ID: 14-5530
Matrix: Water
Data Release Authorized: 
Reported: 04/02/14

QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: GEI-SB15-140325
MATRIX SPIKE

Lab Sample ID: YE36A
LIMS ID: 14-5525
Matrix: Water
Data Release Authorized
Reported: 04/02/14



QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Nickel	6010C	1.29	1.82	0.500	106%	


Reported in mg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: GEI-SB15-140325
DUPLICATE

Lab Sample ID: YE36A
LIMS ID: 14-5525
Matrix: Water
Data Release Authorized: 
Reported: 04/02/14

QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Nickel	6010C	1.29	1.29	0.0%	+/- 20%	

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: GEI-SB15-140325
MATRIX SPIKE

Lab Sample ID: YE36D
LIMS ID: 14-5528
Matrix: Water
Data Release Authorized:
Reported: 04/02/14



QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.038	0.555	0.500	103%	
Lead	6010C	0.02 U	2.11	2.00	106%	

Reported in mg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: GEI-SB15-140325
DUPLICATE

Lab Sample ID: YE36D
LIMS ID: 14-5528
Matrix: Water
Data Release Authorized:
Reported: 04/02/14



QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.038	0.038	0.0%	+/- 20%	
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE36LCS
LIMS ID: 14-5526
Matrix: Water
Data Release Authorized:
Reported: 04/02/14



QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Nickel	6010C	0.50	0.50	100%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: YE36MB

LIMS ID: 14-5526

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0100	0.01	0.01	U


Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE36LCS
LIMS ID: 14-5529
Matrix: Water
Data Release Authorized: 
Reported: 04/02/14

QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.522	0.500	104%	
Lead	6010C	2.11	2.00	106%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: YE36MB
LIMS ID: 14-5529
Matrix: Water
Data Release Authorized
Reported: 04/02/14

QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: NA
Date Received: NA



Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00500	0.005	0.005	U
6010C	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0200	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB15-140325

SAMPLE

Lab Sample ID: YE36G

LIMS ID: 14-5531

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00124	0.005	0.049	
3010A	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0039	0.01	1.39	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB16-140325**
SAMPLE

Lab Sample ID: YE36H

LIMS ID: 14-5532

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00124	0.005	0.062	
3010A	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0039	0.01	3.67	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB17-140325
SAMPLE

Lab Sample ID: YE36I

LIMS ID: 14-5533

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/25/14

Date Received: 03/26/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00124	0.005	0.017	
3010A	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0039	0.01	0.26	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

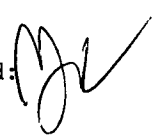
INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB15-140325
MATRIX SPIKE**

Lab Sample ID: YE36G
LIMS ID: 14-5531
Matrix: Water
Data Release Authorized:
Reported: 04/02/14



QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.049	0.576	0.500	105%	
Lead	6010C	0.02 U	2.07	2.00	104%	
Nickel	6010C	1.39	1.93	0.50	108%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked


Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB15-140325
DUPLICATE**

Lab Sample ID: YE36G
LIMS ID: 14-5531
Matrix: Water
Data Release Authorized: 
Reported: 04/02/14

QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.049	0.056	13.3%	+/- 20%	
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L
Nickel	6010C	1.39	1.42	2.1%	+/- 20%	

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

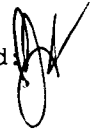
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE36LCS

LIMS ID: 14-5532

Matrix: Water

Data Release Authorized: 

Reported: 04/02/14

QC Report No: YE36-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.530	0.500	106%	
Lead	6010C	2.08	2.00	104%	
Nickel	6010C	0.51	0.50	102%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE36MB

QC Report No: YE36-GeoEngineers

LIMS ID: 14-5532

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 04/02/14

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/27/14	6010C	03/31/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
3010A	03/27/14	6010C	03/31/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/27/14	6010C	03/31/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP033171	1000.0	1058.24	105.8	1000.0	1058.18	105.8	1052.35	105.2	1058.80	105.9	1055.56	105.6	1040.71	104.1
Lead	PB	ICP	IP033171	2000.0	2025.30	101.3	2000.0	2011.01	100.6	2067.06	103.4	2029.58	101.5	2021.81	101.1	2023.60	101.2
Nickel	NI	ICP	IP033171	1000.0	1039.24	103.9	1000.0	1041.77	104.2	1036.28	103.6	1035.15	103.5	1029.77	103.0	1017.62	101.8

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

UNITS: ug/L

SDG: YE36

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP033171	1000.0	1037.55	103.8	1040.00	104.0								
Lead	PB	ICP	IP033171	2000.0	2030.09	101.5	2019.00	101.0								
Nickel	NI	ICP	IP033171	1000.0	1008.54	100.9	1007.68	100.8								

Control Limits: Mercury 80-120; Other Metals 90-110

YE36 : 00036



**ANALYTICAL
RESOURCES
INCORPORATED**

CRDL Standard

CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE36

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP033171	5.0		3.79	75.8										
Lead	PB	ICP	IP033171	20.0		20.52	102.6										
Nickel	NI	ICP	IP033171	10.0		9.09	90.9										

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Chromium	CR	ICP	IP033171	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Lead	PB	ICP	IP033171	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Nickel	NI	ICP	IP033171	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36



ANALYTICAL
RESOURCES
INCORPORATED

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP033171	10.0	5.0	5.0	5.0					
Lead	PB	ICP	IP033171	3.0	20.0	20.0	20.0					
Nickel	NI	ICP	IP033171	40.0	10.0	10.0	10.0					

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP033171

SDG: YE36

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	203779.1	204287.0	102.1						
Antimony	1000	1000	20.5	1040.0	104.0						
Arsenic	1000	1000	20.9	1039.8	104.0						
Barium	1000	1000	-1.0	1009.8	101.0						
Beryllium	1000	1000	0.0	994.9	99.5						
Boron			-6.8	-7.1							
Cadmium	1000	1000	-0.5	1024.9	102.5						
Calcium	100000	100000	102372.8	102527.9	102.5						
Chromium	1000	1000	-0.5	1011.4	101.1						
Cobalt	1000	1000	1.9	952.9	95.3						
Copper	1000	1000	-0.7	1066.5	106.7						
Iron	200000	200000	203480.2	203261.2	101.6						
Lead	1000	1000	-3.1	996.6	99.7						
Magnesium	100000	100000	102726.2	99658.3	99.7						
Manganese	1000	1000	-1.6	953.5	95.4						
Molybdenum			1.9	1.9							
Nickel	1000	1000	-1.3	969.7	97.0						
Potassium			6.8	-3.1							
Selenium	1000	1000	30.1	1043.9	104.4						
Silicon			-8.2	-15.0							
Silver	1000	1000	-0.7	1077.7	107.8						
Sodium			7.2	5.7							
Strontium			5.5	5.5							
Thallium	1000	1000	3.0	966.7	96.7						
Tin			-12.1	-12.1							
Titanium			1.8	1.3							
Vanadium	1000	1000	-0.7	983.6	98.4						
Zinc	1000	1000	3.2	958.8	95.9						

YE36 : 00040

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA			RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL	RL			
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interlement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36

IEC DATE: 2/19/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	EA	EB	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	13.0001730	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.1504760	0.0000000	-1.1418810	1.4701580	0.0000000	-0.0444180
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1914790	0.0000000	0.0000000	0.1015620
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.67	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.1178670	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	5.1456370	0.0000000	0.0000000	0.0000000	0.0000000	0.1519640	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0105370	0.0000000	0.0000000	0.0000000	0.0000000	-0.0364800
Cobalt	228.62	0.0000000	0.0000000	0.0956050	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0031370	0.0000000	-0.1731660	0.0000000	0.0000000	-0.0479580
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.3572290	0.0000000	0.0000000
Lead	220.35	-0.3197610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.8955100	1.3683810	0.0487330
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6154620	-1.2018020	0.0000000	0.7453470
Manganese	257.61	0.0085510	0.0000000	0.0000000	0.0000000	0.0051490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0154460	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.4704930	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.8483140	0.0000000	-0.6009380	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	-0.0065610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0801700	0.0000000	5.8939530	0.4135750	0.0000000	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1855780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.1006900	0.0000000	0.0000000	0.1910190	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1255090	0.0000000	0.0251090
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0126620	0.0000000	0.0000000	-0.2680380	0.0000000	0.0000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

IEC DATE: 2/19/2014

SDG: YE36

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.000000	0.000000	0.000000	2.0154950	0.000000	14.6504130	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.7865220	0.000000	-3.6308690	0.000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.000000	0.000000	0.000000	-35.7069030	0.000000	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.1263190	0.000000	0.000000	0.000000	0.000000	0.2049710	0.000000
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0109650	0.000000	0.2471980	0.000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	0.000000	0.000000	-0.9924980	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.0714330	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.3711990	0.000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.000000	0.000000	1.7865010	0.000000	0.000000	0.000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.000000	0.000000	0.000000	0.1968290	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	8.0715790	0.000000
Lead	220.35	0.000000	0.000000	0.000000	0.1183620	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.0068080	0.000000	0.000000	0.000000	-0.2132560	0.000000	0.000000	0.000000	-0.0238460	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	-0.5233870	0.000000	0.4243640	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.6221340	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2593400	0.000000
Thallium	190.80	0.000000	0.000000	-1.6229180	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.0356520	-0.5555490	-0.1890930	0.000000	3.6063050	0.000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.000000	0.000000	0.000000	0.5783020	0.000000	0.000000	0.000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.000000	-0.0717780	0.000000	0.000000	0.000000	0.000000	0.000000

YE36:00043

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: DMN

SDG: YE36

PREPDATE: 3/27/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB15-140325	YE36A	0.000	50.0	50.0
GEI-SB15-140325D	YE36ADUP	0.000	50.0	50.0
GEI-SB15-140325S	YE36ASPK	0.000	50.0	50.0
GEI-SB16-140325	YE36B	0.000	50.0	50.0
GEI-SB17-140325	YE36C	0.000	50.0	50.0
PBW	YE36MB1	0.000	50.0	50.0
LCSW	YE36MB1SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: TWC

SDG: YE36

PREPDATE: 3/27/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB15-140325	YE36G	0.000	50.0	50.0
GEI-SB15-140325D	YE36GDUP	0.000	50.0	50.0
GEI-SB15-140325S	YE36GSPK	0.000	50.0	50.0
GEI-SB16-140325	YE36H	0.000	50.0	50.0
GEI-SB17-140325	YE36I	0.000	50.0	50.0
PBW	YE36MB3	0.000	50.0	50.0
LCSW	YE36MB3SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: WMN

SDG: YE36

PREPDATE: 3/27/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB15-140325	YE36D	0.000	50.0	50.0
GEI-SB15-140325D	YE36DDUP	0.000	50.0	50.0
GEI-SB15-140325S	YE36DSPK	0.000	50.0	50.0
GEI-SB16-140325	YE36E	0.000	50.0	50.0
GEI-SB17-140325	YE36F	0.000	50.0	50.0
PBW	YE36MB2	0.000	50.0	50.0
LCSW	YE36MB2SPK	0.000	50.0	50.0

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP033171 METHOD: ICP

START DATE: 3/31/2014

END DATE: 3/31/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN				
S0		1.00	0858																					X													
S2		1.00	0902																					X													
S3		1.00	0904																				X														
S4		1.00	0906																																		
S5		1.00	0908																				X														
ICV		1.00	0913																				X														
ICB		1.00	0917																				X														
CRI		1.00	0921																				X														
ICSA		1.00	0925																				X														
ICSAB		1.00	0929																				X														
CCV		1.00	0934																				X														
CCB		1.00	0938																				X														
ZZZZZ		1.00	0942																				X														
ZZZZZ		10.00	0946																																		
ZZZZZ	HNC3C1311	1.00	0950																																		
ZZZZZ	YE08MB1	1.00	0954																																		
ZZZZZ	YE08MB2	1.00	0958																																		
ZZZZZ	YE08D	1.00	1002																																		
ZZZZZ	YE08E	1.00	1007																																		
ZZZZZ	YE08A	1.00	1011																																		
ZZZZZ	YE08B	1.00	1015																																		
ZZZZZ	YE08MB2SPK	1.00	1019																																		
ZZZZZ	YE08MB1SPK	1.00	1023																																		
CCV		1.00	1027																																		
CCB		1.00	1031																																		
ZZZZZ	YE24MB	1.00	1035																																		
ZZZZZ	YE31MB	1.00	1039																																		
ZZZZZ	YE31A	1.00	1043																																		
ZZZZZ	YE24C	1.00	1047																																		
ZZZZZ	YE29A	1.00	1051																																		
ZZZZZ	YE29B	1.00	1055																																		
ZZZZZ	YE29C	1.00	1059																																		
ZZZZZ	YE29D	1.00	1103																																		
ZZZZZ	YE31MBSPK	1.00	1107																																		
ZZZZZ	YE24MBSPK	1.00	1111																																		
CCV		1.00	1111																																		

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE36

INSTRUMENT ID: OPTIMA ICP 2

START DATE: 3/31/2014

RUNID: IP033171 METHOD: ICP

END DATE: 3/31/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN						
CCB	CCB3	1.00	1116																																				
ZZZZZZ	YE29MB	1.00	1120																																		X		
ZZZZZZ	YE29G	1.00	1124																																				
ZZZZZZ	YE29H	1.00	1128																																				
ZZZZZZ	YE29I	1.00	1132																																				
ZZZZZZ	YE29J	1.00	1136																																				
ZZZZZZ	YE29K	1.00	1140																																				
ZZZZZZ	YE29EDUP	1.00	1144																																				
ZZZZZZ	YE29E	1.00	1148																																				
ZZZZZZ	YE29ESPK	1.00	1152																																				
ZZZZZZ	YE29MBSPK	1.00	1156																																				
CCV	CCV4	1.00	1200																																				
CCB	CCB4	1.00	1204																																				
PBW	YE36MB3	1.00	1208																																				
ZZZZZZ	YE29L	1.00	1212																																				
ZZZZZZ	YE29M	1.00	1217																																				
ZZZZZZ	YE29N	1.00	1221																																				
ZZZZZZ	YE29F	1.00	1225																																				
GEI-SB16-140325	YE36H	1.00	1229																																				
GEI-SB15-140325D	YE36GDUP	1.00	1233																																				
GEI-SB15-140325	YE36G	1.00	1238																																				
GEI-SB15-140325S	YE36GSPK	1.00	1242																																				
LCSW	YE36MBS3PK	1.00	1246																																				
CCV	CCV5	1.00	1250																																				
CCB	CCB5	1.00	1254																																				
PBW	YE36MB1	1.00	1258																																				
GEI-SB17-140325	YE36I	1.00	1302																																				
GEI-SB16-140325	YE36B	1.00	1306																																				
GEI-SB17-140325	YE36C	1.00	1311																																				
GEI-SB16-140325	YE36E	1.00	1315																																				
GEI-SB17-140325	YE36F	1.00	1319																																				
GEI-SB15-140325D	YE36ADUP	1.00	1323																																				
GEI-SB15-140325	YE36A	1.00	1328																																				
GEI-SB15-140325S	YE36ASPK	1.00	1332																																				
LCSW	YE36MB1SPK	1.00	1336																																				

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE36
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP033171
 METHOD: ICP
 START DATE: 3/31/2014
 END DATE: 3/31/2014

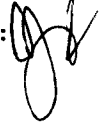
CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN				
CCV	CCV6	1.00	1340																														X	X			
CCB	CCB6	1.00	1344																															X	X		
ZZZZZZ	YE30MB	2.00	1348																																		
PBW	YE36MB2	1.00	1352											X																					X		
GEI-SB15-140325D	YE36DDUP	1.00	1356											X																					X		
GEI-SB15-140325	YE36D	1.00	1401											X																					X		
GEI-SB15-140325S	YE36DSPK	1.00	1405											X																					X		
ZZZZZZ	YE30ADUP	2.00	1409																																		
ZZZZZZ	YE30A	2.00	1413																																		
ZZZZZZ	YE30ASP	2.00	1417																																		
ZZZZZZ	YE30MSPK	2.00	1421																																		
LCSW	YE36MB2SPK	1.00	1425											X																					X		
CCV	CCV7	1.00	1429																																X	X	
CCB	CCB7	1.00	1433																																	X	X

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YE36

INORGANICS ANALYSIS DATA SHEET
Hexavalent Chromium by Method SW7196A



Data Release Authorized: 
Reported: 03/28/14
Date Received: 03/26/14
Page 1 of 1

QC Report No: YE36-GeoEngineers
Project: Aladden Plating
0504-095-00


Client/ ARI ID	Date Sampled	Matrix	Analysis Date & Batch	RL	Result
GEI-SB15-140325 YE36A 14-5525	03/25/14	Water	03/26/14 032614#1	0.010	0.012
GEI-SB16-140325 YE36B 14-5526	03/25/14	Water	03/26/14 032614#1	0.010	< 0.010 U
GEI-SB17-140325 YE36C 14-5527	03/25/14	Water	03/26/14 032614#1	0.010	< 0.010 U

Reported in mg/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
YE36-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 03/28/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YE36A Client ID: GEI-SB15-140325						
Hexavalent Chromium	03/26/14	mg/L	0.012	0.075	0.063	100.0%

REPLICATE RESULTS-CONVENTIONALS
YE36-GeoEngineers



Matrix: Water
Data Release Authorized
Reported: 03/28/14

A handwritten signature in black ink, appearing to be 'M. J. ...', is written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/25/14
Date Received: 03/26/14

Analyte	Date	Units	Sample	Replicate (s)	RPD/RSD
ARI ID: YE36A Client ID: GEI-SB15-140325					
Hexavalent Chromium	03/26/14	mg/L	0.012	0.013	8.0%

METHOD BLANK RESULTS-CONVENTIONALS
YE36-GeoEngineers



Matrix: Water
Data Release Authorized
Reported: 03/28/14


A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	Blank
Hexavalent Chromium	03/26/14 12:13	mg/L	< 0.010 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
YE36-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 03/28/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date/Time	Units	SRM	True Value	Recovery
Hexavalent Chromium ERA #160412	03/26/14 12:13	mg/L	0.643	0.630	102.1%

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YE36



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: CA Date: 3-27-14 Time: 0731

Matrix: WATER Block ID: H3 Block Temp: 954 Thermometer: 12064

ARI Sample ID	Btl #	pH<2	Prep Code: <u>TW</u>		Prep Code:		Comments
			Initial Wt(g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
<u>YE36</u>	<u>6</u>	<u>4</u>	<u>50.0</u>	<u>50.0</u>			
"	<u>620</u>	<u>4</u>					
"	<u>650K</u>	<u>2</u>					
"	<u>H</u>	<u>2</u>					
"	<u>I</u>	<u>2</u>					
"	<u>m82</u>	<u>1</u>					
"	<u>m83</u>	<u>1</u>	<u>50.0</u>	<u>50.0</u>			
<u>ES</u> <u>3-27-14</u>							

Chemical/Reagent ID: H203: 66082

HCL: 01274

Tube lot #:

5061F

Page 26387

1309271

Version 005

1/10/12

YE36: 00058



Digestion Log

Analyst: CA Date: 3-27-14 Time: 0800

Matrix: WATER Block ID: - Block Temp: - Thermometer: -

ARI Sample ID	Btl #	pH<2	Prep Code: ⁰⁰⁰⁰		Prep Code: ⁰⁰⁰⁰		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YE36 A	1	-	-	-	-	-	Filter in 14 days
" B	1	-	-	-	-	-	
" C	1	-	-	-	-	-	
" D	1	-	-	-	-	-	
" E	1	-	-	-	-	-	
" F	1	-	-	-	-	-	
" G	1	-	-	-	-	-	
" H	1	-	-	-	-	-	
" I	1	-	-	-	-	-	
" J	1	-	-	-	-	-	
" K	1	-	-	-	-	-	
" L	1	-	-	-	-	-	
" M	1	-	-	-	-	-	
" N	1	-	-	-	-	-	
" O	1	-	-	-	-	-	
" P	1	-	-	-	-	-	
" Q	1	-	-	-	-	-	
" R	1	-	-	-	-	-	
" S	1	-	-	-	-	-	
" T	1	-	-	-	-	-	
" U	1	-	-	-	-	-	
" V	1	-	-	-	-	-	
" W	1	-	-	-	-	-	
" X	1	-	-	-	-	-	
" Y	1	-	-	-	-	-	
" Z	1	-	-	-	-	-	

Chemical/Reagent ID: HAc3: 402543

5061F

Tube 107 H:
1309201

YE36 : 00059

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YE36



IEC Date: 3-26-14

Analysis Date: 3-31-14

Analyst: MA

LR Date: 1-3-14

Page: 1 of 6

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD0			C1283
		↓ 2			C1330
		3			C1331
		4			C1332
		↓ 5			C1330
		ICV			B2567
		ICB			
		CR1			
		ICSA			
		ICSAB			
		OCV 1			
		OCB 1			
		DI check			
		HNO3			C
		YEDS MB1	TX		
		MB2	WMW		
		D	b		
		E	b		
		A	TX		
		B	b		
		MB2 spl	WMW		B1845 0.08=L CPSAT
		MB1 spl	TX		
		OCV 2			
		OCB 2			



IEC Date: _____ Analysis Date: 3-31-14 Analyst: M.

LR Date: _____ Page: 2 of 6

All corrections made by analyst unless otherwise noted. at 3-21-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE24 MB	TWC		
		YE31 MB	DMW		
		h A	↓		
		YE24 C	TWC		
		YE29 A	DMW		
		↓ B	↓		
		↓ C	↓		
		h D	↓		
		YE31 MB sp	↓		B1845 0.05 mL ICP sp
		YE24 MB sp	TWC		
		CCV 3			
		CCB 3			
		YE29 MB	DMW		
		↓ G	↓		
		↓ H	↓		
		↓ I	↓		
		↓ J	↓		
		↓ K	↓		
		DEDup			✓
		↓ E	↓		
		Espl			✓ B1845 0.01 mL ICP sp
		↓ MB sp	h		↓
		CCV 4			
		CCB 4			Ag 4



IEC Date: _____

Analysis Date: 3-31-04

Analyst: kt

LR Date: _____

Page: 5 of 6

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE36 MB3	TWC		
		YE29 L	DMN		
		↓ M	↓		
		N	↓		
		↓ F	↓		
		YE36 H	TWC		
		↓ Gdup	↓		/
		G	↓		
		↓ Gspl	↓		-
		MB3spl	↓		/
		CCW 5			
		CCB 5			
		YE36 MB1	DMN		
		↓ I	TWC		
		B	↓ DMN		44-14
		↓ C	↓		
		E	WMN		
		F	↓		
		↓ ADup	DMN		/
		A	↓		
		↓ Aspl-	↓		B 1845 0.00 mL ICP spl Si loss OK
		MB3spl	↓		/
		CCW 6			
		CCB 6			



IEC Date: _____ Analysis Date: 3-31-14 Analyst: K
LR Date: _____ Page: 4 of 6

All corrections made by analyst unless otherwise noted. pt 4-1-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE30 MB	SUC	2	
		YE36 MB2	WMW		
		↓ DDup	↓		✓
		↓ D	↓		
		↓ DSOL	↓		✓ B B K 0.08 mL ICP spl
		YE30 ADup	SUC	2	✓
		↓ A	↓		
		↓ ASOL	↓		✓ all sol
		↓ MB spl	↓		✓
		YE36 MSZ SPL	WMW		✓ B B K 0.08 mL ICP spl
		CCV 7			✓
		CCB 7			end pkg
		YE30 B	SUC	2	
		↓ C	↓		
		↓ D	↓		
		↓ E	↓		
		↓ F	↓		
		↓ G	↓		
		↓ H	↓		
		↓ I	↓		
		CCV			
		CCB			
		YE91 MB1	WMW		
		↓ A	↓		

pt 4-1-14

Nebulizer Parameters: Hg ReAlign

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

3/31/2014 8:25:38 AM Hg ReAlign... Actual peak offset (nm): 0.003
 Drift (nm): 0.000 Slit adjustment: 2

Analysis Begun

Start Time: 3/31/2014 8:32:17 AM	Plasma On Time: 3/31/2014 7:24:24 AM
Logged In Analyst: Metals	Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202	Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif

Batch ID:

Results Data Set: I2140331

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST	Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IE073012A.iec <i>IE073012A.iec</i>	MSF File:
Method Description: 12Axial Elements	

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1
 Sample ID: B1

Autosampler Location: 1
 Date Collected: 3/31/2014 8:32:24 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: B1

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

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Analysis Begun

Start Time: 3/31/2014 8:58:36 AM

Plasma On Time: 3/31/2014 7:24:24 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140331

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 3/31/2014 8:58:37 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2825431.3	20317.11	0.72%	100.0	%
ScR 361.383	236568.2	736.78	0.31%	100.0	%
Ag 328.068†	40.8	24.69	60.44%	[0.00]	mg/L
Al 308.215†	97.9	5.41	5.53%	[0.00]	mg/L
As 188.979†	-8.8	6.12	69.23%	[0.00]	mg/L
B 249.677†	35.2	2.09	5.94%	[0.00]	mg/L
Ba 233.527†	10.4	2.38	22.97%	[0.00]	mg/L
Be 313.042†	674.6	3.57	0.53%	[0.00]	mg/L
Ca 317.933†	-132.2	15.12	11.43%	[0.00]	mg/L
Cd 228.802†	303.8	1.72	0.57%	[0.00]	mg/L
Co 228.616†	-69.7	5.28	7.57%	[0.00]	mg/L
Cr 267.716†	-75.0	4.19	5.59%	[0.00]	mg/L
Cu 324.752†	4131.6	37.55	0.91%	[0.00]	mg/L
Fe 273.955†	44.3	1.01	2.27%	[0.00]	mg/L
K 766.490†	547.6	34.99	6.39%	[0.00]	mg/L
Mg 279.077†	51.2	8.74	17.07%	[0.00]	mg/L
Mn 257.610†	133.3	3.45	2.59%	[0.00]	mg/L
Mo 202.031†	56.4	3.62	6.41%	[0.00]	mg/L
Na 589.592†	-267.7	5.73	2.14%	[0.00]	mg/L
Na 330.237†	-150.5	7.16	4.76%	[0.00]	mg/L
Ni 231.604†	-12.5	1.68	13.40%	[0.00]	mg/L
Pb 220.353†	51.5	4.26	8.27%	[0.00]	mg/L
Sb 206.836†	73.6	2.13	2.89%	[0.00]	mg/L
Se 196.026†	-36.3	7.39	20.37%	[0.00]	mg/L
Si 288.158†	74.2	14.75	19.89%	[0.00]	mg/L
Sn 189.927†	-6.2	2.47	39.60%	[0.00]	mg/L
Sr 421.552†	197.4	8.23	4.17%	[0.00]	mg/L
Ti 334.903†	-26.5	7.09	26.80%	[0.00]	mg/L
Tl 190.801†	-36.9	5.79	15.69%	[0.00]	mg/L
V 292.402†	93.1	16.49	17.71%	[0.00]	mg/L
Zn 206.200†	10.1	1.00	9.90%	[0.00]	mg/L

Sequence No.: 2
Sample ID: STD2

Autosampler Location: 2
Date Collected: 3/31/2014 9:02:37 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2842782.4	9524.25	0.34%	100.6	%
ScR 361.383	240270.9	1184.42	0.49%	101.6	%
Ba 233.527†	37332.4	127.18	0.34%	[10]	mg/L
Cd 228.802†	325763.6	252.65	0.08%	[10]	mg/L
Co 228.616†	387382.9	276.75	0.07%	[10]	mg/L
Cr 267.716†	47921.1	39.61	0.08%	[10]	mg/L
Cu 324.752†	2805355.8	2678.96	0.10%	[10]	mg/L
Mn 257.610†	303216.6	1152.90	0.38%	[10]	mg/L
V 292.402†	1499727.9	5532.06	0.37%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 3/31/2014 9:04:24 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2813165.1	17617.39	0.63%	99.57	%
ScR 361.383	237477.5	635.78	0.27%	100.4	%
Ag 328.068†	193651.3	673.82	0.35%	[1.0]	mg/L
As 188.979†	17000.9	106.76	0.63%	[10]	mg/L
B 249.677†	54721.5	26.01	0.05%	[10]	mg/L
Be 313.042†	2404382.8	13777.66	0.57%	[5.0]	mg/L
Na 589.592†	641464.1	2046.40	0.32%	[50]	mg/L
Ni 231.604†	32435.8	116.96	0.36%	[10]	mg/L
Pb 220.353†	81288.3	412.75	0.51%	[10]	mg/L
Se 196.026†	13709.4	151.15	1.10%	[10]	mg/L
Sr 421.552†	3981253.5	19954.99	0.50%	[5]	mg/L
Tl 190.801†	20892.9	94.19	0.45%	[10]	mg/L
Zn 206.200†	33050.7	21.04	0.06%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 3/31/2014 9:06:42 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected			Calib
	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2856852.7	14183.71	0.50%	101.1 %
ScR 361.383	238665.0	1064.64	0.45%	100.9 %
Mo 202.031†	184042.3	629.74	0.34%	[10] mg/L
Sb 206.836†	31088.7	195.85	0.63%	[10] mg/L
Si 288.158†	17103.3	180.48	1.06%	[10] mg/L
Sn 189.927†	33970.6	188.25	0.55%	[10] mg/L
Ti 334.903†	160002.0	982.72	0.61%	[10] mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 3/31/2014 9:08:56 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected			Conc. Units
	Intensity	Std.Dev.	RSD	
ScA 357.253	2703774.1	11522.52	0.43%	95.69 %
ScR 361.383	240078.6	1208.30	0.50%	101.5 %
Al 308.215†	37603.5	283.49	0.75%	[30] mg/L
Ca 317.933†	282046.4	242.79	0.09%	[30] mg/L
Fe 273.955†	110127.0	593.21	0.54%	[100] mg/L
K 766.490†	214083.3	207.31	0.10%	[100] mg/L
Mg 279.077†	32928.1	249.16	0.76%	[30] mg/L
Na 330.237†	2059.5	27.23	1.32%	[100] mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	193700	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1253	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1700	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5472	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3733	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	480900	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9402	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	32580	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	38740	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4792	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	280500	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1101	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2141	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1098	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	30320	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18400	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	12830	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	20.60	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3244	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8129	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3109	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1371	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1710	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3397	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	796300	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16000	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2089	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	150000	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3305	0.00000	1.000000	

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Analysis Begun

Start Time: 3/31/2014 9:13:08 AM

Plasma On Time: 3/31/2014 7:24:24 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I21403B1

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: CV

Date Collected: 3/31/2014 9:13:09 AM

Data Type: Original

Dilution: 1.000000X

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Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

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Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2809881.3	99.45	%	0.268			0.27%
ScR 361.383	230839.5	97.58	%	1.099			1.13%
Ag 328.068†	205855.5	1.063	mg/L	0.0026	1.063 mg/L	0.0026	0.25%
Al 308.215†	2668.7	2.097	mg/L	0.0257	2.097 mg/L	0.0257	1.23%
As 188.979†	3482.3	2.081	mg/L	0.0054	2.081 mg/L	0.0054	0.26%
B 249.677†	5698.9	1.040	mg/L	0.0136	1.040 mg/L	0.0136	1.31%
Ba 233.527†	3874.2	1.037	mg/L	0.0172	1.037 mg/L	0.0172	1.66%
Be 313.042†	496086.7	1.031	mg/L	0.0027	1.031 mg/L	0.0027	0.26%
Ca 317.933†	20114.4	2.139	mg/L	0.0287	2.139 mg/L	0.0287	1.34%
Cd 228.802†	34029.7	1.035	mg/L	0.0032	1.035 mg/L	0.0032	0.31%
Co 228.616†	38921.1	1.003	mg/L	0.0061	1.003 mg/L	0.0061	0.60%
Cr 267.716†	5073.7	1.058	mg/L	0.0160	1.058 mg/L	0.0160	1.51%
Cu 324.752†	287221.8	1.024	mg/L	0.0016	1.024 mg/L	0.0016	0.15%
Fe 273.955†	2378.1	2.153	mg/L	0.0232	2.153 mg/L	0.0232	1.08%
K 766.490†	44196.6	20.64	mg/L	0.064	20.64 mg/L	0.064	0.31%
Mg 279.077†	2239.0	2.046	mg/L	0.0346	2.046 mg/L	0.0346	1.69%
Mn 257.610†	30094.9	0.9929	mg/L	0.00097	0.9929 mg/L	0.00097	0.10%
Mo 202.031†	18003.1	0.9782	mg/L	0.00667	0.9782 mg/L	0.00667	0.68%
Na 589.592†	666822.9	51.98	mg/L	0.152	51.98 mg/L	0.152	0.29%
Na 330.237†	1093.1	53.03	mg/L	0.774	53.03 mg/L	0.774	1.46%
Ni 231.604†	3370.2	1.039	mg/L	0.0151	1.039 mg/L	0.0151	1.45%
Pb 220.353†	16453.9	2.025	mg/L	0.0113	2.025 mg/L	0.0113	0.56%
Sb 206.836†	6607.2	2.124	mg/L	0.0036	2.124 mg/L	0.0036	0.17%
Se 196.026†	2816.1	2.053	mg/L	0.0041	2.053 mg/L	0.0041	0.20%
Si 288.158†	3425.2	2.008	mg/L	0.0486	2.008 mg/L	0.0486	2.42%
Sn 189.927†	3426.5	1.010	mg/L	0.0016	1.010 mg/L	0.0016	0.16%
Sr 421.552†	824678.9	1.036	mg/L	0.0020	1.036 mg/L	0.0020	0.19%
Ti 334.903†	16184.8	1.010	mg/L	0.0019	1.010 mg/L	0.0019	0.19%
Tl 190.801†	4405.8	2.101	mg/L	0.0043	2.101 mg/L	0.0043	0.20%
V 292.402†	152475.1	1.021	mg/L	0.0027	1.021 mg/L	0.0027	0.27%
Zn 206.200†	3410.4	1.032	mg/L	0.0150	1.032 mg/L	0.0150	1.45%

Sequence No.: 2
 Sample ID: 1CB

Autosampler Location: 1
 Date Collected: 3/31/2014 9:17:13 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2814964.6	99.63	%	0.445				0.45%
ScR 361.383	240042.8	101.5	%	1.12				1.11%
Ag 328.068†	45.4	0.00023	mg/L	0.000208	0.00023	mg/L	0.000208	88.90%
Al 308.215†	2.8	0.00223	mg/L	0.003240	0.00223	mg/L	0.003240	145.48%
As 188.979†	-2.7	-0.00156	mg/L	0.001543	-0.00156	mg/L	0.001543	98.70%
B 249.677†	1.8	0.00033	mg/L	0.001395	0.00033	mg/L	0.001395	417.43%
Ba 233.527†	4.1	0.00111	mg/L	0.000896	0.00111	mg/L	0.000896	80.65%
Be 313.042†	23.9	0.00005	mg/L	0.000016	0.00005	mg/L	0.000016	32.76%
Ca 317.933†	-4.7	-0.00050	mg/L	0.001627	-0.00050	mg/L	0.001627	328.23%
Cd 228.802†	-1.9	-0.00005	mg/L	0.000170	-0.00005	mg/L	0.000170	319.91%
Co 228.616†	-4.7	-0.00012	mg/L	0.000073	-0.00012	mg/L	0.000073	59.98%
Cr 267.716†	-0.8	-0.00017	mg/L	0.000349	-0.00017	mg/L	0.000349	206.03%
Cu 324.752†	60.6	0.00022	mg/L	0.000160	0.00022	mg/L	0.000160	74.19%
Fe 273.955†	0.6	0.00052	mg/L	0.001421	0.00052	mg/L	0.001421	274.52%
K 766.490†	-9.1	-0.00424	mg/L	0.005610	-0.00424	mg/L	0.005610	132.21%
Mg 279.077†	6.1	0.00558	mg/L	0.001317	0.00558	mg/L	0.001317	23.60%
Mn 257.610†	0.3	0.00001	mg/L	0.000205	0.00001	mg/L	0.000205	>999.9%
Mo 202.031†	19.9	0.00108	mg/L	0.000190	0.00108	mg/L	0.000190	17.56%
Na 589.592†	54.2	0.00423	mg/L	0.005209	0.00423	mg/L	0.005209	123.26%
Na 330.237†	2.3	0.1125	mg/L	0.29354	0.1125	mg/L	0.29354	260.94%
Ni 231.604†	-5.1	-0.00157	mg/L	0.000948	-0.00157	mg/L	0.000948	60.24%
Pb 220.353†	2.6	0.00032	mg/L	0.000687	0.00032	mg/L	0.000687	213.68%
Sb 206.836†	27.0	0.00872	mg/L	0.001837	0.00872	mg/L	0.001837	21.08%
Se 196.026†	5.9	0.00432	mg/L	0.000249	0.00432	mg/L	0.000249	5.76%
Si 288.158†	-5.5	-0.00323	mg/L	0.003624	-0.00323	mg/L	0.003624	112.31%
Sn 189.927†	6.9	0.00202	mg/L	0.000609	0.00202	mg/L	0.000609	30.08%
Sr 421.552†	90.8	0.00011	mg/L	0.000035	0.00011	mg/L	0.000035	31.03%
Ti 334.903†	2.7	0.00017	mg/L	0.000248	0.00017	mg/L	0.000248	147.50%
Tl 190.801†	3.4	0.00165	mg/L	0.000951	0.00165	mg/L	0.000951	57.52%
V 292.402†	1.7	0.00001	mg/L	0.000134	0.00001	mg/L	0.000134	>999.9%
Zn 206.200†	1.3	0.00040	mg/L	0.000302	0.00040	mg/L	0.000302	75.02%

Sequence No.: 3
Sample ID: CRI

Autosampler Location: 301
Date Collected: 3/31/2014 9:21:13 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2847141.7	100.8	%	0.42				0.41%
ScR 361.383	237123.6	100.2	%	0.98				0.98%
Ag 328.068†	610.9	0.00316	mg/L	0.000139	0.00316	mg/L	0.000139	4.40%
Al 308.215†	66.9	0.05328	mg/L	0.001216	0.05328	mg/L	0.001216	2.28%
As 188.979†	88.5	0.05217	mg/L	0.000868	0.05217	mg/L	0.000868	1.66%
B 249.677†	116.1	0.02121	mg/L	0.000591	0.02121	mg/L	0.000591	2.79%
Ba 233.527†	13.3	0.00356	mg/L	0.000302	0.00356	mg/L	0.000302	8.50%
Be 313.042†	416.6	0.00087	mg/L	0.000031	0.00087	mg/L	0.000031	3.61%
Ca 317.933†	459.1	0.04883	mg/L	0.000874	0.04883	mg/L	0.000874	1.79%
Cd 228.802†	77.3	0.00211	mg/L	0.000055	0.00211	mg/L	0.000055	2.62%
Co 228.616†	114.4	0.00295	mg/L	0.000225	0.00295	mg/L	0.000225	7.65%
Cr 267.716†	18.2	0.00379	mg/L	0.000958	0.00379	mg/L	0.000958	25.29%
Cu 324.752†	607.2	0.00216	mg/L	0.000150	0.00216	mg/L	0.000150	6.91%
Fe 273.955†	59.8	0.05427	mg/L	0.001266	0.05427	mg/L	0.001266	2.33%
K 766.490†	1100.0	0.5138	mg/L	0.00599	0.5138	mg/L	0.00599	1.17%
Mg 279.077†	67.4	0.06136	mg/L	0.003301	0.06136	mg/L	0.003301	5.38%
Mn 257.610†	31.1	0.00103	mg/L	0.000056	0.00103	mg/L	0.000056	5.41%
Mo 202.031†	93.4	0.00508	mg/L	0.000395	0.00508	mg/L	0.000395	7.78%
Na 589.592†	6611.0	0.5153	mg/L	0.00217	0.5153	mg/L	0.00217	0.42%
Na 330.237†	20.1	0.9733	mg/L	0.17197	0.9733	mg/L	0.17197	17.67%
Ni 231.604†	29.5	0.00909	mg/L	0.001235	0.00909	mg/L	0.001235	13.59%
Pb 220.353†	166.7	0.02052	mg/L	0.000985	0.02052	mg/L	0.000985	4.80%
Sb 206.836†	167.6	0.05395	mg/L	0.000493	0.05395	mg/L	0.000493	0.91%
Se 196.026†	70.0	0.05107	mg/L	0.002567	0.05107	mg/L	0.002567	5.03%
Si 288.158†	86.9	0.05083	mg/L	0.006892	0.05083	mg/L	0.006892	13.56%
Sn 189.927†	36.8	0.01087	mg/L	0.000614	0.01087	mg/L	0.000614	5.65%
Sr 421.552†	790.0	0.00099	mg/L	0.000006	0.00099	mg/L	0.000006	0.59%
Ti 334.903†	75.4	0.00470	mg/L	0.000511	0.00470	mg/L	0.000511	10.87%
Tl 190.801†	104.7	0.05009	mg/L	0.001377	0.05009	mg/L	0.001377	2.75%
V 292.402†	439.4	0.00294	mg/L	0.000031	0.00294	mg/L	0.000031	1.06%
Zn 206.200†	34.8	0.01053	mg/L	0.000369	0.01053	mg/L	0.000369	3.51%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 3/31/2014 9:25:14 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2712855.1	96.02	%	0.455				0.47%
ScR 361.383	233790.9	98.83	%	0.743				0.75%
Ag 328.068†	-251.0	-0.00068	mg/L	0.000152	-0.00068	mg/L	0.000152	22.57%
Al 308.215†	255426.9	203.8	mg/L	0.40	203.8	mg/L	0.40	0.20%
As 188.979†	50.4	0.02095	mg/L	0.002035	0.02095	mg/L	0.002035	9.72%
B 249.677†	-37.2	-0.00679	mg/L	0.001792	-0.00679	mg/L	0.001792	26.38%
Ba 233.527†	113.7	-0.00097	mg/L	0.000483	-0.00097	mg/L	0.000483	49.62%
Be 313.042†	7.1	0.00001	mg/L	0.000010	0.00001	mg/L	0.000010	79.84%
Ca 317.933†	962462.3	102.4	mg/L	0.22	102.4	mg/L	0.22	0.22%
Cd 228.802†	45.8	-0.00052	mg/L	0.000221	-0.00052	mg/L	0.000221	42.76%
Co 228.616†	74.5	0.00191	mg/L	0.000176	0.00191	mg/L	0.000176	9.24%
Cr 267.716†	14.6	-0.00049	mg/L	0.001297	-0.00049	mg/L	0.001297	262.04%
Cu 324.752†	-2563.1	-0.00069	mg/L	0.000181	-0.00069	mg/L	0.000181	26.02%
Fe 273.955†	224086.7	203.5	mg/L	0.69	203.5	mg/L	0.69	0.34%
K 766.490†	14.6	0.00681	mg/L	0.017231	0.00681	mg/L	0.017231	253.11%
Mg 279.077†	112907.4	102.7	mg/L	1.09	102.7	mg/L	1.09	1.06%
Mn 257.610†	28.0	-0.00158	mg/L	0.000200	-0.00158	mg/L	0.000200	12.62%
Mo 202.031†	64.9	0.00194	mg/L	0.000726	0.00194	mg/L	0.000726	37.46%
Na 589.592†	91.8	0.00715	mg/L	0.001659	0.00715	mg/L	0.001659	23.19%
Na 330.237†	14.9	0.09778	mg/L	0.194969	0.09778	mg/L	0.194969	199.39%
Ni 231.604†	-4.2	-0.00127	mg/L	0.001202	-0.00127	mg/L	0.001202	94.84%
Pb 220.353†	-361.1	-0.00312	mg/L	0.002009	-0.00312	mg/L	0.002009	64.45%
Sb 206.836†	64.3	0.02049	mg/L	0.002149	0.02049	mg/L	0.002149	10.49%
Se 196.026†	41.2	0.03007	mg/L	0.005058	0.03007	mg/L	0.005058	16.82%
Si 288.158†	-34.9	-0.00817	mg/L	0.004354	-0.00817	mg/L	0.004354	53.28%
Sn 189.927†	-83.3	-0.01211	mg/L	0.001693	-0.01211	mg/L	0.001693	13.98%
Sr 421.552†	4419.2	0.00555	mg/L	0.000042	0.00555	mg/L	0.000042	0.76%
Ti 334.903†	145.3	0.00185	mg/L	0.000247	0.00185	mg/L	0.000247	13.34%
Tl 190.801†	-42.7	0.00296	mg/L	0.002836	0.00296	mg/L	0.002836	95.83%
V 292.402†	1609.2	-0.00074	mg/L	0.000248	-0.00074	mg/L	0.000248	33.59%
Zn 206.200†	10.7	0.00324	mg/L	0.000983	0.00324	mg/L	0.000983	30.29%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 3/31/2014 9:29:30 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2747520.8	97.24	%	0.831				0.85%
ScR 361.383	232231.5	98.17	%	0.210				0.21%
Ag 328.068†	208537.3	1.078	mg/L	0.0090	1.078	mg/L	0.0090	0.84%
Al 308.215†	256081.6	204.3	mg/L	0.67	204.3	mg/L	0.67	0.33%
As 188.979†	1783.3	1.040	mg/L	0.0149	1.040	mg/L	0.0149	1.43%
B 249.677†	-27.9	-0.00712	mg/L	0.001235	-0.00712	mg/L	0.001235	17.35%
Ba 233.527†	3887.4	1.010	mg/L	0.0065	1.010	mg/L	0.0065	0.65%
Be 313.042†	478524.4	0.9949	mg/L	0.00603	0.9949	mg/L	0.00603	0.61%
Ca 317.933†	963920.6	102.5	mg/L	0.26	102.5	mg/L	0.26	0.26%
Cd 228.802†	33597.0	1.025	mg/L	0.0081	1.025	mg/L	0.0081	0.79%
Co 228.616†	36924.7	0.9529	mg/L	0.00771	0.9529	mg/L	0.00771	0.81%
Cr 267.716†	4864.3	1.011	mg/L	0.0031	1.011	mg/L	0.0031	0.30%
Cu 324.752†	296762.5	1.066	mg/L	0.0091	1.066	mg/L	0.0091	0.86%
Fe 273.955†	223852.7	203.3	mg/L	0.55	203.3	mg/L	0.55	0.27%
K 766.490†	-6.7	-0.00314	mg/L	0.012299	-0.00314	mg/L	0.012299	391.33%
Mg 279.077†	109537.0	99.66	mg/L	0.319	99.66	mg/L	0.319	0.32%
Mn 257.610†	28979.4	0.9535	mg/L	0.00303	0.9535	mg/L	0.00303	0.32%
Mo 202.031†	64.5	0.00191	mg/L	0.000041	0.00191	mg/L	0.000041	2.16%
Na 589.592†	72.5	0.00565	mg/L	0.002440	0.00565	mg/L	0.002440	43.16%
Na 330.237†	24.6	0.2929	mg/L	0.41260	0.2929	mg/L	0.41260	140.85%
Ni 231.604†	3144.9	0.9697	mg/L	0.00281	0.9697	mg/L	0.00281	0.29%
Pb 220.353†	7759.6	0.9966	mg/L	0.00839	0.9966	mg/L	0.00839	0.84%
Sb 206.836†	3263.6	1.040	mg/L	0.0156	1.040	mg/L	0.0156	1.50%
Se 196.026†	1432.6	1.044	mg/L	0.0115	1.044	mg/L	0.0115	1.10%
Si 288.158†	-53.8	-0.01500	mg/L	0.004251	-0.01500	mg/L	0.004251	28.35%
Sn 189.927†	-85.2	-0.01206	mg/L	0.000874	-0.01206	mg/L	0.000874	7.25%
Sr 421.552†	4377.6	0.00550	mg/L	0.000006	0.00550	mg/L	0.000006	0.11%
Ti 334.903†	139.8	0.00130	mg/L	0.000390	0.00130	mg/L	0.000390	29.89%
Tl 190.801†	1990.9	0.9667	mg/L	0.00752	0.9667	mg/L	0.00752	0.78%
V 292.402†	148583.4	0.9836	mg/L	0.00762	0.9836	mg/L	0.00762	0.77%
Zn 206.200†	3167.8	0.9588	mg/L	0.00423	0.9588	mg/L	0.00423	0.44%

Sequence No.: 6

Sample ID: CV_j

Autosampler Location: 7

Date Collected: 3/31/2014 9:34:34 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2839019.8	100.5	%	0.47			0.47%	
ScR 361.383	232838.0	98.42	%	0.851			0.86%	
Ag 328.068†	204461.7	1.056	mg/L	0.0085	1.056	mg/L	0.0085	0.81%
Al 308.215†	2666.0	2.095	mg/L	0.0195	2.095	mg/L	0.0195	0.93%
As 188.979†	3426.0	2.047	mg/L	0.0128	2.047	mg/L	0.0128	0.63%
B 249.677†	5677.0	1.036	mg/L	0.0106	1.036	mg/L	0.0106	1.02%
Ba 233.527†	3864.0	1.035	mg/L	0.0081	1.035	mg/L	0.0081	0.79%
Be 313.042†	490609.5	1.020	mg/L	0.0037	1.020	mg/L	0.0037	0.37%
Ca 317.933†	20154.2	2.144	mg/L	0.0139	2.144	mg/L	0.0139	0.65%
Cd 228.802†	33782.4	1.027	mg/L	0.0066	1.027	mg/L	0.0066	0.64%
Co 228.616†	38686.9	0.9968	mg/L	0.00587	0.9968	mg/L	0.00587	0.59%
Cr 267.716†	5073.4	1.058	mg/L	0.0077	1.058	mg/L	0.0077	0.73%
Cu 324.752†	283602.0	1.011	mg/L	0.0028	1.011	mg/L	0.0028	0.28%
Fe 273.955†	2379.4	2.154	mg/L	0.0132	2.154	mg/L	0.0132	0.61%
K 766.490†	44086.5	20.59	mg/L	0.057	20.59	mg/L	0.057	0.28%
Mg 279.077†	2246.2	2.053	mg/L	0.0214	2.053	mg/L	0.0214	1.04%
Mn 257.610†	29880.5	0.9859	mg/L	0.00356	0.9859	mg/L	0.00356	0.36%
Mo 202.031†	17855.9	0.9702	mg/L	0.00940	0.9702	mg/L	0.00940	0.97%
Na 589.592†	662255.5	51.62	mg/L	0.101	51.62	mg/L	0.101	0.20%
Na 330.237†	1090.1	52.88	mg/L	0.203	52.88	mg/L	0.203	0.38%
Ni 231.604†	3378.4	1.042	mg/L	0.0070	1.042	mg/L	0.0070	0.67%
Pb 220.353†	16337.6	2.011	mg/L	0.0133	2.011	mg/L	0.0133	0.66%
Sb 206.836†	6531.9	2.099	mg/L	0.0101	2.099	mg/L	0.0101	0.48%
Se 196.026†	2761.4	2.013	mg/L	0.0167	2.013	mg/L	0.0167	0.83%
Si 288.158†	3387.3	1.985	mg/L	0.0424	1.985	mg/L	0.0424	2.13%
Sn 189.927†	3396.7	1.002	mg/L	0.0104	1.002	mg/L	0.0104	1.04%
Sr 421.552†	817013.6	1.026	mg/L	0.0029	1.026	mg/L	0.0029	0.29%
Ti 334.903†	16022.8	1.000	mg/L	0.0015	1.000	mg/L	0.0015	0.15%
Tl 190.801†	4349.4	2.074	mg/L	0.0114	2.074	mg/L	0.0114	0.55%
V 292.402†	151196.4	1.012	mg/L	0.0086	1.012	mg/L	0.0086	0.85%
Zn 206.200†	3418.0	1.035	mg/L	0.0083	1.035	mg/L	0.0083	0.81%

Sequence No.: 7
Sample ID: CB\

Autosampler Location: 1
Date Collected: 3/31/2014 9:38:39 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2855306.6	101.1	%	0.35				0.34%
ScR 361.383	240461.0	101.6	%	0.49				0.48%
Ag 328.068†	40.1	0.00021	mg/L	0.000191	0.00021	mg/L	0.000191	92.14%
Al 308.215†	9.3	0.00741	mg/L	0.001313	0.00741	mg/L	0.001313	17.71%
As 188.979†	0.5	0.00029	mg/L	0.002034	0.00029	mg/L	0.002034	705.91%
B 249.677†	4.3	0.00079	mg/L	0.000654	0.00079	mg/L	0.000654	83.14%
Ba 233.527†	5.0	0.00133	mg/L	0.000494	0.00133	mg/L	0.000494	37.11%
Be 313.042†	29.7	0.00006	mg/L	0.000030	0.00006	mg/L	0.000030	48.45%
Ca 317.933†	6.7	0.00072	mg/L	0.002086	0.00072	mg/L	0.002086	291.36%
Cd 228.802†	0.7	0.00002	mg/L	0.000101	0.00002	mg/L	0.000101	489.54%
Co 228.616†	-1.8	-0.00005	mg/L	0.000046	-0.00005	mg/L	0.000046	102.43%
Cr 267.716†	-1.8	-0.00038	mg/L	0.000576	-0.00038	mg/L	0.000576	152.78%
Cu 324.752†	-80.4	-0.00029	mg/L	0.000334	-0.00029	mg/L	0.000334	116.42%
Fe 273.955†	5.3	0.00481	mg/L	0.003375	0.00481	mg/L	0.003375	70.16%
K 766.490†	-8.7	-0.00407	mg/L	0.015002	-0.00407	mg/L	0.015002	368.24%
Mg 279.077†	10.6	0.00962	mg/L	0.003933	0.00962	mg/L	0.003933	40.89%
Mn 257.610†	4.4	0.00014	mg/L	0.000089	0.00014	mg/L	0.000089	61.92%
Mo 202.031†	15.9	0.00086	mg/L	0.000366	0.00086	mg/L	0.000366	42.39%
Na 589.592†	80.0	0.00623	mg/L	0.003440	0.00623	mg/L	0.003440	55.18%
Na 330.237†	7.7	0.3751	mg/L	0.14177	0.3751	mg/L	0.14177	37.80%
Ni 231.604†	-1.9	-0.00058	mg/L	0.001635	-0.00058	mg/L	0.001635	279.87%
Pb 220.353†	1.6	0.00020	mg/L	0.000669	0.00020	mg/L	0.000669	329.06%
Sb 206.836†	30.7	0.00989	mg/L	0.000648	0.00989	mg/L	0.000648	6.55%
Se 196.026†	5.0	0.00361	mg/L	0.001642	0.00361	mg/L	0.001642	45.46%
Si 288.158†	-10.0	-0.00586	mg/L	0.005163	-0.00586	mg/L	0.005163	88.07%
Sn 189.927†	5.8	0.00171	mg/L	0.000480	0.00171	mg/L	0.000480	28.11%
Sr 421.552†	99.7	0.00013	mg/L	0.000059	0.00013	mg/L	0.000059	47.10%
Ti 334.903†	-3.2	-0.00020	mg/L	0.000215	-0.00020	mg/L	0.000215	105.55%
Tl 190.801†	4.7	0.00227	mg/L	0.001359	0.00227	mg/L	0.001359	59.82%
V 292.402†	-41.1	-0.00028	mg/L	0.000081	-0.00028	mg/L	0.000081	29.25%
Zn 206.200†	2.2	0.00068	mg/L	0.000307	0.00068	mg/L	0.000307	45.23%

Sequence No.: 8
 Sample ID: DI CHECK
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 304
 Date Collected: 3/31/2014 9:42:39 AM
 Data Type: Original

 Nebulizer Parameters: DI CHECK

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

 Mean Data: DI CHECK

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2945226.7	104.2	%	0.61				0.58%
ScR 361.383	246114.6	104.0	%	1.39				1.34%
Ag 328.068†	0.3	0.00000	mg/L	0.000291	0.00000	mg/L	0.000291	>999.9%
Al 308.215†	7.5	0.00602	mg/L	0.002219	0.00602	mg/L	0.002219	36.89%
As 188.979†	6.2	0.00361	mg/L	0.000391	0.00361	mg/L	0.000391	10.80%
B 249.677†	-1.2	-0.00022	mg/L	0.001471	-0.00022	mg/L	0.001471	681.24%
Ba 233.527†	2.2	0.00058	mg/L	0.000578	0.00058	mg/L	0.000578	100.29%
Be 313.042†	-10.3	-0.00002	mg/L	0.000010	-0.00002	mg/L	0.000010	45.00%
Ca 317.933†	-4.1	-0.00043	mg/L	0.000513	-0.00043	mg/L	0.000513	118.78%
Cd 228.802†	-8.1	-0.00027	mg/L	0.000222	-0.00027	mg/L	0.000222	82.81%
Co 228.616†	14.9	0.00038	mg/L	0.000137	0.00038	mg/L	0.000137	35.70%
Cr 267.716†	-1.7	-0.00035	mg/L	0.000321	-0.00035	mg/L	0.000321	92.89%
Cu 324.752†	-169.0	-0.00060	mg/L	0.000024	-0.00060	mg/L	0.000024	3.91%
Fe 273.955†	1.6	0.00145	mg/L	0.001047	0.00145	mg/L	0.001047	72.36%
K 766.490†	43.2	0.02016	mg/L	0.011183	0.02016	mg/L	0.011183	55.47%
Mg 279.077†	4.2	0.00386	mg/L	0.008938	0.00386	mg/L	0.008938	231.78%
Mn 257.610†	-6.3	-0.00021	mg/L	0.000128	-0.00021	mg/L	0.000128	61.80%
Mo 202.031†	-12.0	-0.00065	mg/L	0.000234	-0.00065	mg/L	0.000234	35.86%
Na 589.592†	65.8	0.00513	mg/L	0.003539	0.00513	mg/L	0.003539	69.01%
Na 330.237†	2.7	0.1299	mg/L	0.19276	0.1299	mg/L	0.19276	148.38%
Ni 231.604†	-2.1	-0.00064	mg/L	0.002032	-0.00064	mg/L	0.002032	318.24%
Pb 220.353†	-5.6	-0.00068	mg/L	0.000089	-0.00068	mg/L	0.000089	12.97%
Sb 206.836†	-13.2	-0.00425	mg/L	0.000881	-0.00425	mg/L	0.000881	20.73%
Se 196.026†	10.5	0.00768	mg/L	0.000679	0.00768	mg/L	0.000679	8.84%
Si 288.158†	-14.7	-0.00860	mg/L	0.005168	-0.00860	mg/L	0.005168	60.09%
Sn 189.927†	1.5	0.00044	mg/L	0.000544	0.00044	mg/L	0.000544	122.50%
Sr 421.552†	33.2	0.00004	mg/L	0.000051	0.00004	mg/L	0.000051	123.10%
Ti 334.903†	-6.5	-0.00041	mg/L	0.000387	-0.00041	mg/L	0.000387	95.23%
Tl 190.801†	10.2	0.00490	mg/L	0.001151	0.00490	mg/L	0.001151	23.51%
V 292.402†	-24.4	-0.00016	mg/L	0.000058	-0.00016	mg/L	0.000058	35.34%
Zn 206.200†	1.1	0.00033	mg/L	0.000565	0.00033	mg/L	0.000565	172.09%

Sequence No.: 9
 Sample ID: HNO3 C1311
 Analyst: ALA
 Dilution: 10.000000X

Autosampler Location: 305
 Date Collected: 3/31/2014 9:46:56 AM
 Data Type: Original

Nebulizer Parameters: HNO3 C1311

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: HNO3 C1311

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2775439.1	98.23	%	0.402				0.41%
ScR 361.383	235475.3	99.54	%	0.877				0.88%
Ag 328.068†	46.5	0.00024	mg/L	0.000196	0.00240	mg/L	0.001964	81.75%
Al 308.215†	6.0	0.00474	mg/L	0.006034	0.04743	mg/L	0.060343	127.22%
As 188.979†	-1.4	-0.00085	mg/L	0.001037	-0.00849	mg/L	0.010368	122.12%
B 249.677†	3.0	0.00054	mg/L	0.000702	0.00544	mg/L	0.007019	129.04%
Ba 233.527†	1.4	0.00038	mg/L	0.000314	0.00379	mg/L	0.003142	82.82%
Be 313.042†	-23.4	-0.00005	mg/L	0.000027	-0.00049	mg/L	0.000270	55.57%
Ca 317.933†	18.3	0.00194	mg/L	0.000696	0.01941	mg/L	0.006964	35.87%
Cd 228.802†	-8.3	-0.00025	mg/L	0.000038	-0.00250	mg/L	0.000376	15.03%
Co 228.616†	-25.3	-0.00065	mg/L	0.000139	-0.00651	mg/L	0.001388	21.33%
Cr 267.716†	0.9	0.00019	mg/L	0.000111	0.00187	mg/L	0.001108	59.26%
Cu 324.752†	-34.5	-0.00012	mg/L	0.000032	-0.00123	mg/L	0.000325	26.42%
Fe 273.955†	2.7	0.00241	mg/L	0.002804	0.02410	mg/L	0.028042	116.37%
K 766.490†	0.9	0.00044	mg/L	0.021226	0.00443	mg/L	0.212263	>999.9%
Mg 279.077†	4.1	0.00373	mg/L	0.004642	0.03730	mg/L	0.046421	124.47%
Mn 257.610†	0.1	0.00000	mg/L	0.000100	0.00003	mg/L	0.000999	>999.9%
Mo 202.031†	13.5	0.00073	mg/L	0.000129	0.00732	mg/L	0.001293	17.66%
Na 589.592†	6.1	0.00047	mg/L	0.002995	0.00474	mg/L	0.029953	632.27%
Na 330.237†	12.5	0.6070	mg/L	0.36991	6.070	mg/L	3.6991	60.94%
Ni 231.604†	-1.4	-0.00042	mg/L	0.000961	-0.00423	mg/L	0.009611	227.06%
Pb 220.353†	6.8	0.00084	mg/L	0.000912	0.00839	mg/L	0.009120	108.69%
Sb 206.836†	17.3	0.00557	mg/L	0.001445	0.05575	mg/L	0.014453	25.93%
Se 196.026†	-4.2	-0.00309	mg/L	0.002370	-0.03092	mg/L	0.023701	76.65%
Si 288.158†	8.2	0.00477	mg/L	0.010519	0.04766	mg/L	0.105189	220.69%
Sn 189.927†	5.0	0.00148	mg/L	0.000166	0.01484	mg/L	0.001663	11.21%
Sr 421.552†	3.6	0.00000	mg/L	0.000046	0.00005	mg/L	0.000462	>999.9%
Ti 334.903†	-15.7	-0.00098	mg/L	0.000412	-0.00982	mg/L	0.004118	41.94%
Tl 190.801†	-3.3	-0.00159	mg/L	0.000873	-0.01585	mg/L	0.008733	55.08%
V 292.402†	-26.9	-0.00018	mg/L	0.000104	-0.00177	mg/L	0.001038	58.46%
Zn 206.200†	1.3	0.00038	mg/L	0.000526	0.00380	mg/L	0.005264	138.51%

Sequence No.: 10

Autosampler Location: 306

Sample ID: YE08 MB1 TWC

Date Collected: 3/31/2014 9:50:55 AM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE08 MB1 TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: YE08 MB1 TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2870826.6	101.6	%	0.74			0.72%
ScR 361.383	238719.0	100.9	%	0.43			0.42%
Ag 328.068†	38.1	0.00020	mg/L	0.000121	0.00020 mg/L	0.000121	61.76%
Al 308.215†	10.9	0.00873	mg/L	0.003709	0.00873 mg/L	0.003709	42.50%
As 188.979†	2.3	0.00134	mg/L	0.001426	0.00134 mg/L	0.001426	106.43%
B 249.677†	-3.2	-0.00058	mg/L	0.000366	-0.00058 mg/L	0.000366	62.69%
Ba 233.527†	0.1	0.00003	mg/L	0.000640	0.00003 mg/L	0.000640	>999.9%
Be 313.042†	-5.4	-0.00001	mg/L	0.000022	-0.00001 mg/L	0.000022	192.56%
Ca 317.933†	116.2	0.01236	mg/L	0.000795	0.01236 mg/L	0.000795	6.44%
Cd 228.802†	-4.5	-0.00015	mg/L	0.000026	-0.00015 mg/L	0.000026	17.65%
Co 228.616†	-5.1	-0.00013	mg/L	0.000118	-0.00013 mg/L	0.000118	91.20%
Cr 267.716†	0.0	0.00001	mg/L	0.000575	0.00001 mg/L	0.000575	>999.9%
Cu 324.752†	-137.2	-0.00049	mg/L	0.000194	-0.00049 mg/L	0.000194	39.59%
Fe 273.955†	4.7	0.00424	mg/L	0.002855	0.00424 mg/L	0.002855	67.26%
K 766.490†	-36.9	-0.01725	mg/L	0.006590	-0.01725 mg/L	0.006590	38.20%
Mg 279.077†	3.2	0.00288	mg/L	0.004401	0.00288 mg/L	0.004401	152.92%
Mn 257.610†	5.7	0.00019	mg/L	0.000032	0.00019 mg/L	0.000032	17.29%
Mo 202.031†	-1.9	-0.00011	mg/L	0.000184	-0.00011 mg/L	0.000184	173.24%
Na 589.592†	40.2	0.00314	mg/L	0.003417	0.00314 mg/L	0.003417	108.95%
Na 330.237†	5.6	0.2707	mg/L	0.21839	0.2707 mg/L	0.21839	80.67%
Ni 231.604†	-1.9	-0.00060	mg/L	0.001396	-0.00060 mg/L	0.001396	233.74%
Pb 220.353†	1.1	0.00014	mg/L	0.000666	0.00014 mg/L	0.000666	484.47%
Sb 206.836†	-6.6	-0.00211	mg/L	0.000536	-0.00211 mg/L	0.000536	25.42%
Se 196.026†	-0.8	-0.00059	mg/L	0.003346	-0.00059 mg/L	0.003346	563.71%
Si 288.158†	4.5	0.00262	mg/L	0.002444	0.00262 mg/L	0.002444	93.19%
Sn 189.927†	1.9	0.00055	mg/L	0.000397	0.00055 mg/L	0.000397	72.04%
Sr 421.552†	28.1	0.00004	mg/L	0.000038	0.00004 mg/L	0.000038	106.23%
Ti 334.903†	-5.2	-0.00033	mg/L	0.000296	-0.00033 mg/L	0.000296	90.76%
Tl 190.801†	0.5	0.00023	mg/L	0.001638	0.00023 mg/L	0.001638	715.02%
V 292.402†	-5.2	-0.00004	mg/L	0.000091	-0.00004 mg/L	0.000091	258.93%
Zn 206.200†	7.9	0.00241	mg/L	0.000456	0.00241 mg/L	0.000456	18.94%

Sequence No.: 11
 Sample ID: YE08 MB2 WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 307
 Date Collected: 3/31/2014 9:54:54 AM
 Data Type: Original

Nebulizer Parameters: YE08 MB2 WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE08 MB2 WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2938588.9	104.0 %		0.13			0.13%
ScR 361.383	247670.1	104.7 %		1.27			1.21%
Ag 328.068†	36.2	0.00019 mg/L		0.000080	0.00019 mg/L	0.000080	42.70%
Al 308.215†	6.3	0.00504 mg/L		0.004233	0.00504 mg/L	0.004233	83.95%
As 188.979†	3.0	0.00176 mg/L		0.001347	0.00176 mg/L	0.001347	76.59%
B 249.677†	-3.1	-0.00057 mg/L		0.000618	-0.00057 mg/L	0.000618	108.77%
Ba 233.527†	0.2	0.00004 mg/L		0.000382	0.00004 mg/L	0.000382	943.62%
Be 313.042†	-21.7	-0.00005 mg/L		0.000031	-0.00005 mg/L	0.000031	69.16%
Ca 317.933†	-1.1	-0.00011 mg/L		0.001314	-0.00011 mg/L	0.001314	>999.9%
Cd 228.802†	-4.6	-0.00015 mg/L		0.000153	-0.00015 mg/L	0.000153	100.62%
Co 228.616†	10.5	0.00027 mg/L		0.000128	0.00027 mg/L	0.000128	47.25%
Cr 267.716†	3.8	0.00080 mg/L		0.001173	0.00080 mg/L	0.001173	147.52%
Cu 324.752†	-253.3	-0.00090 mg/L		0.000066	-0.00090 mg/L	0.000066	7.36%
Fe 273.955†	0.4	0.00036 mg/L		0.001986	0.00036 mg/L	0.001986	546.18%
K 766.490†	-43.3	-0.02022 mg/L		0.019574	-0.02022 mg/L	0.019574	96.81%
Mg 279.077†	-1.0	-0.00089 mg/L		0.005827	-0.00089 mg/L	0.005827	651.37%
Mn 257.610†	-6.9	-0.00023 mg/L		0.000050	-0.00023 mg/L	0.000050	22.22%
Mo 202.031†	-11.0	-0.00060 mg/L		0.000155	-0.00060 mg/L	0.000155	25.85%
Na 589.592†	33.6	0.00262 mg/L		0.002039	0.00262 mg/L	0.002039	77.83%
Na 330.237†	3.7	0.1779 mg/L		0.08420	0.1779 mg/L	0.08420	47.33%
Ni 231.604†	-1.6	-0.00049 mg/L		0.002033	-0.00049 mg/L	0.002033	412.71%
Pb 220.353†	-2.4	-0.00029 mg/L		0.000115	-0.00029 mg/L	0.000115	39.37%
Sb 206.836†	-11.0	-0.00355 mg/L		0.000394	-0.00355 mg/L	0.000394	11.10%
Se 196.026†	8.3	0.00605 mg/L		0.002230	0.00605 mg/L	0.002230	36.87%
Si 288.158†	-30.9	-0.01804 mg/L		0.001000	-0.01804 mg/L	0.001000	5.54%
Sn 189.927†	0.7	0.00020 mg/L		0.000377	0.00020 mg/L	0.000377	189.25%
Sr 421.552†	44.6	0.00006 mg/L		0.000024	0.00006 mg/L	0.000024	42.58%
Ti 334.903†	-10.2	-0.00064 mg/L		0.000467	-0.00064 mg/L	0.000467	73.27%
Tl 190.801†	10.3	0.00493 mg/L		0.001727	0.00493 mg/L	0.001727	35.03%
V 292.402†	-25.1	-0.00016 mg/L		0.000068	-0.00016 mg/L	0.000068	41.28%
Zn 206.200†	-1.1	-0.00034 mg/L		0.000872	-0.00034 mg/L	0.000872	254.47%

Sequence No.: 12
 Sample ID: YE08 D WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 308
 Date Collected: 3/31/2014 9:58:53 AM
 Data Type: Original

Nebulizer Parameters: YE08 D WMN

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YE08 D WMN

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc. Units	Std.Dev.	
ScA 357.253	2949907.9	104.4	%	0.82			0.78%
ScR 361.383	247508.6	104.6	%	1.20			1.15%
Ag 328.068†	3.3	0.00015	mg/L	0.000252	0.00015	mg/L	0.000252 168.85%
Al 308.215†	20.5	0.01632	mg/L	0.002512	0.01632	mg/L	0.002512 15.40%
As 188.979†	26.7	0.01385	mg/L	0.001579	0.01385	mg/L	0.001579 11.40%
B 249.677†	123.5	0.02257	mg/L	0.000390	0.02257	mg/L	0.000390 1.73%
Ba 233.527†	35.7	0.00888	mg/L	0.000405	0.00888	mg/L	0.000405 4.57%
Be 313.042†	-12.8	-0.00003	mg/L	0.000035	-0.00003	mg/L	0.000035 128.40%
Ca 317.933†	205270.3	21.83	mg/L	0.023	21.83	mg/L	0.023 0.11%
Cd 228.802†	-14.1	-0.00055	mg/L	0.000138	-0.00055	mg/L	0.000138 25.19%
Co 228.616†	125.4	0.00323	mg/L	0.000091	0.00323	mg/L	0.000091 2.81%
Cr 267.716†	6.0	0.00083	mg/L	0.000333	0.00083	mg/L	0.000333 39.91%
Cu 324.752†	75.7	0.00039	mg/L	0.000193	0.00039	mg/L	0.000193 50.14%
Fe 273.955†	4859.9	4.413	mg/L	0.0245	4.413	mg/L	0.0245 0.55%
K 766.490†	2663.2	1.244	mg/L	0.0170	1.244	mg/L	0.0170 1.37%
Mg 279.077†	4401.3	4.004	mg/L	0.0199	4.004	mg/L	0.0199 0.50%
Mn 257.610†	10723.9	0.3536	mg/L	0.00203	0.3536	mg/L	0.00203 0.57%
Mo 202.031†	38.0	0.00172	mg/L	0.000112	0.00172	mg/L	0.000112 6.49%
Na 589.592†	74351.9	5.795	mg/L	0.0337	5.795	mg/L	0.0337 0.58%
Na 330.237†	130.8	6.215	mg/L	0.2201	6.215	mg/L	0.2201 3.54%
Ni 231.604†	17.0	0.00524	mg/L	0.000238	0.00524	mg/L	0.000238 4.55%
Pb 220.353†	-7.6	-0.00113	mg/L	0.000736	-0.00113	mg/L	0.000736 65.35%
Sb 206.836†	-11.7	-0.00382	mg/L	0.000578	-0.00382	mg/L	0.000578 15.14%
Se 196.026†	15.5	0.01131	mg/L	0.001896	0.01131	mg/L	0.001896 16.76%
Si 288.158†	13986.9	8.178	mg/L	0.0134	8.178	mg/L	0.0134 0.16%
Sn 189.927†	-24.0	-0.00444	mg/L	0.001281	-0.00444	mg/L	0.001281 28.87%
Sr 421.552†	69873.5	0.08775	mg/L	0.000077	0.08775	mg/L	0.000077 0.09%
Ti 334.903†	40.1	0.00096	mg/L	0.000163	0.00096	mg/L	0.000163 16.91%
Tl 190.801†	13.9	0.00715	mg/L	0.002229	0.00715	mg/L	0.002229 31.16%
V 292.402†	224.0	0.00130	mg/L	0.000186	0.00130	mg/L	0.000186 14.29%
Zn 206.200†	16.6	0.00655	mg/L	0.000520	0.00655	mg/L	0.000520 7.94%

Sequence No.: 13
 Sample ID: YE08 E WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 309
 Date Collected: 3/31/2014 10:02:53 AM
 Data Type: Original

Nebulizer Parameters: YE08 E WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE08 E WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2927225.9	103.6	%	0.71			0.69%
ScR 361.383	246663.7	104.3	%	1.69			1.62%
Ag 328.068†	-15.0	0.00012	mg/L	0.000103	0.00012 mg/L	0.000103	84.33%
Al 308.215†	20.7	0.01619	mg/L	0.002746	0.01619 mg/L	0.002746	16.96%
As 188.979†	95.5	0.05361	mg/L	0.000526	0.05361 mg/L	0.000526	0.98%
B 249.677†	228.6	0.04178	mg/L	0.000857	0.04178 mg/L	0.000857	2.05%
Ba 233.527†	74.6	0.01385	mg/L	0.000957	0.01385 mg/L	0.000957	6.91%
Be 313.042†	12.0	0.00002	mg/L	0.000017	0.00002 mg/L	0.000017	83.94%
Ca 317.933†	302939.8	32.22	mg/L	0.117	32.22 mg/L	0.117	0.36%
Cd 228.802†	4.0	-0.00051	mg/L	0.000107	-0.00051 mg/L	0.000107	20.79%
Co 228.616†	47.5	0.00121	mg/L	0.000071	0.00121 mg/L	0.000071	5.84%
Cr 267.716†	24.6	0.00531	mg/L	0.000651	0.00531 mg/L	0.000651	12.25%
Cu 324.752†	-713.9	-0.00086	mg/L	0.000174	-0.00086 mg/L	0.000174	20.19%
Fe 273.955†	43750.1	39.73	mg/L	0.106	39.73 mg/L	0.106	0.27%
K 766.490†	5483.8	2.562	mg/L	0.0150	2.562 mg/L	0.0150	0.59%
Mg 279.077†	9830.3	8.927	mg/L	0.0566	8.927 mg/L	0.0566	0.63%
Mn 257.610†	55739.3	1.838	mg/L	0.0048	1.838 mg/L	0.0048	0.26%
Mo 202.031†	58.3	0.00267	mg/L	0.000200	0.00267 mg/L	0.000200	7.50%
Na 589.592†	164818.3	12.85	mg/L	0.029	12.85 mg/L	0.029	0.22%
Na 330.237†	281.2	13.45	mg/L	0.233	13.45 mg/L	0.233	1.74%
Ni 231.604†	0.9	0.00028	mg/L	0.001150	0.00028 mg/L	0.001150	417.72%
Pb 220.353†	0.0	-0.00180	mg/L	0.000651	-0.00180 mg/L	0.000651	36.23%
Sb 206.836†	-3.6	-0.00124	mg/L	0.000455	-0.00124 mg/L	0.000455	36.78%
Se 196.026†	20.6	0.01502	mg/L	0.004098	0.01502 mg/L	0.004098	27.28%
Si 288.158†	33040.3	19.32	mg/L	0.105	19.32 mg/L	0.105	0.54%
Sn 189.927†	-36.9	-0.00697	mg/L	0.000633	-0.00697 mg/L	0.000633	9.09%
Sr 421.552†	132125.4	0.1659	mg/L	0.00017	0.1659 mg/L	0.00017	0.10%
Ti 334.903†	127.1	0.00566	mg/L	0.000072	0.00566 mg/L	0.000072	1.28%
Tl 190.801†	7.9	0.00830	mg/L	0.001695	0.00830 mg/L	0.001695	20.42%
V 292.402†	2784.8	0.01662	mg/L	0.000129	0.01662 mg/L	0.000129	0.78%
Zn 206.200†	66.2	0.02362	mg/L	0.000400	0.02362 mg/L	0.000400	1.69%

Sequence No.: 14
 Sample ID: YE08 A TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 310
 Date Collected: 3/31/2014 10:07:08 AM
 Data Type: Original

Nebulizer Parameters: YE08 A TWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: YE08 A TWC

Analyte	Mean Corrected			Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.	Calib. Units		Conc.	Units		
ScA 357.253	2839750.1	100.5	%	1.62				1.62%
ScR 361.383	239040.9	101.0	%	0.07				0.07%
Ag 328.068†	-17.8	0.00012	mg/L	0.000271	0.00012	mg/L	0.000271	229.38%
Al 308.215†	34478.3	27.50	mg/L	0.066	27.50	mg/L	0.066	0.24%
As 188.979†	-36.2	0.03008	mg/L	0.001393	0.03008	mg/L	0.001393	4.63%
B 249.677†	144.1	0.02631	mg/L	0.000750	0.02631	mg/L	0.000750	2.85%
Ba 233.527†	522.9	0.1342	mg/L	0.00113	0.1342	mg/L	0.00113	0.84%
Be 313.042†	245.4	0.00047	mg/L	0.000011	0.00047	mg/L	0.000011	2.33%
Ca 317.933†	280821.4	29.87	mg/L	0.131	29.87	mg/L	0.131	0.44%
Cd 228.802†	0.8	-0.00017	mg/L	0.000070	-0.00017	mg/L	0.000070	42.58%
Co 228.616†	628.6	0.01350	mg/L	0.000175	0.01350	mg/L	0.000175	1.29%
Cr 267.716†	230.1	0.04792	mg/L	0.000710	0.04792	mg/L	0.000710	1.48%
Cu 324.752†	10678.1	0.03936	mg/L	0.000727	0.03936	mg/L	0.000727	1.85%
Fe 273.955†	41833.9	37.99	mg/L	0.152	37.99	mg/L	0.152	0.40%
K 766.490†	6646.1	3.104	mg/L	0.0177	3.104	mg/L	0.0177	0.57%
Mg 279.077†	12338.9	11.21	mg/L	0.016	11.21	mg/L	0.016	0.14%
Mn 257.610†	19251.2	0.6345	mg/L	0.00277	0.6345	mg/L	0.00277	0.44%
Mo 202.031†	90.2	0.00444	mg/L	0.000528	0.00444	mg/L	0.000528	11.91%
Na 589.592†	105197.3	8.200	mg/L	0.0082	8.200	mg/L	0.0082	0.10%
Na 330.237†	177.8	8.833	mg/L	0.2198	8.833	mg/L	0.2198	2.49%
Ni 231.604†	128.4	0.03959	mg/L	0.000884	0.03959	mg/L	0.000884	2.23%
Pb 220.353†	-19.0	0.00279	mg/L	0.000689	0.00279	mg/L	0.000689	24.66%
Sb 206.836†	15.2	0.00579	mg/L	0.001038	0.00579	mg/L	0.001038	17.93%
Se 196.026†	17.8	0.01294	mg/L	0.004315	0.01294	mg/L	0.004315	33.36%
Si 288.158†	42334.1	24.75	mg/L	0.106	24.75	mg/L	0.106	0.43%
Sn 189.927†	-40.4	-0.00799	mg/L	0.002034	-0.00799	mg/L	0.002034	25.46%
Sr 421.552†	136999.2	0.1721	mg/L	0.00018	0.1721	mg/L	0.00018	0.11%
Ti 334.903†	24241.6	1.513	mg/L	0.0005	1.513	mg/L	0.0005	0.04%
Tl 190.801†	2.5	0.00507	mg/L	0.002437	0.00507	mg/L	0.002437	48.11%
V 292.402†	17198.1	0.1120	mg/L	0.00154	0.1120	mg/L	0.00154	1.38%
Zn 206.200†	218.7	0.07080	mg/L	0.000504	0.07080	mg/L	0.000504	0.71%

Sequence No.: 15
 Sample ID: YE08 B TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 311
 Date Collected: 3/31/2014 10:11:08 AM
 Data Type: Original

Nebulizer Parameters: YE08 B TWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE08 B TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
SCA 357.253	2859621.1	101.2	%	0.33			0.33%
SCR 361.383	242801.0	102.6	%	1.48			1.44%
Ag 328.068†	-17.4	0.00012	mg/L	0.000184	0.00012 mg/L	0.000184	159.61%
Al 308.215†	1585.6	1.264	mg/L	0.0182	1.264 mg/L	0.0182	1.44%
As 188.979†	91.7	0.05365	mg/L	0.001489	0.05365 mg/L	0.001489	2.78%
B 249.677†	224.7	0.04106	mg/L	0.001318	0.04106 mg/L	0.001318	3.21%
Ba 233.527†	111.5	0.02317	mg/L	0.000697	0.02317 mg/L	0.000697	3.01%
Be 313.042†	15.1	0.00002	mg/L	0.000021	0.00002 mg/L	0.000021	83.99%
Ca 317.933†	309126.0	32.88	mg/L	0.274	32.88 mg/L	0.274	0.83%
Cd 228.802†	1.4	-0.00061	mg/L	0.000164	-0.00061 mg/L	0.000164	26.93%
Co 228.616†	54.9	0.00129	mg/L	0.000088	0.00129 mg/L	0.000088	6.85%
Cr 267.716†	34.6	0.00747	mg/L	0.001469	0.00747 mg/L	0.001469	19.66%
Cu 324.752†	504.5	0.00363	mg/L	0.000115	0.00363 mg/L	0.000115	3.16%
Fe 273.955†	47636.3	43.26	mg/L	0.670	43.26 mg/L	0.670	1.55%
K 766.490†	5714.2	2.669	mg/L	0.0588	2.669 mg/L	0.0588	2.20%
Mg 279.077†	10173.6	9.238	mg/L	0.1295	9.238 mg/L	0.1295	1.40%
Mn 257.610†	58623.5	1.933	mg/L	0.0299	1.933 mg/L	0.0299	1.55%
Mo 202.031†	74.5	0.00354	mg/L	0.000226	0.00354 mg/L	0.000226	6.40%
Na 589.592†	167392.7	13.05	mg/L	0.148	13.05 mg/L	0.148	1.14%
Na 330.237†	295.2	14.15	mg/L	0.290	14.15 mg/L	0.290	2.05%
Ni 231.604†	4.2	0.00130	mg/L	0.000427	0.00130 mg/L	0.000427	32.98%
Pb 220.353†	2.8	-0.00130	mg/L	0.000767	-0.00130 mg/L	0.000767	58.81%
Sb 206.836†	12.4	0.00394	mg/L	0.001327	0.00394 mg/L	0.001327	33.71%
Se 196.026†	7.9	0.00576	mg/L	0.004431	0.00576 mg/L	0.004431	76.88%
Si 288.158†	27017.6	15.80	mg/L	0.328	15.80 mg/L	0.328	2.08%
Sn 189.927†	-42.0	-0.00837	mg/L	0.000359	-0.00837 mg/L	0.000359	4.29%
Sr 421.552†	138833.4	0.1744	mg/L	0.00150	0.1744 mg/L	0.00150	0.86%
Ti 334.903†	1168.4	0.07069	mg/L	0.000340	0.07069 mg/L	0.000340	0.48%
Tl 190.801†	-0.2	0.00479	mg/L	0.002306	0.00479 mg/L	0.002306	48.19%
V 292.402†	3691.6	0.02246	mg/L	0.000116	0.02246 mg/L	0.000116	0.52%
Zn 206.200†	62.6	0.02188	mg/L	0.000653	0.02188 mg/L	0.000653	2.98%

Sequence No.: 16

Autosampler Location: 312

Sample ID: YE08 MB2SPK WMN

Date Collected: 3/31/2014 10:15:23 AM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE08 MB2SPK WMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE08 MB2SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2965658.8	105.0	%	0.47				0.44%
ScR 361.383	245167.9	103.6	%	0.38				0.36%
Ag 328.068†	98669.5	0.5097	mg/L	0.00529	0.5097	mg/L	0.00529	1.04%
Al 308.215†	2610.7	2.076	mg/L	0.0093	2.076	mg/L	0.0093	0.45%
As 188.979†	3603.8	2.119	mg/L	0.0024	2.119	mg/L	0.0024	0.11%
B 249.677†	-0.1	-0.00107	mg/L	0.000121	-0.00107	mg/L	0.000121	11.35%
Ba 233.527†	7575.2	2.029	mg/L	0.0185	2.029	mg/L	0.0185	0.91%
Be 313.042†	227875.0	0.4738	mg/L	0.00022	0.4738	mg/L	0.00022	0.05%
Ca 317.933†	95053.2	10.11	mg/L	0.052	10.11	mg/L	0.052	0.51%
Cd 228.802†	17581.6	0.5292	mg/L	0.00452	0.5292	mg/L	0.00452	0.85%
Co 228.616†	19318.4	0.4984	mg/L	0.00557	0.4984	mg/L	0.00557	1.12%
Cr 267.716†	2496.1	0.5197	mg/L	0.00318	0.5197	mg/L	0.00318	0.61%
Cu 324.752†	137647.3	0.4907	mg/L	0.00509	0.4907	mg/L	0.00509	1.04%
Fe 273.955†	2320.5	2.104	mg/L	0.0130	2.104	mg/L	0.0130	0.62%
K 766.490†	22191.2	10.37	mg/L	0.098	10.37	mg/L	0.098	0.94%
Mg 279.077†	11533.9	10.51	mg/L	0.050	10.51	mg/L	0.050	0.48%
Mn 257.610†	14788.3	0.4880	mg/L	0.00292	0.4880	mg/L	0.00292	0.60%
Mo 202.031†	14.4	0.00063	mg/L	0.000164	0.00063	mg/L	0.000164	26.26%
Na 589.592†	132146.5	10.30	mg/L	0.096	10.30	mg/L	0.096	0.93%
Na 330.237†	224.7	10.70	mg/L	0.228	10.70	mg/L	0.228	2.13%
Ni 231.604†	1659.0	0.5106	mg/L	0.00714	0.5106	mg/L	0.00714	1.40%
Pb 220.353†	16740.3	2.060	mg/L	0.0181	2.060	mg/L	0.0181	0.88%
Sb 206.836†	2.5	-0.00419	mg/L	0.001070	-0.00419	mg/L	0.001070	25.52%
Se 196.026†	3156.7	2.302	mg/L	0.0080	2.302	mg/L	0.0080	0.35%
Si 288.158†	-30.8	-0.01439	mg/L	0.003940	-0.01439	mg/L	0.003940	27.39%
Sn 189.927†	-15.1	-0.00315	mg/L	0.000658	-0.00315	mg/L	0.000658	20.92%
Sr 421.552†	400681.3	0.5032	mg/L	0.00388	0.5032	mg/L	0.00388	0.77%
Ti 334.903†	5.1	-0.00050	mg/L	0.000140	-0.00050	mg/L	0.000140	28.19%
Tl 190.801†	4283.2	2.045	mg/L	0.0006	2.045	mg/L	0.0006	0.03%
V 292.402†	74574.6	0.4994	mg/L	0.00477	0.4994	mg/L	0.00477	0.96%
Zn 206.200†	1701.6	0.5151	mg/L	0.00364	0.5151	mg/L	0.00364	0.71%

Sequence No.: 17
 Sample ID: YE08 MB1SPK TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 313
 Date Collected: 3/31/2014 10:19:23 AM
 Data Type: Original

Nebulizer Parameters: YE08 MB1SPK TWC
 Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE08 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2847065.7	100.8 %		0.22			0.22%
ScR 361.383	239056.0	101.1 %		0.76			0.75%
Ag 328.068†	103970.1	0.5371 mg/L		0.00189	0.5371 mg/L	0.00189	0.35%
Al 308.215†	2647.6	2.105 mg/L		0.0032	2.105 mg/L	0.0032	0.15%
As 188.979†	3548.5	2.086 mg/L		0.0037	2.086 mg/L	0.0037	0.18%
B 249.677†	3.8	-0.00038 mg/L		0.000928	-0.00038 mg/L	0.000928	246.65%
Ba 233.527†	7822.4	2.095 mg/L		0.0043	2.095 mg/L	0.0043	0.20%
Be 313.042†	249797.0	0.5193 mg/L		0.00224	0.5193 mg/L	0.00224	0.43%
Ca 317.933†	98161.5	10.44 mg/L		0.037	10.44 mg/L	0.037	0.35%
Cd 228.802†	17414.5	0.5242 mg/L		0.00086	0.5242 mg/L	0.00086	0.16%
Co 228.616†	19619.2	0.5062 mg/L		0.00230	0.5062 mg/L	0.00230	0.45%
Cr 267.716†	2553.7	0.5317 mg/L		0.00216	0.5317 mg/L	0.00216	0.41%
Cu 324.752†	141903.9	0.5059 mg/L		0.00158	0.5059 mg/L	0.00158	0.31%
Fe 273.955†	2380.4	2.158 mg/L		0.0153	2.158 mg/L	0.0153	0.71%
K 766.490†	22513.2	10.52 mg/L		0.066	10.52 mg/L	0.066	0.63%
Mg 279.077†	11686.2	10.65 mg/L		0.032	10.65 mg/L	0.032	0.30%
Mn 257.610†	15247.5	0.5032 mg/L		0.00273	0.5032 mg/L	0.00273	0.54%
Mo 202.031†	26.6	0.00129 mg/L		0.000138	0.00129 mg/L	0.000138	10.73%
Na 589.592†	134209.2	10.46 mg/L		0.023	10.46 mg/L	0.023	0.22%
Na 330.237†	237.8	11.33 mg/L		0.057	11.33 mg/L	0.057	0.50%
Ni 231.604†	1684.7	0.5185 mg/L		0.00116	0.5185 mg/L	0.00116	0.22%
Pb 220.353†	16875.9	2.077 mg/L		0.0125	2.077 mg/L	0.0125	0.60%
Sb 206.836†	20.2	0.00140 mg/L		0.000753	0.00140 mg/L	0.000753	53.84%
Se 196.026†	2842.9	2.073 mg/L		0.0062	2.073 mg/L	0.0062	0.30%
Si 288.158†	16.5	0.01332 mg/L		0.003858	0.01332 mg/L	0.003858	28.98%
Sn 189.927†	-16.1	-0.00340 mg/L		0.000436	-0.00340 mg/L	0.000436	12.84%
Sr 421.552†	409573.8	0.5144 mg/L		0.00160	0.5144 mg/L	0.00160	0.31%
Ti 334.903†	10.9	-0.00016 mg/L		0.000082	-0.00016 mg/L	0.000082	51.71%
Tl 190.801†	4342.9	2.074 mg/L		0.0031	2.074 mg/L	0.0031	0.15%
V 292.402†	76360.4	0.5113 mg/L		0.00234	0.5113 mg/L	0.00234	0.46%
Zn 206.200†	1693.0	0.5125 mg/L		0.00243	0.5125 mg/L	0.00243	0.47%

Sequence No.: 18
 Sample ID: CV9
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/31/2014 10:23:23 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2840276.8	100.5	%	0.34				0.34%
ScR 361.383	236919.0	100.1	%	1.22				1.21%
Ag 328.068†	202759.1	1.047	mg/L	0.0033	1.047	mg/L	0.0033	0.32%
Al 308.215†	2640.3	2.074	mg/L	0.0303	2.074	mg/L	0.0303	1.46%
As 188.979†	3404.0	2.034	mg/L	0.0080	2.034	mg/L	0.0080	0.39%
B 249.677†	5654.9	1.032	mg/L	0.0135	1.032	mg/L	0.0135	1.30%
Ba 233.527†	3829.3	1.025	mg/L	0.0134	1.025	mg/L	0.0134	1.30%
Be 313.042†	491886.4	1.023	mg/L	0.0023	1.023	mg/L	0.0023	0.23%
Ca 317.933†	20024.1	2.130	mg/L	0.0293	2.130	mg/L	0.0293	1.37%
Cd 228.802†	33733.3	1.026	mg/L	0.0031	1.026	mg/L	0.0031	0.30%
Co 228.616†	38902.7	1.002	mg/L	0.0052	1.002	mg/L	0.0052	0.52%
Cr 267.716†	5045.4	1.052	mg/L	0.0159	1.052	mg/L	0.0159	1.51%
Cu 324.752†	294584.5	1.050	mg/L	0.0066	1.050	mg/L	0.0066	0.63%
Fe 273.955†	2358.5	2.135	mg/L	0.0285	2.135	mg/L	0.0285	1.33%
K 766.490†	43969.8	20.54	mg/L	0.064	20.54	mg/L	0.064	0.31%
Mg 279.077†	2221.0	2.030	mg/L	0.0360	2.030	mg/L	0.0360	1.77%
Mn 257.610†	29828.7	0.9842	mg/L	0.00287	0.9842	mg/L	0.00287	0.29%
Mo 202.031†	18313.9	0.9951	mg/L	0.00487	0.9951	mg/L	0.00487	0.49%
Na 589.592†	658260.4	51.31	mg/L	0.165	51.31	mg/L	0.165	0.32%
Na 330.237†	1081.4	52.46	mg/L	0.750	52.46	mg/L	0.750	1.43%
Ni 231.604†	3360.6	1.036	mg/L	0.0146	1.036	mg/L	0.0146	1.41%
Pb 220.353†	16793.8	2.067	mg/L	0.0082	2.067	mg/L	0.0082	0.40%
Sb 206.836†	6431.4	2.067	mg/L	0.0074	2.067	mg/L	0.0074	0.36%
Se 196.026†	2756.3	2.009	mg/L	0.0101	2.009	mg/L	0.0101	0.50%
Si 288.158†	3372.2	1.977	mg/L	0.0380	1.977	mg/L	0.0380	1.92%
Sn 189.927†	3404.0	1.004	mg/L	0.0041	1.004	mg/L	0.0041	0.41%
Sr 421.552†	815315.0	1.024	mg/L	0.0023	1.024	mg/L	0.0023	0.23%
Ti 334.903†	16000.5	0.9987	mg/L	0.00194	0.9987	mg/L	0.00194	0.19%
Tl 190.801†	4349.2	2.074	mg/L	0.0087	2.074	mg/L	0.0087	0.42%
V 292.402†	150474.7	1.008	mg/L	0.0039	1.008	mg/L	0.0039	0.39%
Zn 206.200†	3382.0	1.024	mg/L	0.0146	1.024	mg/L	0.0146	1.42%

Sequence No.: 19
 Sample ID: CBr/
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/31/2014 10:27:27 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2831367.2	100.2	%	0.59			0.59%
ScR 361.383	240291.5	101.6	%	0.71			0.70%
Ag 328.068†	44.7	0.00023	mg/L	0.000200	0.00023 mg/L	0.000200	86.74%
Al 308.215†	4.9	0.00392	mg/L	0.004846	0.00392 mg/L	0.004846	123.57%
As 188.979†	1.4	0.00079	mg/L	0.001508	0.00079 mg/L	0.001508	190.28%
B 249.677†	11.4	0.00208	mg/L	0.000759	0.00208 mg/L	0.000759	36.48%
Ba 233.527†	4.1	0.00109	mg/L	0.000677	0.00109 mg/L	0.000677	62.25%
Be 313.042†	54.0	0.00011	mg/L	0.000032	0.00011 mg/L	0.000032	28.07%
Ca 317.933†	4.9	0.00053	mg/L	0.000553	0.00053 mg/L	0.000553	105.27%
Cd 228.802†	-3.0	-0.00010	mg/L	0.000076	-0.00010 mg/L	0.000076	78.53%
Co 228.616†	-0.9	-0.00002	mg/L	0.000050	-0.00002 mg/L	0.000050	209.03%
Cr 267.716†	-0.5	-0.00011	mg/L	0.000799	-0.00011 mg/L	0.000799	738.14%
Cu 324.752†	-134.7	-0.00048	mg/L	0.000291	-0.00048 mg/L	0.000291	60.59%
Fe 273.955†	1.4	0.00126	mg/L	0.003345	0.00126 mg/L	0.003345	265.04%
K 766.490†	26.3	0.01227	mg/L	0.009639	0.01227 mg/L	0.009639	78.55%
Mg 279.077†	4.6	0.00419	mg/L	0.003650	0.00419 mg/L	0.003650	87.01%
Mn 257.610†	2.6	0.00008	mg/L	0.000044	0.00008 mg/L	0.000044	52.27%
Mo 202.031†	18.3	0.00099	mg/L	0.000492	0.00099 mg/L	0.000492	49.53%
Na 589.592†	68.6	0.00535	mg/L	0.002129	0.00535 mg/L	0.002129	39.82%
Na 330.237†	6.9	0.3352	mg/L	0.28843	0.3352 mg/L	0.28843	86.06%
Ni 231.604†	-5.4	-0.00166	mg/L	0.001095	-0.00166 mg/L	0.001095	66.05%
Pb 220.353†	2.3	0.00029	mg/L	0.001112	0.00029 mg/L	0.001112	388.54%
Sb 206.836†	25.5	0.00820	mg/L	0.001600	0.00820 mg/L	0.001600	19.51%
Se 196.026†	4.0	0.00288	mg/L	0.003691	0.00288 mg/L	0.003691	128.00%
Si 288.158†	-7.1	-0.00416	mg/L	0.000978	-0.00416 mg/L	0.000978	23.47%
Sn 189.927†	3.7	0.00111	mg/L	0.000601	0.00111 mg/L	0.000601	54.39%
Sr 421.552†	124.5	0.00016	mg/L	0.000095	0.00016 mg/L	0.000095	60.82%
Ti 334.903†	-1.7	-0.00010	mg/L	0.000579	-0.00010 mg/L	0.000579	554.40%
Tl 190.801†	5.0	0.00241	mg/L	0.002101	0.00241 mg/L	0.002101	87.21%
V 292.402†	-5.9	-0.00004	mg/L	0.000187	-0.00004 mg/L	0.000187	478.74%
Zn 206.200†	1.5	0.00047	mg/L	0.000455	0.00047 mg/L	0.000455	97.47%

Sequence No.: 20
 Sample ID: YE24 MB TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 314
 Date Collected: 3/31/2014 10:31:27 AM
 Data Type: Original

Nebulizer Parameters: YE24 MB TWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE24 MB TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
SCA 357.253	2887692.4	102.2	%	0.29			0.28%
SCR 361.383	244638.5	103.4	%	0.59			0.57%
Ag 328.068†	23.7	0.00012	mg/L	0.000100	0.00012	0.000100	81.75%
Al 308.215†	2.5	0.00198	mg/L	0.002465	0.00198	0.002465	124.27%
As 188.979†	0.8	0.00045	mg/L	0.001764	0.00045	0.001764	389.43%
B 249.677†	-6.0	-0.00110	mg/L	0.000869	-0.00110	0.000869	79.19%
Ba 233.527†	2.3	0.00061	mg/L	0.001033	0.00061	0.001033	169.61%
Be 313.042†	-12.9	-0.00003	mg/L	0.000010	-0.00003	0.000010	37.68%
Ca 317.933†	63.1	0.00672	mg/L	0.000371	0.00672	0.000371	5.53%
Cd 228.802†	-8.4	-0.00026	mg/L	0.000061	-0.00026	0.000061	23.33%
Co 228.616†	-3.7	-0.00009	mg/L	0.000149	-0.00009	0.000149	159.11%
Cr 267.716†	3.9	0.00081	mg/L	0.001342	0.00081	0.001342	165.62%
Cu 324.752†	-171.7	-0.00061	mg/L	0.000208	-0.00061	0.000208	34.01%
Fe 273.955†	11.1	0.01012	mg/L	0.002523	0.01012	0.002523	24.93%
K 766.490†	-43.7	-0.02041	mg/L	0.003436	-0.02041	0.003436	16.84%
Mg 279.077†	2.6	0.00234	mg/L	0.007408	0.00234	0.007408	316.38%
Mn 257.610†	4.5	0.00015	mg/L	0.000116	0.00015	0.000116	79.02%
Mo 202.031†	2.8	0.00015	mg/L	0.000193	0.00015	0.000193	127.02%
Na 589.592†	54.7	0.00427	mg/L	0.002239	0.00427	0.002239	52.48%
Na 330.237†	1.7	0.08358	mg/L	0.311474	0.08358	0.311474	372.67%
Ni 231.604†	-5.1	-0.00157	mg/L	0.000485	-0.00157	0.000485	30.80%
Pb 220.353†	-7.7	-0.00094	mg/L	0.000347	-0.00094	0.000347	36.77%
Sb 206.836†	5.0	0.00162	mg/L	0.001257	0.00162	0.001257	77.83%
Se 196.026†	7.5	0.00548	mg/L	0.001446	0.00548	0.001446	26.39%
Si 288.158†	6.7	0.00393	mg/L	0.000783	0.00393	0.000783	19.94%
Sn 189.927†	2.2	0.00066	mg/L	0.001003	0.00066	0.001003	153.03%
Sr 421.552†	43.0	0.00005	mg/L	0.000008	0.00005	0.000008	14.45%
Ti 334.903†	-12.1	-0.00076	mg/L	0.000482	-0.00076	0.000482	63.77%
Tl 190.801†	0.5	0.00023	mg/L	0.003190	0.00023	0.003190	>999.9%
V 292.402†	-19.0	-0.00012	mg/L	0.000099	-0.00012	0.000099	80.09%
Zn 206.200†	4.9	0.00148	mg/L	0.000642	0.00148	0.000642	43.35%

Sequence No.: 21
 Sample ID: YE31 MB DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 315
 Date Collected: 3/31/2014 10:35:28 AM
 Data Type: Original

Nebulizer Parameters: YE31 MB DMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: YE31 MB DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2939545.8	104.0	%	0.27				0.26%
ScR 361.383	245943.1	104.0	%	1.58				1.52%
Ag 328.068†	-4.7	-0.00002	mg/L	0.000336	-0.00002	mg/L	0.000336	>999.9%
Al 308.215†	116.6	0.09307	mg/L	0.004198	0.09307	mg/L	0.004198	4.51%
As 188.979†	5.5	0.00323	mg/L	0.000765	0.00323	mg/L	0.000765	23.69%
B 249.677†	108.8	0.01988	mg/L	0.000827	0.01988	mg/L	0.000827	4.16%
Ba 233.527†	3.5	0.00095	mg/L	0.000284	0.00095	mg/L	0.000284	30.00%
Be 313.042†	-8.3	-0.00002	mg/L	0.000022	-0.00002	mg/L	0.000022	130.83%
Ca 317.933†	1928.7	0.2052	mg/L	0.00033	0.2052	mg/L	0.00033	0.16%
Cd 228.802†	-7.7	-0.00025	mg/L	0.000105	-0.00025	mg/L	0.000105	41.35%
Co 228.616†	11.9	0.00031	mg/L	0.000060	0.00031	mg/L	0.000060	19.47%
Cr 267.716†	-5.5	-0.00115	mg/L	0.001477	-0.00115	mg/L	0.001477	128.24%
Cu 324.752†	-232.5	-0.00083	mg/L	0.000088	-0.00083	mg/L	0.000088	10.62%
Fe 273.955†	2.2	0.00198	mg/L	0.001888	0.00198	mg/L	0.001888	95.25%
K 766.490†	-40.7	-0.01903	mg/L	0.020934	-0.01903	mg/L	0.020934	110.00%
Mg 279.077†	4.1	0.00367	mg/L	0.006472	0.00367	mg/L	0.006472	176.45%
Mn 257.610†	-2.9	-0.00010	mg/L	0.000071	-0.00010	mg/L	0.000071	72.61%
Mo 202.031†	-10.3	-0.00057	mg/L	0.000070	-0.00057	mg/L	0.000070	12.37%
Na 589.592†	148.8	0.01160	mg/L	0.001709	0.01160	mg/L	0.001709	14.73%
Na 330.237†	3.5	0.1697	mg/L	0.19014	0.1697	mg/L	0.19014	112.02%
Ni 231.604†	-0.9	-0.00027	mg/L	0.001334	-0.00027	mg/L	0.001334	494.11%
Pb 220.353†	-3.5	-0.00040	mg/L	0.000473	-0.00040	mg/L	0.000473	117.06%
Sb 206.836†	-9.2	-0.00294	mg/L	0.001693	-0.00294	mg/L	0.001693	57.51%
Se 196.026†	13.1	0.00954	mg/L	0.003394	0.00954	mg/L	0.003394	35.59%
Si 288.158†	-18.9	-0.01103	mg/L	0.004742	-0.01103	mg/L	0.004742	42.99%
Sn 189.927†	0.9	0.00028	mg/L	0.000989	0.00028	mg/L	0.000989	352.62%
Sr 421.552†	875.1	0.00110	mg/L	0.000050	0.00110	mg/L	0.000050	4.55%
Ti 334.903†	-5.2	-0.00034	mg/L	0.000527	-0.00034	mg/L	0.000527	155.89%
Tl 190.801†	4.9	0.00233	mg/L	0.001061	0.00233	mg/L	0.001061	45.61%
V 292.402†	-21.0	-0.00014	mg/L	0.000106	-0.00014	mg/L	0.000106	73.27%
Zn 206.200†	3.4	0.00104	mg/L	0.000107	0.00104	mg/L	0.000107	10.32%

Sequence No.: 22
 Sample ID: YE31 A DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 316
 Date Collected: 3/31/2014 10:39:27 AM
 Data Type: Original

Nebulizer Parameters: YE31 A DMN
 Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE31 A DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2909554.1	103.0	%	0.70			0.68%
ScR 361.383	247761.9	104.7	%	0.83			0.79%
Ag 328.068†	31.3	0.00018	mg/L	0.000089	0.00018 mg/L	0.000089	49.60%
Al 308.215†	100.3	0.08004	mg/L	0.007178	0.08004 mg/L	0.007178	8.97%
As 188.979†	6.6	0.00368	mg/L	0.000853	0.00368 mg/L	0.000853	23.21%
B 249.677†	57.1	0.01044	mg/L	0.000683	0.01044 mg/L	0.000683	6.55%
Ba 233.527†	21.8	0.00584	mg/L	0.000369	0.00584 mg/L	0.000369	6.31%
Be 313.042†	-6.2	-0.00001	mg/L	0.000027	-0.00001 mg/L	0.000027	211.65%
Ca 317.933†	27036.6	2.876	mg/L	0.0130	2.876 mg/L	0.0130	0.45%
Cd 228.802†	-9.7	-0.00032	mg/L	0.000122	-0.00032 mg/L	0.000122	38.33%
Co 228.616†	10.5	0.00027	mg/L	0.000125	0.00027 mg/L	0.000125	46.44%
Cr 267.716†	1.6	0.00023	mg/L	0.000902	0.00023 mg/L	0.000902	391.31%
Cu 324.752†	-189.2	-0.00069	mg/L	0.000123	-0.00069 mg/L	0.000123	17.91%
Fe 273.955†	12.3	0.01120	mg/L	0.002018	0.01120 mg/L	0.002018	18.01%
K 766.490†	3275.7	1.530	mg/L	0.0215	1.530 mg/L	0.0215	1.41%
Mg 279.077†	845.2	0.7697	mg/L	0.00960	0.7697 mg/L	0.00960	1.25%
Mn 257.610†	106.5	0.00349	mg/L	0.000146	0.00349 mg/L	0.000146	4.19%
Mo 202.031†	-2.3	-0.00017	mg/L	0.000111	-0.00017 mg/L	0.000111	66.44%
Na 589.592†	30950.0	2.412	mg/L	0.0098	2.412 mg/L	0.0098	0.41%
Na 330.237†	54.9	2.647	mg/L	0.3095	2.647 mg/L	0.3095	11.69%
Ni 231.604†	-4.6	-0.00142	mg/L	0.000821	-0.00142 mg/L	0.000821	57.77%
Pb 220.353†	-3.9	-0.00046	mg/L	0.000967	-0.00046 mg/L	0.000967	207.99%
Sb 206.836†	-12.0	-0.00387	mg/L	0.000047	-0.00387 mg/L	0.000047	1.20%
Se 196.026†	10.8	0.00786	mg/L	0.001756	0.00786 mg/L	0.001756	22.35%
Si 288.158†	3716.0	2.173	mg/L	0.0165	2.173 mg/L	0.0165	0.76%
Sn 189.927†	-2.0	-0.00023	mg/L	0.000660	-0.00023 mg/L	0.000660	284.04%
Sr 421.552†	32051.4	0.04025	mg/L	0.000112	0.04025 mg/L	0.000112	0.28%
Ti 334.903†	13.1	0.00061	mg/L	0.000211	0.00061 mg/L	0.000211	34.33%
Tl 190.801†	7.2	0.00346	mg/L	0.001614	0.00346 mg/L	0.001614	46.71%
V 292.402†	15.5	0.00010	mg/L	0.000223	0.00010 mg/L	0.000223	213.61%
Zn 206.200†	-0.3	0.00031	mg/L	0.000276	0.00031 mg/L	0.000276	87.90%

Sequence No.: 23
 Sample ID: YE24 C TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 317
 Date Collected: 3/31/2014 10:43:42 AM
 Data Type: Original

Nebulizer Parameters: YE24 C TWC

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE24 C TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2730083.6	96.63	%	0.461			0.48%
ScR 361.383	237444.4	100.4	%	0.44			0.43%
Ag 328.068†	67.7	0.00037	mg/L	0.000094	0.00037 mg/L	0.000094	25.69%
Al 308.215†	9514.3	7.589	mg/L	0.0088	7.589 mg/L	0.0088	0.12%
As 188.979†	11.2	0.00680	mg/L	0.001402	0.00680 mg/L	0.001402	20.62%
B 249.677†	978.0	0.1788	mg/L	0.00036	0.1788 mg/L	0.00036	0.20%
Ba 233.527†	312.8	0.08364	mg/L	0.000709	0.08364 mg/L	0.000709	0.85%
Be 313.042†	-4.7	-0.00001	mg/L	0.000022	-0.00001 mg/L	0.000022	193.91%
Ca 317.933†	24189.3	2.573	mg/L	0.0039	2.573 mg/L	0.0039	0.15%
Cd 228.802†	46.7	0.00140	mg/L	0.000112	0.00140 mg/L	0.000112	7.96%
Co 228.616†	164.2	0.00421	mg/L	0.000115	0.00421 mg/L	0.000115	2.73%
Cr 267.716†	52.3	0.01085	mg/L	0.000989	0.01085 mg/L	0.000989	9.11%
Cu 324.752†	72896.5	0.2599	mg/L	0.00085	0.2599 mg/L	0.00085	0.33%
Fe 273.955†	1060.4	0.9629	mg/L	0.00674	0.9629 mg/L	0.00674	0.70%
K 766.490†	15416.6	7.201	mg/L	0.0238	7.201 mg/L	0.0238	0.33%
Mg 279.077†	834.8	0.7600	mg/L	0.00399	0.7600 mg/L	0.00399	0.52%
Mn 257.610†	616.9	0.02028	mg/L	0.000202	0.02028 mg/L	0.000202	1.00%
Mo 202.031†	993.0	0.05391	mg/L	0.000279	0.05391 mg/L	0.000279	0.52%
Na 589.592†	5417057.2	422.2	mg/L	3.35	422.2 mg/L	3.35	0.79%
Na 330.237†	8714.4	423.1	mg/L	1.41	423.1 mg/L	1.41	0.33%
Ni 231.604†	40.6	0.01251	mg/L	0.001079	0.01251 mg/L	0.001079	8.62%
Pb 220.353†	111.8	0.01526	mg/L	0.000075	0.01526 mg/L	0.000075	0.49%
Sb 206.836†	64.7	0.02076	mg/L	0.001410	0.02076 mg/L	0.001410	6.79%
Se 196.026†	7.9	0.00577	mg/L	0.000772	0.00577 mg/L	0.000772	13.37%
Si 288.158†	4733.1	2.767	mg/L	0.0131	2.767 mg/L	0.0131	0.47%
Sn 189.927†	24.9	0.00766	mg/L	0.000345	0.00766 mg/L	0.000345	4.50%
Sr 421.552†	11494.8	0.01444	mg/L	0.000017	0.01444 mg/L	0.000017	0.12%
Ti 334.903†	290.0	0.01789	mg/L	0.000649	0.01789 mg/L	0.000649	3.63%
Tl 190.801†	9.9	0.00490	mg/L	0.001889	0.00490 mg/L	0.001889	38.51%
V 292.402†	944.6	0.00631	mg/L	0.000089	0.00631 mg/L	0.000089	1.41%
Zn 206.200†	500.5	0.1519	mg/L	0.00072	0.1519 mg/L	0.00072	0.47%

Sequence No.: 24
 Sample ID: YE29 A DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 318
 Date Collected: 3/31/2014 10:47:59 AM
 Data Type: Original

Nebulizer Parameters: YE29 A DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 A DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2905587.9	102.8	%	0.48			0.47%
ScR 361.383	247416.1	104.6	%	1.22			1.17%
Ag 328.068†	34.5	0.00024	mg/L	0.000073	0.00024 mg/L	0.000073	30.94%
Al 308.215†	20.2	0.01608	mg/L	0.007507	0.01608 mg/L	0.007507	46.68%
As 188.979†	11.4	0.00588	mg/L	0.002407	0.00588 mg/L	0.002407	40.96%
B 249.677†	68.0	0.01242	mg/L	0.000880	0.01242 mg/L	0.000880	7.09%
Ba 233.527†	11.4	0.00303	mg/L	0.001124	0.00303 mg/L	0.001124	37.15%
Be 313.042†	-8.5	-0.00002	mg/L	0.000025	-0.00002 mg/L	0.000025	143.05%
Ca 317.933†	91783.3	9.763	mg/L	0.0759	9.763 mg/L	0.0759	0.78%
Cd 228.802†	-10.7	-0.00037	mg/L	0.000063	-0.00037 mg/L	0.000063	17.27%
Co 228.616†	15.9	0.00041	mg/L	0.000117	0.00041 mg/L	0.000117	28.56%
Cr 267.716†	-2.4	-0.00080	mg/L	0.000217	-0.00080 mg/L	0.000217	27.18%
Cu 324.752†	7.7	-0.00001	mg/L	0.000205	-0.00001 mg/L	0.000205	>999.9%
Fe 273.955†	144.9	0.1316	mg/L	0.00314	0.1316 mg/L	0.00314	2.39%
K 766.490†	1547.1	0.7227	mg/L	0.00935	0.7227 mg/L	0.00935	1.29%
Mg 279.077†	2580.6	2.350	mg/L	0.0199	2.350 mg/L	0.0199	0.85%
Mn 257.610†	307.3	0.01008	mg/L	0.000124	0.01008 mg/L	0.000124	1.23%
Mo 202.031†	14.9	0.00066	mg/L	0.000034	0.00066 mg/L	0.000034	5.19%
Na 589.592†	59425.5	4.632	mg/L	0.0025	4.632 mg/L	0.0025	0.05%
Na 330.237†	105.4	5.055	mg/L	0.1488	5.055 mg/L	0.1488	2.94%
Ni 231.604†	-3.5	-0.00109	mg/L	0.001283	-0.00109 mg/L	0.001283	117.46%
Pb 220.353†	-11.9	-0.00147	mg/L	0.000521	-0.00147 mg/L	0.000521	35.50%
Sb 206.836†	-8.8	-0.00283	mg/L	0.001604	-0.00283 mg/L	0.001604	56.63%
Se 196.026†	11.1	0.00811	mg/L	0.005265	0.00811 mg/L	0.005265	64.95%
Si 288.158†	16168.0	9.453	mg/L	0.0312	9.453 mg/L	0.0312	0.33%
Sn 189.927†	-11.2	-0.00211	mg/L	0.000630	-0.00211 mg/L	0.000630	29.81%
Sr 421.552†	43318.9	0.05440	mg/L	0.000041	0.05440 mg/L	0.000041	0.08%
Ti 334.903†	7.1	-0.00024	mg/L	0.000183	-0.00024 mg/L	0.000183	75.27%
Tl 190.801†	9.3	0.00447	mg/L	0.000675	0.00447 mg/L	0.000675	15.12%
V 292.402†	18.3	0.00011	mg/L	0.000047	0.00011 mg/L	0.000047	41.16%
Zn 206.200†	21.7	0.00833	mg/L	0.000373	0.00833 mg/L	0.000373	4.48%

Sequence No.: 25
 Sample ID: YE29 B DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 319
 Date Collected: 3/31/2014 10:51:59 AM
 Data Type: Original

Nebulizer Parameters: YE29 B DMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE29 B DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2937446.3	104.0 %		0.10			0.09%
ScR 361.383	248255.6	104.9 %		0.91			0.87%
Ag 328.068†	22.0	0.00013 mg/L		0.000114	0.00013 mg/L	0.000114	89.09%
Al 308.215†	109.4	0.08729 mg/L		0.004532	0.08729 mg/L	0.004532	5.19%
As 188.979†	4.8	0.00259 mg/L		0.001421	0.00259 mg/L	0.001421	54.87%
B 249.677†	64.9	0.01187 mg/L		0.000930	0.01187 mg/L	0.000930	7.83%
Ba 233.527†	7.0	0.00188 mg/L		0.000797	0.00188 mg/L	0.000797	42.30%
Be 313.042†	-7.1	-0.00001 mg/L		0.000014	-0.00001 mg/L	0.000014	98.34%
Ca 317.933†	22915.7	2.437 mg/L		0.0060	2.437 mg/L	0.0060	0.25%
Cd 228.802†	-6.2	-0.00020 mg/L		0.000222	-0.00020 mg/L	0.000222	108.76%
Co 228.616†	9.0	0.00023 mg/L		0.000088	0.00023 mg/L	0.000088	37.90%
Cr 267.716†	1.6	0.00023 mg/L		0.001168	0.00023 mg/L	0.001168	512.74%
Cu 324.752†	118.7	0.00041 mg/L		0.000086	0.00041 mg/L	0.000086	20.88%
Fe 273.955†	15.8	0.01437 mg/L		0.002070	0.01437 mg/L	0.002070	14.41%
K 766.490†	616.5	0.2880 mg/L		0.01687	0.2880 mg/L	0.01687	5.86%
Mg 279.077†	1155.0	1.052 mg/L		0.0093	1.052 mg/L	0.0093	0.88%
Mn 257.610†	62.7	0.00205 mg/L		0.000037	0.00205 mg/L	0.000037	1.82%
Mo 202.031†	-7.5	-0.00045 mg/L		0.000092	-0.00045 mg/L	0.000092	20.68%
Na 589.592†	36071.8	2.812 mg/L		0.0107	2.812 mg/L	0.0107	0.38%
Na 330.237†	63.7	3.015 mg/L		0.1879	3.015 mg/L	0.1879	6.23%
Ni 231.604†	-1.1	-0.00034 mg/L		0.000988	-0.00034 mg/L	0.000988	288.24%
Pb 220.353†	-2.3	-0.00027 mg/L		0.000906	-0.00027 mg/L	0.000906	338.35%
Sb 206.836†	-9.0	-0.00290 mg/L		0.002536	-0.00290 mg/L	0.002536	87.32%
Se 196.026†	13.4	0.00979 mg/L		0.004178	0.00979 mg/L	0.004178	42.68%
Si 288.158†	8874.2	5.189 mg/L		0.0165	5.189 mg/L	0.0165	0.32%
Sn 189.927†	-3.5	-0.00073 mg/L		0.001361	-0.00073 mg/L	0.001361	185.42%
Sr 421.552†	12040.7	0.01512 mg/L		0.000040	0.01512 mg/L	0.000040	0.26%
Ti 334.903†	-2.3	-0.00032 mg/L		0.000336	-0.00032 mg/L	0.000336	106.26%
Tl 190.801†	8.1	0.00387 mg/L		0.000958	0.00387 mg/L	0.000958	24.75%
V 292.402†	9.2	0.00006 mg/L		0.000118	0.00006 mg/L	0.000118	189.96%
Zn 206.200†	707.5	0.2150 mg/L		0.00170	0.2150 mg/L	0.00170	0.79%

Sequence No.: 26
 Sample ID: YE29 C DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 320
 Date Collected: 3/31/2014 10:55:58 AM
 Data Type: Original

Nebulizer Parameters: YE29 C DMN
 Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 C DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2915287.1	103.2	%	0.60				0.58%
ScR 361.383	248358.9	105.0	%	0.49				0.46%
Ag 328.068†	33.0	0.00021	mg/L	0.000115	0.00021	mg/L	0.000115	54.55%
Al 308.215†	41.8	0.03334	mg/L	0.003588	0.03334	mg/L	0.003588	10.76%
As 188.979†	10.6	0.00568	mg/L	0.001867	0.00568	mg/L	0.001867	32.85%
B 249.677†	42.9	0.00784	mg/L	0.000909	0.00784	mg/L	0.000909	11.59%
Ba 233.527†	16.8	0.00447	mg/L	0.000763	0.00447	mg/L	0.000763	17.06%
Be 313.042†	0.3	0.00000	mg/L	0.000023	0.00000	mg/L	0.000023	>999.9%
Ca 317.933†	62095.1	6.605	mg/L	0.0367	6.605	mg/L	0.0367	0.56%
Cd 228.802†	-9.6	-0.00033	mg/L	0.000200	-0.00033	mg/L	0.000200	60.64%
Co 228.616†	17.6	0.00045	mg/L	0.000013	0.00045	mg/L	0.000013	2.77%
Cr 267.716†	-2.2	-0.00072	mg/L	0.000705	-0.00072	mg/L	0.000705	98.10%
Cu 324.752†	-219.5	-0.00081	mg/L	0.000115	-0.00081	mg/L	0.000115	14.23%
Fe 273.955†	107.1	0.09723	mg/L	0.001882	0.09723	mg/L	0.001882	1.94%
K 766.490†	1307.4	0.6107	mg/L	0.00562	0.6107	mg/L	0.00562	0.92%
Mg 279.077†	2407.2	2.192	mg/L	0.0131	2.192	mg/L	0.0131	0.60%
Mn 257.610†	266.8	0.00876	mg/L	0.000172	0.00876	mg/L	0.000172	1.96%
Mo 202.031†	3.6	0.00009	mg/L	0.000142	0.00009	mg/L	0.000142	151.68%
Na 589.592†	58399.9	4.552	mg/L	0.0104	4.552	mg/L	0.0104	0.23%
Na 330.237†	105.6	5.085	mg/L	0.3991	5.085	mg/L	0.3991	7.85%
Ni 231.604†	-1.3	-0.00039	mg/L	0.001718	-0.00039	mg/L	0.001718	441.78%
Pb 220.353†	-7.0	-0.00085	mg/L	0.000185	-0.00085	mg/L	0.000185	21.71%
Sb 206.836†	-6.1	-0.00198	mg/L	0.001476	-0.00198	mg/L	0.001476	74.50%
Se 196.026†	12.9	0.00942	mg/L	0.004434	0.00942	mg/L	0.004434	47.06%
Si 288.158†	7349.3	4.297	mg/L	0.0079	4.297	mg/L	0.0079	0.18%
Sn 189.927†	-8.3	-0.00165	mg/L	0.000318	-0.00165	mg/L	0.000318	19.30%
Sr 421.552†	30433.2	0.03822	mg/L	0.000051	0.03822	mg/L	0.000051	0.13%
Ti 334.903†	8.5	0.00007	mg/L	0.000164	0.00007	mg/L	0.000164	244.25%
Tl 190.801†	12.3	0.00592	mg/L	0.002585	0.00592	mg/L	0.002585	43.69%
V 292.402†	-8.5	-0.00006	mg/L	0.000095	-0.00006	mg/L	0.000095	151.66%
Zn 206.200†	5.4	0.00243	mg/L	0.000384	0.00243	mg/L	0.000384	15.78%

Sequence No.: 27
 Sample ID: YE29 D DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 321
 Date Collected: 3/31/2014 10:59:57 AM
 Data Type: Original

Nebulizer Parameters: YE29 D DMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE29 D DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2935091.5	103.9	%	0.45				0.43%
ScR 361.383	249656.4	105.5	%	0.32				0.31%
Ag 328.068†	32.3	0.00021	mg/L	0.000105	0.00021	mg/L	0.000105	50.71%
Al 308.215†	36.3	0.02898	mg/L	0.003035	0.02898	mg/L	0.003035	10.47%
As 188.979†	8.7	0.00459	mg/L	0.001089	0.00459	mg/L	0.001089	23.71%
B 249.677†	60.6	0.01106	mg/L	0.000348	0.01106	mg/L	0.000348	3.15%
Ba 233.527†	18.6	0.00496	mg/L	0.000487	0.00496	mg/L	0.000487	9.81%
Be 313.042†	-8.3	-0.00002	mg/L	0.000015	-0.00002	mg/L	0.000015	87.78%
Ca 317.933†	61351.4	6.526	mg/L	0.0312	6.526	mg/L	0.0312	0.48%
Cd 228.802†	-13.3	-0.00043	mg/L	0.000166	-0.00043	mg/L	0.000166	38.29%
Co 228.616†	17.0	0.00044	mg/L	0.000104	0.00044	mg/L	0.000104	23.87%
Cr 267.716†	3.9	0.00056	mg/L	0.000523	0.00056	mg/L	0.000523	92.69%
Cu 324.752†	-227.7	-0.00084	mg/L	0.000169	-0.00084	mg/L	0.000169	20.10%
Fe 273.955†	61.7	0.05604	mg/L	0.001263	0.05604	mg/L	0.001263	2.25%
K 766.490†	1383.3	0.6462	mg/L	0.01465	0.6462	mg/L	0.01465	2.27%
Mg 279.077†	2513.9	2.290	mg/L	0.0048	2.290	mg/L	0.0048	0.21%
Mn 257.610†	119.5	0.00390	mg/L	0.000123	0.00390	mg/L	0.000123	3.15%
Mo 202.031†	1.6	-0.00001	mg/L	0.000138	-0.00001	mg/L	0.000138	>999.9%
Na 589.592†	57326.9	4.468	mg/L	0.0071	4.468	mg/L	0.0071	0.16%
Na 330.237†	98.0	4.719	mg/L	0.2953	4.719	mg/L	0.2953	6.26%
Ni 231.604†	-1.0	-0.00030	mg/L	0.001122	-0.00030	mg/L	0.001122	374.59%
Pb 220.353†	-0.5	-0.00006	mg/L	0.000184	-0.00006	mg/L	0.000184	321.00%
Sb 206.836†	-11.0	-0.00355	mg/L	0.001431	-0.00355	mg/L	0.001431	40.34%
Se 196.026†	15.0	0.01097	mg/L	0.000695	0.01097	mg/L	0.000695	6.34%
Si 288.158†	7323.7	4.282	mg/L	0.0056	4.282	mg/L	0.0056	0.13%
Sn 189.927†	-6.0	-0.00098	mg/L	0.000661	-0.00098	mg/L	0.000661	67.71%
Sr 421.552†	36338.4	0.04564	mg/L	0.000012	0.04564	mg/L	0.000012	0.03%
Ti 334.903†	12.1	0.00030	mg/L	0.000433	0.00030	mg/L	0.000433	146.18%
Tl 190.801†	8.8	0.00423	mg/L	0.000203	0.00423	mg/L	0.000203	4.79%
V 292.402†	18.9	0.00013	mg/L	0.000270	0.00013	mg/L	0.000270	213.34%
Zn 206.200†	1.4	0.00122	mg/L	0.000446	0.00122	mg/L	0.000446	36.45%

Sequence No.: 28
 Sample ID: YE31 MBSPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 322
 Date Collected: 3/31/2014 11:03:57 AM
 Data Type: Original

Nebulizer Parameters: YE31 MBSPK DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE31 MBSPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2901082.3	102.7 %		0.33			0.33%
ScR 361.383	246402.7	104.2 %		0.24			0.23%
Ag 328.068†	97890.4	0.5057 mg/L		0.00254	0.5057 mg/L	0.00254	0.50%
Al 308.215†	2659.5	2.115 mg/L		0.0194	2.115 mg/L	0.0194	0.92%
As 188.979†	3595.3	2.114 mg/L		0.0047	2.114 mg/L	0.0047	0.22%
B 249.677†	111.1	0.01925 mg/L		0.000833	0.01925 mg/L	0.000833	4.33%
Ba 233.527†	7360.8	1.971 mg/L		0.0132	1.971 mg/L	0.0132	0.67%
Be 313.042†	230339.6	0.4789 mg/L		0.00288	0.4789 mg/L	0.00288	0.60%
Ca 317.933†	97741.3	10.40 mg/L		0.038	10.40 mg/L	0.038	0.37%
Cd 228.802†	17579.5	0.5291 mg/L		0.00122	0.5291 mg/L	0.00122	0.23%
Co 228.616†	19168.4	0.4945 mg/L		0.00075	0.4945 mg/L	0.00075	0.15%
Cr 267.716†	2463.7	0.5130 mg/L		0.00185	0.5130 mg/L	0.00185	0.36%
Cu 324.752†	136852.9	0.4879 mg/L		0.00158	0.4879 mg/L	0.00158	0.32%
Fe 273.955†	2305.9	2.091 mg/L		0.0026	2.091 mg/L	0.0026	0.12%
K 766.490†	21969.6	10.26 mg/L		0.046	10.26 mg/L	0.046	0.45%
Mg 279.077†	11360.1	10.35 mg/L		0.032	10.35 mg/L	0.032	0.31%
Mn 257.610†	14827.0	0.4893 mg/L		0.00404	0.4893 mg/L	0.00404	0.82%
Mo 202.031†	19.1	0.00087 mg/L		0.000242	0.00087 mg/L	0.000242	27.69%
Na 589.592†	130304.5	10.16 mg/L		0.084	10.16 mg/L	0.084	0.83%
Na 330.237†	222.6	10.60 mg/L		0.041	10.60 mg/L	0.041	0.39%
Ni 231.604†	1626.6	0.5006 mg/L		0.00223	0.5006 mg/L	0.00223	0.45%
Pb 220.353†	16717.1	2.057 mg/L		0.0062	2.057 mg/L	0.0062	0.30%
Sb 206.836†	3.3	-0.00385 mg/L		0.001697	-0.00385 mg/L	0.001697	44.11%
Se 196.026†	3136.1	2.287 mg/L		0.0083	2.287 mg/L	0.0083	0.36%
Si 288.158†	-25.9	-0.01153 mg/L		0.001702	-0.01153 mg/L	0.001702	14.76%
Sn 189.927†	-15.7	-0.00329 mg/L		0.000682	-0.00329 mg/L	0.000682	20.76%
Sr 421.552†	395834.5	0.4971 mg/L		0.00356	0.4971 mg/L	0.00356	0.72%
Ti 334.903†	17.7	0.00027 mg/L		0.000332	0.00027 mg/L	0.000332	122.33%
Tl 190.801†	4261.3	2.035 mg/L		0.0037	2.035 mg/L	0.0037	0.18%
V 292.402†	74016.5	0.4956 mg/L		0.00232	0.4956 mg/L	0.00232	0.47%
Zn 206.200†	1686.9	0.5107 mg/L		0.00259	0.5107 mg/L	0.00259	0.51%

Sequence No.: 29
 Sample ID: YE24 MBSPK TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 323
 Date Collected: 3/31/2014 11:07:57 AM
 Data Type: Original

Nebulizer Parameters: YE24 MBSPK TWC
 Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE24 MBSPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2876051.4	101.8 %	1.03			1.01%
ScR 361.383	241634.3	102.1 %	1.03			1.00%
Ag 328.068†	103731.1	0.5359 mg/L	0.00732	0.5359 mg/L	0.00732	1.37%
Al 308.215†	2666.6	2.120 mg/L	0.0229	2.120 mg/L	0.0229	1.08%
As 188.979†	3596.4	2.114 mg/L	0.0251	2.114 mg/L	0.0251	1.19%
B 249.677†	4.6	-0.00024 mg/L	0.000844	-0.00024 mg/L	0.000844	353.54%
Ba 233.527†	7799.7	2.089 mg/L	0.0178	2.089 mg/L	0.0178	0.85%
Be 313.042†	251733.2	0.5234 mg/L	0.00478	0.5234 mg/L	0.00478	0.91%
Ca 317.933†	98809.8	10.51 mg/L	0.021	10.51 mg/L	0.021	0.20%
Cd 228.802†	17462.3	0.5256 mg/L	0.00497	0.5256 mg/L	0.00497	0.95%
Co 228.616†	19802.3	0.5109 mg/L	0.00510	0.5109 mg/L	0.00510	1.00%
Cr 267.716†	2589.6	0.5392 mg/L	0.00799	0.5392 mg/L	0.00799	1.48%
Cu 324.752†	142531.7	0.5082 mg/L	0.00460	0.5082 mg/L	0.00460	0.91%
Fe 273.955†	2443.9	2.216 mg/L	0.0261	2.216 mg/L	0.0261	1.18%
K 766.490†	22593.1	10.55 mg/L	0.067	10.55 mg/L	0.067	0.64%
Mg 279.077†	11825.0	10.77 mg/L	0.147	10.77 mg/L	0.147	1.36%
Mn 257.610†	15461.2	0.5102 mg/L	0.00315	0.5102 mg/L	0.00315	0.62%
Mo 202.031†	22.4	0.00105 mg/L	0.000184	0.00105 mg/L	0.000184	17.53%
Na 589.592†	134265.8	10.47 mg/L	0.066	10.47 mg/L	0.066	0.63%
Na 330.237†	233.0	11.10 mg/L	0.043	11.10 mg/L	0.043	0.39%
Ni 231.604†	1709.2	0.5261 mg/L	0.00664	0.5261 mg/L	0.00664	1.26%
Pb 220.353†	17085.0	2.103 mg/L	0.0254	2.103 mg/L	0.0254	1.21%
Sb 206.836†	17.7	0.00049 mg/L	0.000664	0.00049 mg/L	0.000664	135.97%
Se 196.026†	2886.3	2.105 mg/L	0.0230	2.105 mg/L	0.0230	1.09%
Si 288.158†	7.0	0.00775 mg/L	0.002758	0.00775 mg/L	0.002758	35.59%
Sn 189.927†	-15.2	-0.00313 mg/L	0.000611	-0.00313 mg/L	0.000611	19.49%
Sr 421.552†	411456.0	0.5167 mg/L	0.00277	0.5167 mg/L	0.00277	0.54%
Ti 334.903†	8.4	-0.00032 mg/L	0.000546	-0.00032 mg/L	0.000546	169.75%
Tl 190.801†	4355.7	2.080 mg/L	0.0171	2.080 mg/L	0.0171	0.82%
V 292.402†	76269.9	0.5107 mg/L	0.00620	0.5107 mg/L	0.00620	1.21%
Zn 206.200†	1721.7	0.5212 mg/L	0.00607	0.5212 mg/L	0.00607	1.16%

Sequence No.: 30
 Sample ID: CV3
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/31/2014 11:11:57 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2813594.2	99.58 %	%	0.374				0.38%
ScR 361.383	235806.7	99.68 %	%	0.358				0.36%
Ag 328.068†	203239.2	1.050 mg/L	mg/L	0.0013	1.050 mg/L		0.0013	0.13%
Al 308.215†	2643.2	2.077 mg/L	mg/L	0.0146	2.077 mg/L		0.0146	0.70%
As 188.979†	3451.6	2.062 mg/L	mg/L	0.0035	2.062 mg/L		0.0035	0.17%
B 249.677†	5652.3	1.032 mg/L	mg/L	0.0080	1.032 mg/L		0.0080	0.78%
Ba 233.527†	3773.3	1.010 mg/L	mg/L	0.0066	1.010 mg/L		0.0066	0.65%
Be 313.042†	498702.3	1.037 mg/L	mg/L	0.0021	1.037 mg/L		0.0021	0.20%
Ca 317.933†	20195.0	2.148 mg/L	mg/L	0.0186	2.148 mg/L		0.0186	0.87%
Cd 228.802†	33971.0	1.033 mg/L	mg/L	0.0065	1.033 mg/L		0.0065	0.63%
Co 228.616†	38845.8	1.001 mg/L	mg/L	0.0031	1.001 mg/L		0.0031	0.31%
Cr 267.716†	5076.3	1.059 mg/L	mg/L	0.0079	1.059 mg/L		0.0079	0.74%
Cu 324.752†	283318.9	1.010 mg/L	mg/L	0.0026	1.010 mg/L		0.0026	0.26%
Fe 273.955†	2405.4	2.178 mg/L	mg/L	0.0233	2.178 mg/L		0.0233	1.07%
K 766.490†	44085.3	20.59 mg/L	mg/L	0.125	20.59 mg/L		0.125	0.61%
Mg 279.077†	2227.5	2.036 mg/L	mg/L	0.0168	2.036 mg/L		0.0168	0.83%
Mn 257.610†	30309.4	1.000 mg/L	mg/L	0.0023	1.000 mg/L		0.0023	0.23%
Mo 202.031†	18049.0	0.9807 mg/L	mg/L	0.00470	0.9807 mg/L		0.00470	0.48%
Na 589.592†	656451.6	51.17 mg/L	mg/L	0.065	51.17 mg/L		0.065	0.13%
Na 330.237†	1082.8	52.53 mg/L	mg/L	0.308	52.53 mg/L		0.308	0.59%
Ni 231.604†	3356.9	1.035 mg/L	mg/L	0.0044	1.035 mg/L		0.0044	0.43%
Pb 220.353†	16488.6	2.030 mg/L	mg/L	0.0083	2.030 mg/L		0.0083	0.41%
Sb 206.836†	6522.3	2.096 mg/L	mg/L	0.0047	2.096 mg/L		0.0047	0.22%
Se 196.026†	2781.7	2.028 mg/L	mg/L	0.0053	2.028 mg/L		0.0053	0.26%
Si 288.158†	3368.0	1.974 mg/L	mg/L	0.0083	1.974 mg/L		0.0083	0.42%
Sn 189.927†	3477.5	1.025 mg/L	mg/L	0.0031	1.025 mg/L		0.0031	0.30%
Sr 421.552†	817112.5	1.026 mg/L	mg/L	0.0005	1.026 mg/L		0.0005	0.05%
Ti 334.903†	16092.5	1.004 mg/L	mg/L	0.0009	1.004 mg/L		0.0009	0.09%
Tl 190.801†	4374.8	2.086 mg/L	mg/L	0.0087	2.086 mg/L		0.0087	0.42%
V 292.402†	150791.6	1.010 mg/L	mg/L	0.0025	1.010 mg/L		0.0025	0.25%
Zn 206.200†	3414.1	1.034 mg/L	mg/L	0.0081	1.034 mg/L		0.0081	0.78%

Sequence No.: 31
 Sample ID: CB 5
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/31/2014 11:16:01 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2856596.2	101.1	%	0.14				0.14%
ScR 361.383	245566.4	103.8	%	0.40				0.39%
Ag 328.068†	13.6	0.00007	mg/L	0.000158	0.00007	mg/L	0.000158	225.08%
Al 308.215†	5.2	0.00414	mg/L	0.004718	0.00414	mg/L	0.004718	114.05%
As 188.979†	4.9	0.00287	mg/L	0.001788	0.00287	mg/L	0.001788	62.36%
B 249.677†	3.6	0.00067	mg/L	0.001005	0.00067	mg/L	0.001005	150.77%
Ba 233.527†	3.3	0.00088	mg/L	0.000192	0.00088	mg/L	0.000192	21.96%
Be 313.042†	2.1	0.00000	mg/L	0.000041	0.00000	mg/L	0.000041	930.74%
Ca 317.933†	-1.0	-0.00011	mg/L	0.000218	-0.00011	mg/L	0.000218	195.03%
Cd 228.802†	-7.4	-0.00025	mg/L	0.000062	-0.00025	mg/L	0.000062	25.31%
Co 228.616†	0.2	0.00001	mg/L	0.000101	0.00001	mg/L	0.000101	>999.9%
Cr 267.716†	-3.5	-0.00072	mg/L	0.000301	-0.00072	mg/L	0.000301	41.54%
Cu 324.752†	-227.1	-0.00081	mg/L	0.000023	-0.00081	mg/L	0.000023	2.86%
Fe 273.955†	0.7	0.00067	mg/L	0.002381	0.00067	mg/L	0.002381	357.82%
K 766.490†	-4.2	-0.00195	mg/L	0.003145	-0.00195	mg/L	0.003145	161.17%
Mg 279.077†	9.6	0.00872	mg/L	0.008973	0.00872	mg/L	0.008973	102.93%
Mn 257.610†	-2.2	-0.00007	mg/L	0.000078	-0.00007	mg/L	0.000078	104.63%
Mo 202.031†	16.2	0.00088	mg/L	0.000395	0.00088	mg/L	0.000395	44.92%
Na 589.592†	138.0	0.01075	mg/L	0.003049	0.01075	mg/L	0.003049	28.35%
Na 330.237†	5.0	0.2410	mg/L	0.05964	0.2410	mg/L	0.05964	24.74%
Ni 231.604†	-6.4	-0.00198	mg/L	0.001835	-0.00198	mg/L	0.001835	92.56%
Pb 220.353†	-3.7	-0.00045	mg/L	0.000350	-0.00045	mg/L	0.000350	77.97%
Sb 206.836†	25.0	0.00805	mg/L	0.002263	0.00805	mg/L	0.002263	28.11%
Se 196.026†	7.3	0.00530	mg/L	0.005859	0.00530	mg/L	0.005859	110.53%
Si 288.158†	-7.1	-0.00418	mg/L	0.004032	-0.00418	mg/L	0.004032	96.48%
Sn 189.927†	2.1	0.00063	mg/L	0.000502	0.00063	mg/L	0.000502	79.20%
Sr 421.552†	2.8	0.00000	mg/L	0.000051	0.00000	mg/L	0.000051	>999.9%
Ti 334.903†	4.8	0.00030	mg/L	0.000190	0.00030	mg/L	0.000190	63.15%
Tl 190.801†	2.0	0.00096	mg/L	0.001611	0.00096	mg/L	0.001611	167.83%
V 292.402†	-24.6	-0.00017	mg/L	0.000223	-0.00017	mg/L	0.000223	133.34%
Zn 206.200†	2.3	0.00068	mg/L	0.000162	0.00068	mg/L	0.000162	23.70%

Sequence No.: 32
 Sample ID: YE29 MB DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 324
 Date Collected: 3/31/2014 11:20:01 AM
 Data Type: Original

Nebulizer Parameters: YE29 MB DMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE29 MB DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2942842.5	104.2	%	0.30				0.29%
ScR 361.383	246324.3	104.1	%	1.06				1.02%
Ag 328.068†	7.9	0.00004	mg/L	0.000311	0.00004	mg/L	0.000311	761.60%
Al 308.215†	22.5	0.01795	mg/L	0.004152	0.01795	mg/L	0.004152	23.12%
As 188.979†	2.6	0.00151	mg/L	0.001581	0.00151	mg/L	0.001581	104.97%
B 249.677†	11.9	0.00218	mg/L	0.000622	0.00218	mg/L	0.000622	28.51%
Ba 233.527†	0.1	0.00002	mg/L	0.000694	0.00002	mg/L	0.000694	>999.9%
Be 313.042†	-5.0	-0.00001	mg/L	0.000030	-0.00001	mg/L	0.000030	288.62%
Ca 317.933†	345.7	0.03677	mg/L	0.001056	0.03677	mg/L	0.001056	2.87%
Cd 228.802†	-9.6	-0.00030	mg/L	0.000098	-0.00030	mg/L	0.000098	32.54%
Co 228.616†	17.0	0.00044	mg/L	0.000064	0.00044	mg/L	0.000064	14.42%
Cr 267.716†	1.3	0.00027	mg/L	0.001234	0.00027	mg/L	0.001234	452.54%
Cu 324.752†	-362.1	-0.00129	mg/L	0.000143	-0.00129	mg/L	0.000143	11.07%
Fe 273.955†	1.8	0.00163	mg/L	0.001270	0.00163	mg/L	0.001270	78.10%
K 766.490†	19.9	0.00931	mg/L	0.010313	0.00931	mg/L	0.010313	110.76%
Mg 279.077†	7.0	0.00636	mg/L	0.003523	0.00636	mg/L	0.003523	55.36%
Mn 257.610†	-4.7	-0.00015	mg/L	0.000059	-0.00015	mg/L	0.000059	38.36%
Mo 202.031†	-9.8	-0.00053	mg/L	0.000074	-0.00053	mg/L	0.000074	13.85%
Na 589.592†	717.5	0.05593	mg/L	0.001450	0.05593	mg/L	0.001450	2.59%
Na 330.237†	9.1	0.4430	mg/L	0.19157	0.4430	mg/L	0.19157	43.24%
Ni 231.604†	-1.3	-0.00041	mg/L	0.000978	-0.00041	mg/L	0.000978	240.47%
Pb 220.353†	-5.8	-0.00071	mg/L	0.000939	-0.00071	mg/L	0.000939	132.62%
Sb 206.836†	-9.2	-0.00298	mg/L	0.000210	-0.00298	mg/L	0.000210	7.04%
Se 196.026†	12.8	0.00931	mg/L	0.003503	0.00931	mg/L	0.003503	37.63%
Si 288.158†	-26.9	-0.01574	mg/L	0.001851	-0.01574	mg/L	0.001851	11.76%
Sn 189.927†	-0.4	-0.00011	mg/L	0.001109	-0.00011	mg/L	0.001109	>999.9%
Sr 421.552†	179.6	0.00023	mg/L	0.000014	0.00023	mg/L	0.000014	6.27%
Ti 334.903†	-10.2	-0.00064	mg/L	0.000171	-0.00064	mg/L	0.000171	26.82%
Tl 190.801†	6.5	0.00310	mg/L	0.000718	0.00310	mg/L	0.000718	23.17%
V 292.402†	-24.2	-0.00016	mg/L	0.000125	-0.00016	mg/L	0.000125	77.73%
Zn 206.200†	0.9	0.00028	mg/L	0.000824	0.00028	mg/L	0.000824	290.36%

Sequence No.: 33
 Sample ID: YE29 G DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 325
 Date Collected: 3/31/2014 11:24:16 AM
 Data Type: Original

Nebulizer Parameters: YE29 G DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 G DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2949230.5	104.4	%	0.02			0.02%
ScR 361.383	251012.6	106.1	%	1.68			1.58%
Ag 328.068†	32.8	0.00020	mg/L	0.000089	0.00020 mg/L	0.000089	43.53%
Al 308.215†	18.2	0.01455	mg/L	0.002894	0.01455 mg/L	0.002894	19.90%
As 188.979†	7.5	0.00393	mg/L	0.001273	0.00393 mg/L	0.001273	32.37%
B 249.677†	65.5	0.01198	mg/L	0.000402	0.01198 mg/L	0.000402	3.35%
Ba 233.527†	8.3	0.00222	mg/L	0.000462	0.00222 mg/L	0.000462	20.84%
Be 313.042†	-3.3	-0.00001	mg/L	0.000037	-0.00001 mg/L	0.000037	544.49%
Ca 317.933†	53828.2	5.725	mg/L	0.0005	5.725 mg/L	0.0005	0.01%
Cd 228.802†	-12.3	-0.00040	mg/L	0.000043	-0.00040 mg/L	0.000043	10.75%
Co 228.616†	16.0	0.00041	mg/L	0.000023	0.00041 mg/L	0.000023	5.53%
Cr 267.716†	0.4	-0.00011	mg/L	0.000875	-0.00011 mg/L	0.000875	815.84%
Cu 324.752†	-357.1	-0.00130	mg/L	0.000007	-0.00130 mg/L	0.000007	0.57%
Fe 273.955†	2.6	0.00237	mg/L	0.001326	0.00237 mg/L	0.001326	55.93%
K 766.490†	870.0	0.4064	mg/L	0.02305	0.4064 mg/L	0.02305	5.67%
Mg 279.077†	1738.3	1.583	mg/L	0.0149	1.583 mg/L	0.0149	0.94%
Mn 257.610†	55.2	0.00178	mg/L	0.000068	0.00178 mg/L	0.000068	3.80%
Mo 202.031†	5.8	0.00023	mg/L	0.000221	0.00023 mg/L	0.000221	97.62%
Na 589.592†	48468.3	3.778	mg/L	0.0046	3.778 mg/L	0.0046	0.12%
Na 330.237†	91.5	4.406	mg/L	0.1653	4.406 mg/L	0.1653	3.75%
Ni 231.604†	-0.7	-0.00021	mg/L	0.000980	-0.00021 mg/L	0.000980	472.84%
Pb 220.353†	-11.8	-0.00144	mg/L	0.000347	-0.00144 mg/L	0.000347	24.06%
Sb 206.836†	-9.0	-0.00292	mg/L	0.002562	-0.00292 mg/L	0.002562	87.80%
Se 196.026†	11.6	0.00848	mg/L	0.003189	0.00848 mg/L	0.003189	37.60%
Si 288.158†	12772.0	7.468	mg/L	0.0284	7.468 mg/L	0.0284	0.38%
Sn 189.927†	-6.2	-0.00113	mg/L	0.001519	-0.00113 mg/L	0.001519	134.57%
Sr 421.552†	34595.2	0.04345	mg/L	0.000036	0.04345 mg/L	0.000036	0.08%
Ti 334.903†	3.3	-0.00020	mg/L	0.000291	-0.00020 mg/L	0.000291	145.70%
Tl 190.801†	14.5	0.00694	mg/L	0.001676	0.00694 mg/L	0.001676	24.14%
V 292.402†	22.6	0.00015	mg/L	0.000105	0.00015 mg/L	0.000105	69.90%
Zn 206.200†	-2.8	0.00056	mg/L	0.000238	0.00056 mg/L	0.000238	42.89%

Sequence No.: 34
 Sample ID: YE29 H DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 326
 Date Collected: 3/31/2014 11:28:16 AM
 Data Type: Original

Nebulizer Parameters: YE29 H DMN
 Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: YE29 H DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2962390.9	104.8 %	%	0.30			0.28%
ScR 361.383	249038.5	105.3 %	%	0.30			0.28%
Ag 328.068†	-1.9	0.00005 mg/L	mg/L	0.000030	0.00005 mg/L	0.000030	59.74%
Al 308.215†	11.4	0.00906 mg/L	mg/L	0.010076	0.00906 mg/L	0.010076	111.25%
As 188.979†	15.0	0.00794 mg/L	mg/L	0.001192	0.00794 mg/L	0.001192	15.00%
B 249.677†	62.9	0.01149 mg/L	mg/L	0.000282	0.01149 mg/L	0.000282	2.46%
Ba 233.527†	10.5	0.00281 mg/L	mg/L	0.000827	0.00281 mg/L	0.000827	29.40%
Be 313.042†	0.3	0.00000 mg/L	mg/L	0.000010	0.00000 mg/L	0.000010	>999.9%
Ca 317.933†	94218.7	10.02 mg/L	mg/L	0.048	10.02 mg/L	0.048	0.48%
Cd 228.802†	-11.8	-0.00041 mg/L	mg/L	0.000111	-0.00041 mg/L	0.000111	27.22%
Co 228.616†	13.7	0.00035 mg/L	mg/L	0.000025	0.00035 mg/L	0.000025	6.92%
Cr 267.716†	3.4	0.00042 mg/L	mg/L	0.000627	0.00042 mg/L	0.000627	150.10%
Cu 324.752†	-327.9	-0.00121 mg/L	mg/L	0.000072	-0.00121 mg/L	0.000072	5.98%
Fe 273.955†	0.6	0.00059 mg/L	mg/L	0.001339	0.00059 mg/L	0.001339	227.28%
K 766.490†	1301.8	0.6081 mg/L	mg/L	0.00826	0.6081 mg/L	0.00826	1.36%
Mg 279.077†	2590.0	2.358 mg/L	mg/L	0.0021	2.358 mg/L	0.0021	0.09%
Mn 257.610†	1.8	0.00000 mg/L	mg/L	0.000096	0.00000 mg/L	0.000096	>999.9%
Mo 202.031†	10.3	0.00040 mg/L	mg/L	0.000125	0.00040 mg/L	0.000125	30.95%
Na 589.592†	54760.2	4.268 mg/L	mg/L	0.0171	4.268 mg/L	0.0171	0.40%
Na 330.237†	98.8	4.737 mg/L	mg/L	0.1125	4.737 mg/L	0.1125	2.37%
Ni 231.604†	-2.8	-0.00086 mg/L	mg/L	0.000463	-0.00086 mg/L	0.000463	54.06%
Pb 220.353†	-9.7	-0.00118 mg/L	mg/L	0.000766	-0.00118 mg/L	0.000766	64.73%
Sb 206.836†	-7.0	-0.00229 mg/L	mg/L	0.002031	-0.00229 mg/L	0.002031	88.57%
Se 196.026†	11.0	0.00799 mg/L	mg/L	0.001915	0.00799 mg/L	0.001915	23.96%
Si 288.158†	13406.3	7.839 mg/L	mg/L	0.0109	7.839 mg/L	0.0109	0.14%
Sn 189.927†	-14.4	-0.00301 mg/L	mg/L	0.000752	-0.00301 mg/L	0.000752	24.95%
Sr 421.552†	47468.8	0.05962 mg/L	mg/L	0.000232	0.05962 mg/L	0.000232	0.39%
Ti 334.903†	2.8	-0.00053 mg/L	mg/L	0.000281	-0.00053 mg/L	0.000281	52.86%
Tl 190.801†	13.5	0.00648 mg/L	mg/L	0.002979	0.00648 mg/L	0.002979	45.97%
V 292.402†	14.8	0.00010 mg/L	mg/L	0.000139	0.00010 mg/L	0.000139	136.67%
Zn 206.200†	-0.9	0.00120 mg/L	mg/L	0.000785	0.00120 mg/L	0.000785	65.42%

Sequence No.: 35
 Sample ID: YE29 I DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 327
 Date Collected: 3/31/2014 11:32:15 AM
 Data Type: Original

Nebulizer Parameters: YE29 I DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 I DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2940733.0	104.1 %		0.45			0.43%
ScR 361.383	252599.1	106.8 %		1.33			1.24%
Ag 328.068†	4.8	0.00009 mg/L		0.000135	0.00009 mg/L	0.000135	145.78%
Al 308.215†	1.4	0.00106 mg/L		0.010384	0.00106 mg/L	0.010384	975.17%
As 188.979†	12.8	0.00657 mg/L		0.001592	0.00657 mg/L	0.001592	24.23%
B 249.677†	55.3	0.01010 mg/L		0.000683	0.01010 mg/L	0.000683	6.76%
Ba 233.527†	10.0	0.00268 mg/L		0.000857	0.00268 mg/L	0.000857	32.03%
Be 313.042†	-16.7	-0.00003 mg/L		0.000020	-0.00003 mg/L	0.000020	57.98%
Ca 317.933†	105303.7	11.20 mg/L		0.032	11.20 mg/L	0.032	0.28%
Cd 228.802†	-16.3	-0.00054 mg/L		0.000110	-0.00054 mg/L	0.000110	20.29%
Co 228.616†	13.6	0.00035 mg/L		0.000027	0.00035 mg/L	0.000027	7.72%
Cr 267.716†	6.5	0.00101 mg/L		0.001232	0.00101 mg/L	0.001232	121.74%
Cu 324.752†	-314.7	-0.00117 mg/L		0.000172	-0.00117 mg/L	0.000172	14.66%
Fe 273.955†	2.1	0.00189 mg/L		0.000282	0.00189 mg/L	0.000282	14.88%
K 766.490†	2162.7	1.010 mg/L		0.0198	1.010 mg/L	0.0198	1.96%
Mg 279.077†	3009.9	2.741 mg/L		0.0069	2.741 mg/L	0.0069	0.25%
Mn 257.610†	-0.5	-0.00008 mg/L		0.000063	-0.00008 mg/L	0.000063	75.93%
Mo 202.031†	11.7	0.00046 mg/L		0.000018	0.00046 mg/L	0.000018	3.79%
Na 589.592†	61707.4	4.810 mg/L		0.0222	4.810 mg/L	0.0222	0.46%
Na 330.237†	110.5	5.300 mg/L		0.1568	5.300 mg/L	0.1568	2.96%
Ni 231.604†	-5.5	-0.00171 mg/L		0.000399	-0.00171 mg/L	0.000399	23.29%
Pb 220.353†	-10.7	-0.00131 mg/L		0.000953	-0.00131 mg/L	0.000953	72.55%
Sb 206.836†	-9.4	-0.00307 mg/L		0.000784	-0.00307 mg/L	0.000784	25.51%
Se 196.026†	13.5	0.00985 mg/L		0.002491	0.00985 mg/L	0.002491	25.29%
Si 288.158†	18735.9	10.95 mg/L		0.011	10.95 mg/L	0.011	0.10%
Sn 189.927†	-15.3	-0.00315 mg/L		0.000280	-0.00315 mg/L	0.000280	8.90%
Sr 421.552†	41505.3	0.05213 mg/L		0.000091	0.05213 mg/L	0.000091	0.17%
Ti 334.903†	9.7	-0.00018 mg/L		0.000337	-0.00018 mg/L	0.000337	184.62%
Tl 190.801†	10.6	0.00507 mg/L		0.001615	0.00507 mg/L	0.001615	31.83%
V 292.402†	99.8	0.00067 mg/L		0.000054	0.00067 mg/L	0.000054	8.10%
Zn 206.200†	-7.5	-0.00022 mg/L		0.000670	-0.00022 mg/L	0.000670	307.34%

Sequence No.: 36
 Sample ID: YE29 J DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 328
 Date Collected: 3/31/2014 11:36:15 AM
 Data Type: Original

Nebulizer Parameters: YE29 J DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 J DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2982098.1	105.5	%	0.42				0.39%
ScR 361.383	253891.5	107.3	%	0.98				0.92%
Ag 328.068†	19.8	0.00015	mg/L	0.000108	0.00015	mg/L	0.000108	70.98%
Al 308.215†	6.2	0.00497	mg/L	0.005730	0.00497	mg/L	0.005730	115.28%
As 188.979†	11.7	0.00614	mg/L	0.001369	0.00614	mg/L	0.001369	22.30%
B 249.677†	60.3	0.01102	mg/L	0.000810	0.01102	mg/L	0.000810	7.35%
Ba 233.527†	9.0	0.00241	mg/L	0.000926	0.00241	mg/L	0.000926	38.45%
Be 313.042†	-12.5	-0.00003	mg/L	0.000021	-0.00003	mg/L	0.000021	80.00%
Ca 317.933†	78665.0	8.367	mg/L	0.0118	8.367	mg/L	0.0118	0.14%
Cd 228.802†	-17.0	-0.00056	mg/L	0.000086	-0.00056	mg/L	0.000086	15.38%
Co 228.616†	7.4	0.00019	mg/L	0.000119	0.00019	mg/L	0.000119	62.98%
Cr 267.716†	2.7	0.00031	mg/L	0.000529	0.00031	mg/L	0.000529	171.78%
Cu 324.752†	-381.0	-0.00139	mg/L	0.000089	-0.00139	mg/L	0.000089	6.40%
Fe 273.955†	0.0	0.00001	mg/L	0.002065	0.00001	mg/L	0.002065	>999.9%
K 766.490†	1414.8	0.6608	mg/L	0.01266	0.6608	mg/L	0.01266	1.92%
Mg 279.077†	2144.9	1.953	mg/L	0.0232	1.953	mg/L	0.0232	1.19%
Mn 257.610†	-3.3	-0.00016	mg/L	0.000094	-0.00016	mg/L	0.000094	59.12%
Mo 202.031†	10.3	0.00043	mg/L	0.000286	0.00043	mg/L	0.000286	66.79%
Na 589.592†	51183.7	3.990	mg/L	0.0176	3.990	mg/L	0.0176	0.44%
Na 330.237†	87.6	4.203	mg/L	0.2201	4.203	mg/L	0.2201	5.24%
Ni 231.604†	-0.8	-0.00024	mg/L	0.000324	-0.00024	mg/L	0.000324	133.85%
Pb 220.353†	-10.5	-0.00129	mg/L	0.000098	-0.00129	mg/L	0.000098	7.64%
Sb 206.836†	-7.4	-0.00243	mg/L	0.001245	-0.00243	mg/L	0.001245	51.31%
Se 196.026†	11.2	0.00816	mg/L	0.003412	0.00816	mg/L	0.003412	41.82%
Si 288.158†	15520.4	9.075	mg/L	0.0273	9.075	mg/L	0.0273	0.30%
Sn 189.927†	-15.4	-0.00353	mg/L	0.001559	-0.00353	mg/L	0.001559	44.13%
Sr 421.552†	35894.3	0.04508	mg/L	0.000176	0.04508	mg/L	0.000176	0.39%
Ti 334.903†	8.7	-0.00005	mg/L	0.000583	-0.00005	mg/L	0.000583	>999.9%
Tl 190.801†	11.6	0.00555	mg/L	0.002678	0.00555	mg/L	0.002678	48.24%
V 292.402†	64.3	0.00043	mg/L	0.000069	0.00043	mg/L	0.000069	16.04%
Zn 206.200†	-5.8	-0.00008	mg/L	0.000283	-0.00008	mg/L	0.000283	374.76%

Sequence No.: 37
 Sample ID: YE29 K DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 329
 Date Collected: 3/31/2014 11:40:15 AM
 Data Type: Original

Nebulizer Parameters: YE29 K DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 K DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2959162.7	104.7 %		0.48				0.46%
ScR 361.303	251956.4	106.5 %		0.38				0.36%
Ag 328.068†	2.0	0.00008 mg/L		0.000160	0.00008 mg/L	0.000160		210.91%
Al 308.215†	2.0	0.00156 mg/L		0.001610	0.00156 mg/L	0.001610		103.10%
As 188.979†	13.8	0.00717 mg/L		0.002627	0.00717 mg/L	0.002627		36.64%
B 249.677†	76.8	0.01404 mg/L		0.000649	0.01404 mg/L	0.000649		4.62%
Ba 233.527†	8.7	0.00233 mg/L		0.000884	0.00233 mg/L	0.000884		38.03%
Be 313.042†	-9.3	-0.00002 mg/L		0.000009	-0.00002 mg/L	0.000009		49.13%
Ca 317.933†	101557.6	10.80 mg/L		0.044	10.80 mg/L	0.044		0.40%
Cd 228.802†	-13.8	-0.00047 mg/L		0.000157	-0.00047 mg/L	0.000157		33.79%
Co 228.616†	11.9	0.00031 mg/L		0.000072	0.00031 mg/L	0.000072		23.58%
Cr 267.716†	4.3	0.00050 mg/L		0.001163	0.00050 mg/L	0.001163		232.65%
Cu 324.752†	-316.8	-0.00118 mg/L		0.000195	-0.00118 mg/L	0.000195		16.50%
Fe 273.955†	-0.3	-0.00024 mg/L		0.002256	-0.00024 mg/L	0.002256		946.40%
K 766.490†	1637.7	0.7650 mg/L		0.01603	0.7650 mg/L	0.01603		2.10%
Mg 279.077†	3821.0	3.480 mg/L		0.0177	3.480 mg/L	0.0177		0.51%
Mn 257.610†	-0.5	-0.00009 mg/L		0.000171	-0.00009 mg/L	0.000171		198.12%
Mo 202.031†	15.2	0.00066 mg/L		0.000219	0.00066 mg/L	0.000219		33.36%
Na 589.592†	71878.8	5.603 mg/L		0.0285	5.603 mg/L	0.0285		0.51%
Na 330.237†	128.3	6.166 mg/L		0.1863	6.166 mg/L	0.1863		3.02%
Ni 231.604†	-1.7	-0.00053 mg/L		0.000617	-0.00053 mg/L	0.000617		117.26%
Pb 220.353†	-11.5	-0.00141 mg/L		0.000992	-0.00141 mg/L	0.000992		70.53%
Sb 206.836†	-10.2	-0.00332 mg/L		0.001891	-0.00332 mg/L	0.001891		57.01%
Se 196.026†	12.3	0.00895 mg/L		0.002594	0.00895 mg/L	0.002594		28.99%
Si 288.158†	15629.1	9.138 mg/L		0.0517	9.138 mg/L	0.0517		0.57%
Sn 189.927†	-9.8	-0.00158 mg/L		0.001010	-0.00158 mg/L	0.001010		64.10%
Sr 421.552†	59335.7	0.07452 mg/L		0.000376	0.07452 mg/L	0.000376		0.50%
Ti 334.903†	4.6	-0.00047 mg/L		0.000486	-0.00047 mg/L	0.000486		102.46%
Tl 190.801†	11.8	0.00563 mg/L		0.001991	0.00563 mg/L	0.001991		35.35%
V 292.402†	15.7	0.00011 mg/L		0.000190	0.00011 mg/L	0.000190		174.54%
Zn 206.200†	-2.1	0.00107 mg/L		0.000472	0.00107 mg/L	0.000472		44.11%

Sequence No.: 38
 Sample ID: YE29 EDUP DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 330
 Date Collected: 3/31/2014 11:44:14 AM
 Data Type: Original

Nebulizer Parameters: YE29 EDUP DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 EDUP DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2972195.9	105.2	%	0.33				0.31%
ScR 361.383	255809.7	108.1	%	0.34				0.32%
Ag 328.068†	4.2	0.00007	mg/L	0.000368	0.00007	mg/L	0.000368	504.12%
Al 308.215†	8.3	0.00658	mg/L	0.004932	0.00658	mg/L	0.004932	74.90%
As 188.979†	18.4	0.01009	mg/L	0.000283	0.01009	mg/L	0.000283	2.80%
B 249.677†	43.7	0.00799	mg/L	0.001195	0.00799	mg/L	0.001195	14.95%
Ba 233.527†	20.1	0.00539	mg/L	0.000942	0.00539	mg/L	0.000942	17.46%
Be 313.042†	-17.5	-0.00004	mg/L	0.000029	-0.00004	mg/L	0.000029	79.66%
Ca 317.933†	79877.3	8.496	mg/L	0.0100	8.496	mg/L	0.0100	0.12%
Cd 228.802†	-15.2	-0.00052	mg/L	0.000129	-0.00052	mg/L	0.000129	24.52%
Co 228.616†	5.0	0.00013	mg/L	0.000106	0.00013	mg/L	0.000106	83.38%
Cr 267.716†	3.3	0.00027	mg/L	0.000638	0.00027	mg/L	0.000638	232.98%
Cu 324.752†	-365.9	-0.00135	mg/L	0.000141	-0.00135	mg/L	0.000141	10.39%
Fe 273.955†	5.2	0.00471	mg/L	0.000136	0.00471	mg/L	0.000136	2.89%
K 766.490†	5970.9	2.789	mg/L	0.0099	2.789	mg/L	0.0099	0.35%
Mg 279.077†	4089.1	3.724	mg/L	0.0069	3.724	mg/L	0.0069	0.19%
Mn 257.610†	2097.3	0.06911	mg/L	0.000337	0.06911	mg/L	0.000337	0.49%
Mo 202.031†	22.6	0.00110	mg/L	0.000145	0.00110	mg/L	0.000145	13.17%
Na 589.592†	95573.3	7.450	mg/L	0.0282	7.450	mg/L	0.0282	0.38%
Na 330.237†	167.9	8.099	mg/L	0.1661	8.099	mg/L	0.1661	2.05%
Ni 231.604†	-2.3	-0.00070	mg/L	0.000063	-0.00070	mg/L	0.000063	8.94%
Pb 220.353†	-13.6	-0.00166	mg/L	0.001174	-0.00166	mg/L	0.001174	70.56%
Sb 206.836†	-10.3	-0.00336	mg/L	0.001051	-0.00336	mg/L	0.001051	31.32%
Se 196.026†	12.7	0.00925	mg/L	0.002974	0.00925	mg/L	0.002974	32.17%
Si 288.158†	34741.7	20.31	mg/L	0.046	20.31	mg/L	0.046	0.23%
Sn 189.927†	-9.4	-0.00173	mg/L	0.001227	-0.00173	mg/L	0.001227	70.96%
Sr 421.552†	39179.9	0.04921	mg/L	0.000126	0.04921	mg/L	0.000126	0.26%
Ti 334.903†	10.7	0.00007	mg/L	0.000657	0.00007	mg/L	0.000657	928.16%
Tl 190.801†	12.5	0.00599	mg/L	0.003891	0.00599	mg/L	0.003891	64.94%
V 292.402†	2.4	0.00003	mg/L	0.000086	0.00003	mg/L	0.000086	290.83%
Zn 206.200†	-10.8	0.00053	mg/L	0.000293	0.00053	mg/L	0.000293	55.45%

Sequence No.: 39
 Sample ID: YE29 E DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 331
 Date Collected: 3/31/2014 11:48:13 AM
 Data Type: Original

Nebulizer Parameters: YE29 E DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 E DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2937064.7	104.0	%	0.90			0.86%
ScR 361.383	250533.1	105.9	%	1.25			1.18%
Ag 328.068†	28.7	0.00020	mg/L	0.000194	0.00020 mg/L	0.000194	97.28%
Al 308.215†	12.7	0.01008	mg/L	0.002268	0.01008 mg/L	0.002268	22.49%
As 188.979†	19.0	0.01043	mg/L	0.000541	0.01043 mg/L	0.000541	5.18%
B 249.677†	43.6	0.00796	mg/L	0.000828	0.00796 mg/L	0.000828	10.40%
Ba 233.527†	22.5	0.00602	mg/L	0.000339	0.00602 mg/L	0.000339	5.64%
Be 313.042†	-12.4	-0.00003	mg/L	0.000048	-0.00003 mg/L	0.000048	186.81%
Cd 317.933†	79793.4	8.487	mg/L	0.0413	8.487 mg/L	0.0413	0.49%
Ca 228.802†	-13.6	-0.00048	mg/L	0.000174	-0.00048 mg/L	0.000174	36.41%
Co 228.616†	9.6	0.00025	mg/L	0.000039	0.00025 mg/L	0.000039	15.72%
Cr 267.716†	0.9	-0.00023	mg/L	0.000755	-0.00023 mg/L	0.000755	325.99%
Cu 324.752†	-347.5	-0.00129	mg/L	0.000232	-0.00129 mg/L	0.000232	18.02%
Fe 273.955†	5.6	0.00509	mg/L	0.001996	0.00509 mg/L	0.001996	39.24%
K 766.490†	6057.2	2.829	mg/L	0.0349	2.829 mg/L	0.0349	1.23%
Mg 279.077†	4172.4	3.800	mg/L	0.0115	3.800 mg/L	0.0115	0.30%
Mn 257.610†	2132.6	0.07027	mg/L	0.000697	0.07027 mg/L	0.000697	0.99%
Mo 202.031†	24.1	0.00118	mg/L	0.000035	0.00118 mg/L	0.000035	2.99%
Na 589.592†	97240.9	7.580	mg/L	0.0024	7.580 mg/L	0.0024	0.03%
Na 330.237†	168.3	8.121	mg/L	0.3378	8.121 mg/L	0.3378	4.16%
Ni 231.604†	-5.4	-0.00168	mg/L	0.000216	-0.00168 mg/L	0.000216	12.84%
Pb 220.353†	-8.7	-0.00106	mg/L	0.000453	-0.00106 mg/L	0.000453	42.67%
Sb 206.836†	-7.2	-0.00235	mg/L	0.000728	-0.00235 mg/L	0.000728	30.93%
Se 196.026†	13.3	0.00969	mg/L	0.005042	0.00969 mg/L	0.005042	52.01%
Si 288.158†	35605.3	20.82	mg/L	0.149	20.82 mg/L	0.149	0.72%
Sn 189.927†	-13.9	-0.00307	mg/L	0.001280	-0.00307 mg/L	0.001280	41.65%
Sr 421.552†	39726.5	0.04989	mg/L	0.000028	0.04989 mg/L	0.000028	0.06%
Ti 334.903†	3.6	-0.00037	mg/L	0.000414	-0.00037 mg/L	0.000414	110.78%
Tl 190.801†	11.2	0.00534	mg/L	0.000830	0.00534 mg/L	0.000830	15.55%
V 292.402†	-27.5	-0.00017	mg/L	0.000170	-0.00017 mg/L	0.000170	98.88%
Zn 206.200†	-9.3	0.00106	mg/L	0.000340	0.00106 mg/L	0.000340	32.04%

Sequence No.: 40
 Sample ID: YE29 ESPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 332
 Date Collected: 3/31/2014 11:52:28 AM
 Data Type: Original

Nebulizer Parameters: YE29 ESPK DMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE29 ESPK DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Sample Units	Std.Dev.	RSD
ScA 357.253	2906009.6	102.9	%	0.26			0.25%
ScR 361.383	250830.8	106.0	%	1.79			1.69%
Ag 328.068†	80553.3	0.4162	mg/L	0.02290	0.4162 mg/L	0.02290	5.50%
Al 308.215†	2550.7	2.028	mg/L	0.0241	2.028 mg/L	0.0241	1.19%
As 188.979†	3628.9	2.133	mg/L	0.0094	2.133 mg/L	0.0094	0.44%
B 249.677†	50.0	0.00808	mg/L	0.000496	0.00808 mg/L	0.000496	6.14%
Ba 233.527†	7332.9	1.964	mg/L	0.0215	1.964 mg/L	0.0215	1.09%
Be 313.042†	235397.2	0.4894	mg/L	0.00679	0.4894 mg/L	0.00679	1.39%
Ca 317.933†	177917.9	18.92	mg/L	0.220	18.92 mg/L	0.220	1.16%
Cd 228.802†	17735.5	0.5338	mg/L	0.00310	0.5338 mg/L	0.00310	0.58%
Co 228.616†	19290.2	0.4977	mg/L	0.00309	0.4977 mg/L	0.00309	0.62%
Cr 267.716†	2476.8	0.5154	mg/L	0.00618	0.5154 mg/L	0.00618	1.20%
Cu 324.752†	140023.2	0.4992	mg/L	0.00303	0.4992 mg/L	0.00303	0.61%
Fe 273.955†	2345.8	2.127	mg/L	0.0343	2.127 mg/L	0.0343	1.61%
K 766.490†	27957.6	13.06	mg/L	0.048	13.06 mg/L	0.048	0.36%
Mg 279.077†	15049.3	13.71	mg/L	0.097	13.71 mg/L	0.097	0.71%
Mn 257.610†	16983.8	0.5604	mg/L	0.00543	0.5604 mg/L	0.00543	0.97%
Mo 202.031†	38.3	0.00179	mg/L	0.000210	0.00179 mg/L	0.000210	11.74%
Na 589.592†	226183.6	17.63	mg/L	0.101	17.63 mg/L	0.101	0.57%
Na 330.237†	387.0	18.53	mg/L	0.138	18.53 mg/L	0.138	0.74%
Ni 231.604†	1628.9	0.5013	mg/L	0.00984	0.5013 mg/L	0.00984	1.96%
Pb 220.353†	16786.4	2.066	mg/L	0.0127	2.066 mg/L	0.0127	0.61%
Sb 206.836†	5.0	-0.00336	mg/L	0.000939	-0.00336 mg/L	0.000939	27.96%
Se 196.026†	3156.8	2.302	mg/L	0.0109	2.302 mg/L	0.0109	0.48%
Si 288.158†	35076.3	20.51	mg/L	0.088	20.51 mg/L	0.088	0.43%
Sn 189.927†	-24.1	-0.00474	mg/L	0.000819	-0.00474 mg/L	0.000819	17.27%
Sr 421.552†	436515.0	0.5482	mg/L	0.00265	0.5482 mg/L	0.00265	0.48%
Ti 334.903†	20.6	-0.00015	mg/L	0.000869	-0.00015 mg/L	0.000869	589.28%
Tl 190.801†	4262.5	2.035	mg/L	0.0078	2.035 mg/L	0.0078	0.38%
V 292.402†	74417.2	0.4983	mg/L	0.00265	0.4983 mg/L	0.00265	0.53%
Zn 206.200†	1693.0	0.5164	mg/L	0.00752	0.5164 mg/L	0.00752	1.46%

Sequence No.: 41
 Sample ID: YE29 MBSPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 333
 Date Collected: 3/31/2014 11:56:28 AM
 Data Type: Original

Nebulizer Parameters: YE29 MBSPK DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 MBSPK DMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2902079.3		102.7 %	0.44				0.43%
ScR 361.383	247475.5		104.6 %	0.93				0.89%
Ag 328.068†	95116.0		0.4914 mg/L	0.00358	0.4914 mg/L	0.00358		0.73%
Al 308.215†	2564.1		2.038 mg/L	0.0153	2.038 mg/L	0.0153		0.75%
As 188.979†	3640.9		2.141 mg/L	0.0049	2.141 mg/L	0.0049		0.23%
B 249.677†	20.7		0.00272 mg/L	0.001339	0.00272 mg/L	0.001339		49.22%
Ba 233.527†	7306.9		1.957 mg/L	0.0185	1.957 mg/L	0.0185		0.95%
Be 313.042†	231705.3		0.4817 mg/L	0.00316	0.4817 mg/L	0.00316		0.66%
Ca 317.933†	96267.5		10.24 mg/L	0.067	10.24 mg/L	0.067		0.65%
Cd 228.802†	17751.2		0.5343 mg/L	0.00246	0.5343 mg/L	0.00246		0.46%
Co 228.616†	19382.4		0.5001 mg/L	0.00160	0.5001 mg/L	0.00160		0.32%
Cr 267.716†	2481.1		0.5166 mg/L	0.00539	0.5166 mg/L	0.00539		1.04%
Cu 324.752†	138168.0		0.4926 mg/L	0.00242	0.4926 mg/L	0.00242		0.49%
Fe 273.955†	2327.8		2.110 mg/L	0.0241	2.110 mg/L	0.0241		1.14%
K 766.490†	22129.9		10.34 mg/L	0.019	10.34 mg/L	0.019		0.18%
Mg 279.077†	11388.8		10.37 mg/L	0.101	10.37 mg/L	0.101		0.97%
Mn 257.610†	14917.3		0.4923 mg/L	0.00116	0.4923 mg/L	0.00116		0.23%
Mo 202.031†	17.1		0.00077 mg/L	0.000132	0.00077 mg/L	0.000132		17.13%
Na 589.592†	131255.4		10.23 mg/L	0.050	10.23 mg/L	0.050		0.49%
Na 330.237†	225.0		10.71 mg/L	0.252	10.71 mg/L	0.252		2.35%
Ni 231.604†	1636.2		0.5036 mg/L	0.00385	0.5036 mg/L	0.00385		0.76%
Pb 220.353†	16917.3		2.082 mg/L	0.0113	2.082 mg/L	0.0113		0.54%
Sb 206.836†	6.1		-0.00300 mg/L	0.000672	-0.00300 mg/L	0.000672		22.40%
Se 196.026†	3190.6		2.327 mg/L	0.0042	2.327 mg/L	0.0042		0.18%
Si 288.158†	-20.0		-0.00806 mg/L	0.004316	-0.00806 mg/L	0.004316		53.54%
Sn 189.927†	-15.1		-0.00314 mg/L	0.000424	-0.00314 mg/L	0.000424		13.50%
Sr 421.552†	396995.4		0.4986 mg/L	0.00255	0.4986 mg/L	0.00255		0.51%
Ti 334.903†	6.5		-0.00042 mg/L	0.000608	-0.00042 mg/L	0.000608		145.75%
Tl 190.801†	4283.3		2.045 mg/L	0.0145	2.045 mg/L	0.0145		0.71%
V 292.402†	74484.4		0.4987 mg/L	0.00354	0.4987 mg/L	0.00354		0.71%
Zn 206.200†	1694.4		0.5130 mg/L	0.00612	0.5130 mg/L	0.00612		1.19%

Sequence No.: 42
 Sample ID: CV
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/31/2014 12:00:28 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2843088.1	100.6 %	0.53			0.53%
ScR 361.383	239329.9	101.2 %	0.66			0.65%
Ag 328.068†	206607.9	1.067 mg/L	0.0052	1.067 mg/L	0.0052	0.49%
Al 308.215†	2618.0	2.057 mg/L	0.0056	2.057 mg/L	0.0056	0.27%
As 188.979†	3409.1	2.037 mg/L	0.0188	2.037 mg/L	0.0188	0.92%
B 249.677†	5616.3	1.025 mg/L	0.0040	1.025 mg/L	0.0040	0.39%
Ba 233.527†	3718.1	0.9955 mg/L	0.00177	0.9955 mg/L	0.00177	0.18%
Be 313.042†	500218.8	1.040 mg/L	0.0061	1.040 mg/L	0.0061	0.58%
Ca 317.933†	20132.2	2.141 mg/L	0.0032	2.141 mg/L	0.0032	0.15%
Cd 228.802†	33708.0	1.025 mg/L	0.0029	1.025 mg/L	0.0029	0.28%
Co 228.616†	38613.7	0.9949 mg/L	0.00510	0.9949 mg/L	0.00510	0.51%
Cr 267.716†	5060.7	1.056 mg/L	0.0020	1.056 mg/L	0.0020	0.19%
Cu 324.752†	281380.3	1.003 mg/L	0.0027	1.003 mg/L	0.0027	0.27%
Fe 273.955†	2405.7	2.178 mg/L	0.0106	2.178 mg/L	0.0106	0.49%
K 766.490†	43913.9	20.51 mg/L	0.053	20.51 mg/L	0.053	0.26%
Mg 279.077†	2203.9	2.014 mg/L	0.0066	2.014 mg/L	0.0066	0.33%
Mn 257.610†	30296.4	0.9996 mg/L	0.00095	0.9996 mg/L	0.00095	0.09%
Mo 202.031†	18025.0	0.9794 mg/L	0.00361	0.9794 mg/L	0.00361	0.37%
Na 589.592†	652322.3	50.85 mg/L	0.232	50.85 mg/L	0.232	0.46%
Na 330.237†	1076.1	52.21 mg/L	0.175	52.21 mg/L	0.175	0.34%
Ni 231.604†	3339.5	1.030 mg/L	0.0008	1.030 mg/L	0.0008	0.08%
Pb 220.353†	16425.4	2.022 mg/L	0.0073	2.022 mg/L	0.0073	0.36%
Sb 206.836†	6442.1	2.070 mg/L	0.0187	2.070 mg/L	0.0187	0.90%
Se 196.026†	2760.5	2.013 mg/L	0.0233	2.013 mg/L	0.0233	1.16%
Si 288.158†	3407.2	1.997 mg/L	0.0199	1.997 mg/L	0.0199	1.00%
Sn 189.927†	3435.0	1.013 mg/L	0.0098	1.013 mg/L	0.0098	0.96%
Sr 421.552†	811472.1	1.019 mg/L	0.0027	1.019 mg/L	0.0027	0.26%
Ti 334.903†	16020.9	1.000 mg/L	0.0014	1.000 mg/L	0.0014	0.14%
Tl 190.801†	4324.4	2.062 mg/L	0.0190	2.062 mg/L	0.0190	0.92%
V 292.402†	149609.6	1.002 mg/L	0.0014	1.002 mg/L	0.0014	0.14%
Zn 206.200†	3403.6	1.030 mg/L	0.0025	1.030 mg/L	0.0025	0.24%

Sequence No.: 43
 Sample ID: CB 4
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/31/2014 12:04:33 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
ScA 357.253	2873876.0	101.7 %		0.84				0.82%
ScR 361.383	246033.8	104.0 %		0.85				0.82%
Ag 328.068†	2794.3	0.01443 mg/L		0.002515	0.01443 mg/L		0.002515	17.43%
Al 308.215†	1.9	0.00148 mg/L		0.001902	0.00148 mg/L		0.001902	128.95%
As 188.979†	0.7	0.00038 mg/L		0.002093	0.00038 mg/L		0.002093	544.19%
B 249.677†	1.9	0.00034 mg/L		0.000283	0.00034 mg/L		0.000283	82.48%
Ba 233.527†	3.4	0.00091 mg/L		0.001174	0.00091 mg/L		0.001174	129.30%
Be 313.042†	-37.6	-0.00008 mg/L		0.000053	-0.00008 mg/L		0.000053	67.23%
Ca 317.933†	16.8	0.00179 mg/L		0.000894	0.00179 mg/L		0.000894	49.91%
Cd 228.802†	-8.6	-0.00027 mg/L		0.000099	-0.00027 mg/L		0.000099	37.10%
Co 228.616†	3.9	0.00010 mg/L		0.000065	0.00010 mg/L		0.000065	65.34%
Cr 267.716†	-0.6	-0.00012 mg/L		0.001209	-0.00012 mg/L		0.001209	>999.9%
Cu 324.752†	-335.3	-0.00120 mg/L		0.000121	-0.00120 mg/L		0.000121	10.11%
Fe 273.955†	1.1	0.00099 mg/L		0.002393	0.00099 mg/L		0.002393	242.70%
K 766.490†	-15.3	-0.00715 mg/L		0.016804	-0.00715 mg/L		0.016804	235.14%
Mg 279.077†	4.7	0.00425 mg/L		0.005563	0.00425 mg/L		0.005563	131.05%
Mn 257.610†	-1.1	-0.00004 mg/L		0.000046	-0.00004 mg/L		0.000046	123.16%
Mo 202.031†	15.2	0.00082 mg/L		0.000451	0.00082 mg/L		0.000451	54.74%
Na 589.592†	152.4	0.01188 mg/L		0.001953	0.01188 mg/L		0.001953	16.44%
Na 330.237†	3.9	0.1904 mg/L		0.22931	0.1904 mg/L		0.22931	120.46%
Ni 231.604†	-3.4	-0.00104 mg/L		0.001507	-0.00104 mg/L		0.001507	144.73%
Pb 220.353†	-1.5	-0.00018 mg/L		0.000329	-0.00018 mg/L		0.000329	182.17%
Sb 206.836†	24.7	0.00795 mg/L		0.001066	0.00795 mg/L		0.001066	13.40%
Se 196.026†	3.0	0.00219 mg/L		0.000495	0.00219 mg/L		0.000495	22.60%
Si 288.158†	-4.8	-0.00278 mg/L		0.002289	-0.00278 mg/L		0.002289	82.35%
Sn 189.927†	4.3	0.00128 mg/L		0.000913	0.00128 mg/L		0.000913	71.44%
Sr 421.552†	38.4	0.00005 mg/L		0.000061	0.00005 mg/L		0.000061	126.99%
Ti 334.903†	-3.5	-0.00022 mg/L		0.000062	-0.00022 mg/L		0.000062	28.36%
Tl 190.801†	4.3	0.00207 mg/L		0.001668	0.00207 mg/L		0.001668	80.42%
V 292.402†	-23.1	-0.00015 mg/L		0.000032	-0.00015 mg/L		0.000032	20.91%
Zn 206.200†	1.0	0.00031 mg/L		0.000711	0.00031 mg/L		0.000711	231.03%

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Analysis Begun

Start Time: 3/31/2014 12:08:46 PM

Plasma On Time: 3/31/2014 7:24:24 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0331.sif

Batch ID:

Results Data Set: I2140331

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Sequence No.: 1

Autosampler Location: 334

Sample ID: YE36 MB3 TWC

Date Collected: 3/31/2014 12:08:48 PM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE36 MB3 TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE36 MB3 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2856444.3	101.1	%	0.62			0.62%
ScR 361.383	245476.4	103.8	%	0.85			0.82%
Ag 328.068†	94.5	0.00049	mg/L	0.000116	0.00049	mg/L	0.000116 23.83%
Al 308.215†	5.9	0.00472	mg/L	0.003923	0.00472	mg/L	0.003923 83.11%
As 188.979†	0.7	0.00036	mg/L	0.002931	0.00036	mg/L	0.002931 803.57%
B 249.677†	3.1	0.00057	mg/L	0.001016	0.00057	mg/L	0.001016 178.33%
Ba 233.527†	4.4	0.00118	mg/L	0.001114	0.00118	mg/L	0.001114 94.64%
Be 313.042†	-2.7	-0.00001	mg/L	0.000034	-0.00001	mg/L	0.000034 603.09%
Ca 317.933†	24.8	0.00264	mg/L	0.000709	0.00264	mg/L	0.000709 26.81%
Cd 228.802†	-12.8	-0.00040	mg/L	0.000052	-0.00040	mg/L	0.000052 13.13%
Co 228.616†	-4.3	-0.00011	mg/L	0.000082	-0.00011	mg/L	0.000082 75.43%
Cr 267.716†	-0.6	-0.00012	mg/L	0.000928	-0.00012	mg/L	0.000928 757.16%
Cu 324.752†	-272.4	-0.00097	mg/L	0.000016	-0.00097	mg/L	0.000016 1.69%
Fe 273.955†	2.5	0.00227	mg/L	0.001720	0.00227	mg/L	0.001720 75.82%
K 766.490†	-41.1	-0.01919	mg/L	0.002544	-0.01919	mg/L	0.002544 13.26%
Mg 279.077†	2.9	0.00264	mg/L	0.004583	0.00264	mg/L	0.004583 173.82%
Mn 257.610†	-1.3	-0.00004	mg/L	0.000052	-0.00004	mg/L	0.000052 117.60%
Mo 202.031†	1.4	0.00008	mg/L	0.000055	0.00008	mg/L	0.000055 70.89%
Na 589.592†	162.8	0.01269	mg/L	0.002976	0.01269	mg/L	0.002976 23.45%
Na 330.237†	9.8	0.4734	mg/L	0.15794	0.4734	mg/L	0.15794 33.37%
Ni 231.604†	-3.2	-0.00097	mg/L	0.000682	-0.00097	mg/L	0.000682 70.08%
Pb 220.353†	5.9	0.00073	mg/L	0.000439	0.00073	mg/L	0.000439 60.52%
Sb 206.836†	5.5	0.00178	mg/L	0.002489	0.00178	mg/L	0.002489 139.74%
Se 196.026†	0.8	0.00057	mg/L	0.000702	0.00057	mg/L	0.000702 123.58%
Si 288.158†	7.2	0.00419	mg/L	0.007239	0.00419	mg/L	0.007239 172.97%
Sn 189.927†	0.7	0.00022	mg/L	0.000521	0.00022	mg/L	0.000521 239.33%
Sr 421.552†	36.4	0.00005	mg/L	0.000020	0.00005	mg/L	0.000020 44.64%
Ti 334.903†	-10.3	-0.00064	mg/L	0.000590	-0.00064	mg/L	0.000590 91.52%
Tl 190.801†	5.4	0.00261	mg/L	0.001795	0.00261	mg/L	0.001795 68.80%
V 292.402†	-16.2	-0.00011	mg/L	0.000106	-0.00011	mg/L	0.000106 97.49%
Zn 206.200†	6.8	0.00205	mg/L	0.000767	0.00205	mg/L	0.000767 37.46%

Sequence No.: 2
 Sample ID: YE29 L DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 335
 Date Collected: 3/31/2014 12:12:49 PM
 Data Type: Original

Nebulizer Parameters: YE29 L DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 L DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2952301.6	104.5	%	0.35			0.34%
ScR 361.383	2511111.1	106.1	%	1.05			0.99%
Ag 328.068†	41.1	0.00025	mg/L	0.000145	0.00025 mg/L	0.000145	57.01%
Al 308.215†	68.4	0.05454	mg/L	0.004203	0.05454 mg/L	0.004203	7.71%
As 188.979†	11.5	0.00619	mg/L	0.001526	0.00619 mg/L	0.001526	24.64%
B 249.677†	77.6	0.01417	mg/L	0.000475	0.01417 mg/L	0.000475	3.35%
Ba 233.527†	28.9	0.00771	mg/L	0.000928	0.00771 mg/L	0.000928	12.04%
Be 313.042†	-9.0	-0.00002	mg/L	0.000047	-0.00002 mg/L	0.000047	247.88%
Ca 317.933†	64897.0	6.903	mg/L	0.0076	6.903 mg/L	0.0076	0.11%
Cd 228.802†	-19.2	-0.00063	mg/L	0.000056	-0.00063 mg/L	0.000056	8.87%
Co 228.616†	20.5	0.00053	mg/L	0.000211	0.00053 mg/L	0.000211	40.05%
Cr 267.716†	1.3	-0.00004	mg/L	0.000422	-0.00004 mg/L	0.000422	>999.9%
Cu 324.752†	-316.1	-0.00116	mg/L	0.000071	-0.00116 mg/L	0.000071	6.18%
Fe 273.955†	230.5	0.2093	mg/L	0.00412	0.2093 mg/L	0.00412	1.97%
K 766.490†	1881.7	0.8790	mg/L	0.01862	0.8790 mg/L	0.01862	2.12%
Mg 279.077†	3199.1	2.914	mg/L	0.0507	2.914 mg/L	0.0507	1.74%
Mn 257.610†	537.4	0.01767	mg/L	0.000206	0.01767 mg/L	0.000206	1.17%
Mo 202.031†	9.1	0.00039	mg/L	0.000242	0.00039 mg/L	0.000242	62.59%
Na 589.592†	64353.3	5.016	mg/L	0.0178	5.016 mg/L	0.0178	0.35%
Na 330.237†	114.7	5.525	mg/L	0.1150	5.525 mg/L	0.1150	2.08%
Ni 231.604†	-4.0	-0.00125	mg/L	0.002177	-0.00125 mg/L	0.002177	174.17%
Pb 220.353†	-5.2	-0.00064	mg/L	0.000926	-0.00064 mg/L	0.000926	145.61%
Sb 206.836†	-4.9	-0.00158	mg/L	0.001178	-0.00158 mg/L	0.001178	74.48%
Se 196.026†	8.9	0.00649	mg/L	0.001591	0.00649 mg/L	0.001591	24.50%
Si 288.158†	13175.9	7.704	mg/L	0.0709	7.704 mg/L	0.0709	0.92%
Sn 189.927†	-8.5	-0.00166	mg/L	0.000553	-0.00166 mg/L	0.000553	33.34%
Sr 421.552†	42293.9	0.05312	mg/L	0.000171	0.05312 mg/L	0.000171	0.32%
Ti 334.903†	21.9	0.00088	mg/L	0.000327	0.00088 mg/L	0.000327	37.05%
Tl 190.801†	12.5	0.00602	mg/L	0.002331	0.00602 mg/L	0.002331	38.70%
V 292.402†	90.4	0.00059	mg/L	0.000115	0.00059 mg/L	0.000115	19.42%
Zn 206.200†	9.7	0.00438	mg/L	0.000481	0.00438 mg/L	0.000481	10.99%

Sequence No.: 3
 Sample ID: YE29 M DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 336
 Date Collected: 3/31/2014 12:17:04 PM
 Data Type: Original

Nebulizer Parameters: YE29 M DMN

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE29 M DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2938057.2	104.0	%	0.53			0.51%
ScR 361.383	252292.6	106.6	%	1.25			1.17%
Ag 328.068†	8.0	0.00007	mg/L	0.000131	0.00007	0.000131	177.56%
Al 308.215†	22.6	0.01801	mg/L	0.000792	0.01801	0.000792	4.40%
As 188.979†	10.3	0.00559	mg/L	0.002544	0.00559	0.002544	45.50%
B 249.677†	62.8	0.01147	mg/L	0.000504	0.01147	0.000504	4.39%
Ba 233.527†	6.6	0.00175	mg/L	0.000284	0.00175	0.000284	16.21%
Be 313.042†	-9.9	-0.00002	mg/L	0.000036	-0.00002	0.000036	174.81%
Ca 317.933†	49726.8	5.289	mg/L	0.0196	5.289	0.0196	0.37%
Cd 228.802†	-14.1	-0.00047	mg/L	0.000049	-0.00047	0.000049	10.60%
Co 228.616†	15.8	0.00041	mg/L	0.000027	0.00041	0.000027	6.72%
Cr 267.716†	2.9	0.00038	mg/L	0.001469	0.00038	0.001469	383.12%
Cu 324.752†	-239.4	-0.00088	mg/L	0.000149	-0.00088	0.000149	16.97%
Fe 273.955†	23.8	0.02160	mg/L	0.001190	0.02160	0.001190	5.51%
K 766.490†	1320.9	0.6170	mg/L	0.01854	0.6170	0.01854	3.01%
Mg 279.077†	2064.7	1.880	mg/L	0.0090	1.880	0.0090	0.48%
Mn 257.610†	68.9	0.00224	mg/L	0.000094	0.00224	0.000094	4.21%
Mo 202.031†	1.3	-0.00001	mg/L	0.000072	-0.00001	0.000072	819.35%
Na 589.592†	52736.5	4.111	mg/L	0.0051	4.111	0.0051	0.12%
Na 330.237†	94.4	4.552	mg/L	0.1544	4.552	0.1544	3.39%
Ni 231.604†	-1.5	-0.00047	mg/L	0.000778	-0.00047	0.000778	165.86%
Pb 220.353†	-2.3	-0.00028	mg/L	0.000853	-0.00028	0.000853	301.37%
Sb 206.836†	-12.9	-0.00416	mg/L	0.002245	-0.00416	0.002245	53.95%
Se 196.026†	10.8	0.00786	mg/L	0.000950	0.00786	0.000950	12.08%
Si 288.158†	12236.6	7.155	mg/L	0.0268	7.155	0.0268	0.37%
Sn 189.927†	-4.9	-0.00081	mg/L	0.000985	-0.00081	0.000985	121.13%
Sr 421.552†	30113.9	0.03782	mg/L	0.000105	0.03782	0.000105	0.28%
Ti 334.903†	1.3	-0.00030	mg/L	0.000129	-0.00030	0.000129	43.81%
Tl 190.801†	11.8	0.00567	mg/L	0.001065	0.00567	0.001065	18.80%
V 292.402†	65.6	0.00044	mg/L	0.000150	0.00044	0.000150	34.13%
Zn 206.200†	-1.1	0.00100	mg/L	0.000536	0.00100	0.000536	53.72%

Sequence No.: 4
 Sample ID: YE29 N DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 337
 Date Collected: 3/31/2014 12:21:04 PM
 Data Type: Original

Nebulizer Parameters: YE29 N DMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE29 N DMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2958950.4	104.7	%	1.40				1.33%
ScR 361.383	253764.4	107.3	%	1.98				1.85%
Ag 328.068†	44.5	0.00029	mg/L	0.000155	0.00029	mg/L	0.000155	52.67%
Al 308.215†	8.2	0.00649	mg/L	0.006437	0.00649	mg/L	0.006437	99.19%
As 188.979†	14.6	0.00768	mg/L	0.002154	0.00768	mg/L	0.002154	28.05%
B 249.677†	32.1	0.00587	mg/L	0.000710	0.00587	mg/L	0.000710	12.10%
Ba 233.527†	14.0	0.00376	mg/L	0.000380	0.00376	mg/L	0.000380	10.10%
Be 313.042†	-8.1	-0.00002	mg/L	0.000035	-0.00002	mg/L	0.000035	201.11%
Ca 317.933†	99237.1	10.56	mg/L	0.018	10.56	mg/L	0.018	0.17%
Cd 228.802†	-18.0	-0.00060	mg/L	0.000146	-0.00060	mg/L	0.000146	24.50%
Co 228.616†	14.4	0.00037	mg/L	0.000141	0.00037	mg/L	0.000141	37.98%
Cr 267.716†	6.5	0.00078	mg/L	0.000963	0.00078	mg/L	0.000963	122.91%
Cu 324.752†	-346.4	-0.00130	mg/L	0.000214	-0.00130	mg/L	0.000214	16.51%
Fe 273.955†	-1.7	-0.00158	mg/L	0.001821	-0.00158	mg/L	0.001821	115.50%
K 766.490†	4104.6	1.917	mg/L	0.0138	1.917	mg/L	0.0138	0.72%
Mg 279.077†	5787.5	5.272	mg/L	0.0495	5.272	mg/L	0.0495	0.94%
Mn 257.610†	-0.1	-0.00008	mg/L	0.000015	-0.00008	mg/L	0.000015	17.43%
Mo 202.031†	18.0	0.00082	mg/L	0.000156	0.00082	mg/L	0.000156	19.11%
Na 589.592†	76718.6	5.980	mg/L	0.0094	5.980	mg/L	0.0094	0.16%
Na 330.237†	141.2	6.791	mg/L	0.2095	6.791	mg/L	0.2095	3.09%
Ni 231.604†	0.1	0.00003	mg/L	0.000816	0.00003	mg/L	0.000816	>999.9%
Pb 220.353†	-10.4	-0.00128	mg/L	0.000396	-0.00128	mg/L	0.000396	31.06%
Sb 206.836†	-7.4	-0.00240	mg/L	0.001912	-0.00240	mg/L	0.001912	79.55%
Se 196.026†	11.0	0.00803	mg/L	0.001358	0.00803	mg/L	0.001358	16.91%
Si 288.158†	24156.1	14.12	mg/L	0.124	14.12	mg/L	0.124	0.88%
Sn 189.927†	-14.9	-0.00311	mg/L	0.000728	-0.00311	mg/L	0.000728	23.40%
Sr 421.552†	41012.7	0.05151	mg/L	0.000055	0.05151	mg/L	0.000055	0.11%
Ti 334.903†	5.5	-0.00040	mg/L	0.000253	-0.00040	mg/L	0.000253	62.83%
Tl 190.801†	13.3	0.00636	mg/L	0.001834	0.00636	mg/L	0.001834	28.85%
V 292.402†	473.3	0.00316	mg/L	0.000166	0.00316	mg/L	0.000166	5.24%
Zn 206.200†	-5.7	0.00092	mg/L	0.000349	0.00092	mg/L	0.000349	38.12%

Sequence No.: 5
 Sample ID: YE29 F DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 338
 Date Collected: 3/31/2014 12:25:19 PM
 Data Type: Original

Nebulizer Parameters: YE29 F DMN

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE29 F DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2966398.0	105.0	%	0.54				0.52%
ScR 361.383	251632.2	106.4	%	1.00				0.94%
Ag 328.068†	-0.3	0.00006	mg/L	0.000133	0.00006	mg/L	0.000133	222.35%
Al 308.215†	9.5	0.00754	mg/L	0.004680	0.00754	mg/L	0.004680	62.05%
As 188.979†	14.5	0.00764	mg/L	0.001786	0.00764	mg/L	0.001786	23.39%
B 249.677†	64.4	0.01178	mg/L	0.000336	0.01178	mg/L	0.000336	2.86%
Ba 233.527†	11.5	0.00308	mg/L	0.000106	0.00308	mg/L	0.000106	3.45%
Be 313.042†	-6.8	-0.00001	mg/L	0.000015	-0.00001	mg/L	0.000015	107.52%
Ca 317.933†	96013.6	10.21	mg/L	0.001	10.21	mg/L	0.001	0.01%
Cd 228.802†	-17.9	-0.00059	mg/L	0.000047	-0.00059	mg/L	0.000047	7.98%
Co 228.616†	16.3	0.00042	mg/L	0.000051	0.00042	mg/L	0.000051	12.08%
Cr 267.716†	-0.1	-0.00032	mg/L	0.000955	-0.00032	mg/L	0.000955	295.65%
Cu 324.752†	-372.2	-0.00137	mg/L	0.000101	-0.00137	mg/L	0.000101	7.34%
Fe 273.955†	1.2	0.00106	mg/L	0.000680	0.00106	mg/L	0.000680	64.36%
K 766.490†	1656.4	0.7737	mg/L	0.00567	0.7737	mg/L	0.00567	0.73%
Mg 279.077†	2509.6	2.285	mg/L	0.0135	2.285	mg/L	0.0135	0.59%
Mn 257.610†	8.4	0.00022	mg/L	0.000171	0.00022	mg/L	0.000171	78.50%
Mo 202.031†	11.5	0.00047	mg/L	0.000099	0.00047	mg/L	0.000099	21.12%
Na 589.592†	56387.5	4.395	mg/L	0.0141	4.395	mg/L	0.0141	0.32%
Na 330.237†	103.5	4.961	mg/L	0.0589	4.961	mg/L	0.0589	1.19%
Ni 231.604†	-3.6	-0.00113	mg/L	0.000515	-0.00113	mg/L	0.000515	45.62%
Pb 220.353†	-8.1	-0.00099	mg/L	0.000374	-0.00099	mg/L	0.000374	37.82%
Sb 206.836†	-11.4	-0.00368	mg/L	0.002159	-0.00368	mg/L	0.002159	58.65%
Se 196.026†	8.9	0.00646	mg/L	0.001152	0.00646	mg/L	0.001152	17.85%
Si 288.158†	16567.7	9.687	mg/L	0.0561	9.687	mg/L	0.0561	0.58%
Sn 189.927†	-11.5	-0.00217	mg/L	0.000968	-0.00217	mg/L	0.000968	44.71%
Sr 421.552†	41266.2	0.05183	mg/L	0.000043	0.05183	mg/L	0.000043	0.08%
Ti 334.903†	-0.3	-0.00074	mg/L	0.000191	-0.00074	mg/L	0.000191	25.96%
Tl 190.801†	12.3	0.00586	mg/L	0.001550	0.00586	mg/L	0.001550	26.44%
V 292.402†	58.9	0.00039	mg/L	0.000058	0.00039	mg/L	0.000058	14.87%
Zn 206.200†	-1.3	0.00140	mg/L	0.000415	0.00140	mg/L	0.000415	29.66%

Sequence No.: 6
 Sample ID: YE36 H TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 339
 Date Collected: 3/31/2014 12:29:34 PM
 Data Type: Original

Nebulizer Parameters: YE36 H TWC
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE36 H TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2853889.6	101.0 %	0.05			0.05%
ScR 361.383	246753.4	104.3 %	1.17			1.12%
Ag 328.068†	-55.4	-0.00007 mg/L	0.000229	-0.00007 mg/L	0.000229	312.32%
Al 308.215†	15149.3	12.08 mg/L	0.123	12.08 mg/L	0.123	1.02%
As 188.979†	14.4	0.01995 mg/L	0.001701	0.01995 mg/L	0.001701	8.53%
B 249.677†	606.9	0.1109 mg/L	0.00220	0.1109 mg/L	0.00220	1.98%
Ba 233.527†	897.6	0.2379 mg/L	0.00375	0.2379 mg/L	0.00375	1.57%
Be 313.042†	153.6	0.00031 mg/L	0.000035	0.00031 mg/L	0.000035	11.35%
Ca 317.933†	321002.0	34.14 mg/L	0.123	34.14 mg/L	0.123	0.36%
Cd 228.802†	-115.7	-0.00007 mg/L	0.000077	-0.00007 mg/L	0.000077	107.41%
Co 228.616†	670.3	0.01596 mg/L	0.000102	0.01596 mg/L	0.000102	0.64%
Cr 267.716†	301.1	0.06181 mg/L	0.001043	0.06181 mg/L	0.001043	1.69%
Cu 324.752†	5138.2	0.01866 mg/L	0.000258	0.01866 mg/L	0.000258	1.38%
Fe 273.955†	14523.8	13.19 mg/L	0.123	13.19 mg/L	0.123	0.94%
K 766.490†	7966.3	3.721 mg/L	0.0419	3.721 mg/L	0.0419	1.13%
Mg 279.077†	13959.4	12.71 mg/L	0.121	12.71 mg/L	0.121	0.96%
Mn 257.610†	11268.0	0.3713 mg/L	0.00353	0.3713 mg/L	0.00353	0.95%
Mo 202.031†	216.2	0.01122 mg/L	0.000056	0.01122 mg/L	0.000056	0.50%
Na 589.592†	186522.2	14.54 mg/L	0.063	14.54 mg/L	0.063	0.43%
Na 330.237†	320.0	15.43 mg/L	0.200	15.43 mg/L	0.200	1.29%
Ni 231.604†	11898.8	3.668 mg/L	0.0292	3.668 mg/L	0.0292	0.80%
Pb 220.353†	-12.1	0.00144 mg/L	0.000731	0.00144 mg/L	0.000731	50.75%
Sb 206.836†	5.0	0.00113 mg/L	0.001991	0.00113 mg/L	0.001991	176.32%
Se 196.026†	11.6	0.00843 mg/L	0.000695	0.00843 mg/L	0.000695	8.24%
Si 288.158†	32228.8	18.85 mg/L	0.085	18.85 mg/L	0.085	0.45%
Sn 189.927†	-41.0	-0.00787 mg/L	0.000656	-0.00787 mg/L	0.000656	8.33%
Sr 421.552†	297432.0	0.3735 mg/L	0.00164	0.3735 mg/L	0.00164	0.44%
Ti 334.903†	6547.6	0.4068 mg/L	0.00372	0.4068 mg/L	0.00372	0.91%
Tl 190.801†	9.0	0.00561 mg/L	0.000770	0.00561 mg/L	0.000770	13.72%
V 292.402†	3889.8	0.02528 mg/L	0.000048	0.02528 mg/L	0.000048	0.19%
Zn 206.200†	93.1	0.03170 mg/L	0.000371	0.03170 mg/L	0.000371	1.17%

Sequence No.: 7
 Sample ID: YE36 GDUP TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 340
 Date Collected: 3/31/2014 12:33:49 PM
 Data Type: Original

Nebulizer Parameters: YE36 GDUP TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE36 GDUP TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2876030.9	101.8	%	0.38				0.37%
ScR 361.383	245290.6	103.7	%	0.56				0.54%
Ag 328.068†	-14.2	-0.00001	mg/L	0.000058	-0.00001	mg/L	0.000058	805.10%
Al 308.215†	5163.0	4.118	mg/L	0.0334	4.118	mg/L	0.0334	0.81%
As 188.979†	1.6	0.00628	mg/L	0.001087	0.00628	mg/L	0.001087	17.31%
B 249.677†	2884.7	0.5272	mg/L	0.00593	0.5272	mg/L	0.00593	1.13%
Ba 233.527†	154.9	0.04068	mg/L	0.000887	0.04068	mg/L	0.000887	2.18%
Be 313.042†	39.3	0.00008	mg/L	0.000018	0.00008	mg/L	0.000018	23.07%
Ca 317.933†	99628.7	10.60	mg/L	0.020	10.60	mg/L	0.020	0.19%
Cd 228.802†	-53.1	-0.00026	mg/L	0.000022	-0.00026	mg/L	0.000022	8.33%
Co 228.616†	247.7	0.00584	mg/L	0.000032	0.00584	mg/L	0.000032	0.55%
Cr 267.716†	267.2	0.05553	mg/L	0.001445	0.05553	mg/L	0.001445	2.60%
Cu 324.752†	922.3	0.00339	mg/L	0.000178	0.00339	mg/L	0.000178	5.24%
Fe 273.955†	4513.0	4.098	mg/L	0.0544	4.098	mg/L	0.0544	1.33%
K 766.490†	7210.4	3.368	mg/L	0.0329	3.368	mg/L	0.0329	0.98%
Mg 279.077†	3191.5	2.904	mg/L	0.0285	2.904	mg/L	0.0285	0.98%
Mn 257.610†	4031.6	0.1329	mg/L	0.00182	0.1329	mg/L	0.00182	1.37%
Mo 202.031†	145.5	0.00774	mg/L	0.000181	0.00774	mg/L	0.000181	2.34%
Na 589.592†	195032.0	15.20	mg/L	0.034	15.20	mg/L	0.034	0.22%
Na 330.237†	342.8	16.63	mg/L	0.165	16.63	mg/L	0.165	0.99%
Ni 231.604†	4600.7	1.418	mg/L	0.0173	1.418	mg/L	0.0173	1.22%
Pb 220.353†	-9.6	-0.00008	mg/L	0.000828	-0.00008	mg/L	0.000828	>999.9%
Sb 206.836†	1.5	-0.00009	mg/L	0.001740	-0.00009	mg/L	0.001740	>999.9%
Se 196.026†	14.0	0.01019	mg/L	0.002589	0.01019	mg/L	0.002589	25.41%
Si 288.158†	26231.1	15.34	mg/L	0.385	15.34	mg/L	0.385	2.51%
Sn 189.927†	-14.2	-0.00287	mg/L	0.000482	-0.00287	mg/L	0.000482	16.80%
Sr 421.552†	109377.8	0.1374	mg/L	0.00030	0.1374	mg/L	0.00030	0.22%
Ti 334.903†	2854.2	0.1776	mg/L	0.00194	0.1776	mg/L	0.00194	1.09%
Tl 190.801†	10.5	0.00544	mg/L	0.002830	0.00544	mg/L	0.002830	52.06%
V 292.402†	1296.3	0.00856	mg/L	0.000031	0.00856	mg/L	0.000031	0.36%
Zn 206.200†	23.1	0.00987	mg/L	0.000313	0.00987	mg/L	0.000313	3.17%

Sequence No.: 8
 Sample ID: YE36 G TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 341
 Date Collected: 3/31/2014 12:38:04 PM
 Data Type: Original

Nebulizer Parameters: YE36 G TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE36 G TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2858951.3	101.2	%	0.50			0.50%
ScR 361.383	247475.3	104.6	%	0.45			0.43%
Ag 328.068†	47.3	0.00031	mg/L	0.000330	0.00031 mg/L	0.000330	107.47%
Al 308.215†	2066.2	1.648	mg/L	0.0087	1.648 mg/L	0.0087	0.53%
As 188.979†	9.0	0.00647	mg/L	0.000779	0.00647 mg/L	0.000779	12.05%
B 249.677†	2856.6	0.5220	mg/L	0.00285	0.5220 mg/L	0.00285	0.55%
Ba 233.527†	128.7	0.03401	mg/L	0.000334	0.03401 mg/L	0.000334	0.98%
Be 313.042†	32.5	0.00007	mg/L	0.000003	0.00007 mg/L	0.000003	4.43%
Ca 317.933†	95878.6	10.20	mg/L	0.019	10.20 mg/L	0.019	0.18%
Cd 228.802†	-52.6	-0.00028	mg/L	0.000032	-0.00028 mg/L	0.000032	11.66%
Co 228.616†	201.3	0.00486	mg/L	0.000019	0.00486 mg/L	0.000019	0.39%
Cr 267.716†	235.9	0.04899	mg/L	0.001369	0.04899 mg/L	0.001369	2.79%
Cu 324.752†	419.6	0.00152	mg/L	0.000078	0.00152 mg/L	0.000078	5.15%
Fe 273.955†	1994.5	1.811	mg/L	0.0153	1.811 mg/L	0.0153	0.85%
K 766.490†	6792.2	3.173	mg/L	0.0157	3.173 mg/L	0.0157	0.49%
Mg 279.077†	2570.7	2.340	mg/L	0.0047	2.340 mg/L	0.0047	0.20%
Mn 257.610†	3283.2	0.1082	mg/L	0.00041	0.1082 mg/L	0.00041	0.37%
Mo 202.031†	140.2	0.00746	mg/L	0.000520	0.00746 mg/L	0.000520	6.97%
Na 589.592†	190954.5	14.88	mg/L	0.036	14.88 mg/L	0.036	0.24%
Na 330.237†	330.5	16.00	mg/L	0.319	16.00 mg/L	0.319	1.99%
Ni 231.604†	4515.9	1.392	mg/L	0.0083	1.392 mg/L	0.0083	0.60%
Pb 220.353†	-2.2	0.00031	mg/L	0.000632	0.00031 mg/L	0.000632	202.71%
Sb 206.836†	3.4	0.00049	mg/L	0.000910	0.00049 mg/L	0.000910	185.94%
Se 196.026†	2.5	0.00182	mg/L	0.005614	0.00182 mg/L	0.005614	308.81%
Si 288.158†	22468.6	13.14	mg/L	0.125	13.14 mg/L	0.125	0.95%
Sn 189.927†	-14.2	-0.00294	mg/L	0.000576	-0.00294 mg/L	0.000576	19.59%
Sr 421.552†	104927.0	0.1318	mg/L	0.00026	0.1318 mg/L	0.00026	0.20%
Ti 334.903†	974.2	0.06015	mg/L	0.000654	0.06015 mg/L	0.000654	1.09%
Tl 190.801†	3.1	0.00165	mg/L	0.001809	0.00165 mg/L	0.001809	109.99%
V 292.402†	582.3	0.00397	mg/L	0.000057	0.00397 mg/L	0.000057	1.44%
Zn 206.200†	15.8	0.00725	mg/L	0.000595	0.00725 mg/L	0.000595	8.20%

Sequence No.: 9
 Sample ID: YE36 GSPK TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 342
 Date Collected: 3/31/2014 12:42:19 PM
 Data Type: Original

Nebulizer Parameters: YE36 GSPK TWC

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE36 GSPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2867815.0	101.5 %		0.78			0.77%
ScR 361.383	244841.2	103.5 %		0.54			0.53%
Ag 328.068†	102601.3	0.5301 mg/L		0.00182	0.5301 mg/L	0.00182	0.34%
Al 308.215†	7968.3	6.349 mg/L		0.0262	6.349 mg/L	0.0262	0.41%
As 188.979†	3534.6	2.083 mg/L		0.0166	2.083 mg/L	0.0166	0.80%
B 249.677†	2924.3	0.5333 mg/L		0.00067	0.5333 mg/L	0.00067	0.12%
Ba 233.527†	7639.5	2.045 mg/L		0.0066	2.045 mg/L	0.0066	0.32%
Be 313.042†	250692.0	0.5212 mg/L		0.00086	0.5212 mg/L	0.00086	0.17%
Ca 317.933†	198439.0	21.11 mg/L		0.025	21.11 mg/L	0.025	0.12%
Cd 228.802†	17288.9	0.5218 mg/L		0.00237	0.5218 mg/L	0.00237	0.45%
Co 228.616†	19751.1	0.5090 mg/L		0.00170	0.5090 mg/L	0.00170	0.33%
Cr 267.716†	2765.1	0.5757 mg/L		0.00090	0.5757 mg/L	0.00090	0.16%
Cu 324.752†	143283.1	0.5110 mg/L		0.00205	0.5110 mg/L	0.00205	0.40%
Fe 273.955†	7148.0	6.487 mg/L		0.0220	6.487 mg/L	0.0220	0.34%
K 766.490†	29452.1	13.76 mg/L		0.010	13.76 mg/L	0.010	0.08%
Mg 279.077†	14806.2	13.48 mg/L		0.035	13.48 mg/L	0.035	0.26%
Mn 257.610†	20111.7	0.6635 mg/L		0.00279	0.6635 mg/L	0.00279	0.42%
Mo 202.031†	164.8	0.00863 mg/L		0.000258	0.00863 mg/L	0.000258	2.99%
Na 589.592†	328824.4	25.63 mg/L		0.081	25.63 mg/L	0.081	0.32%
Na 330.237†	556.8	26.81 mg/L		0.223	26.81 mg/L	0.223	0.83%
Ni 231.604†	6269.1	1.932 mg/L		0.0058	1.932 mg/L	0.0058	0.30%
Pb 220.353†	16798.7	2.068 mg/L		0.0060	2.068 mg/L	0.0060	0.29%
Sb 206.836†	14.0	-0.00107 mg/L		0.000248	-0.00107 mg/L	0.000248	23.12%
Se 196.026†	2810.9	2.050 mg/L		0.0195	2.050 mg/L	0.0195	0.95%
Si 288.158†	27794.7	16.26 mg/L		0.128	16.26 mg/L	0.128	0.79%
Sn 189.927†	-29.8	-0.00611 mg/L		0.001231	-0.00611 mg/L	0.001231	20.15%
Sr 421.552†	519357.8	0.6523 mg/L		0.00119	0.6523 mg/L	0.00119	0.18%
Ti 334.903†	2932.4	0.1817 mg/L		0.00054	0.1817 mg/L	0.00054	0.30%
Tl 190.801†	4251.7	2.031 mg/L		0.0197	2.031 mg/L	0.0197	0.97%
V 292.402†	76848.9	0.5144 mg/L		0.00172	0.5144 mg/L	0.00172	0.33%
Zn 206.200†	1686.0	0.5134 mg/L		0.00302	0.5134 mg/L	0.00302	0.59%

Sequence No.: 10
 Sample ID: YE36 MB3SPK TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 343
 Date Collected: 3/31/2014 12:46:19 PM
 Data Type: Original

Nebulizer Parameters: YE36 MB3SPK TWC

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: YE36 MB3SPK TWC

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units	Units		Conc. Units			
ScA 357.253	2874064.0	101.7	%	0.37				0.37%
ScR 361.383	246082.2	104.0	%	0.50				0.48%
Ag 328.068†	102607.1	0.5300	mg/L	0.00266	0.5300	mg/L	0.00266	0.50%
Al 308.215†	2607.2	2.073	mg/L	0.0184	2.073	mg/L	0.0184	0.89%
As 188.979†	3523.1	2.071	mg/L	0.0077	2.071	mg/L	0.0077	0.37%
B 249.677†	7.7	0.00035	mg/L	0.000893	0.00035	mg/L	0.000893	258.05%
Ba 233.527†	7524.4	2.015	mg/L	0.0231	2.015	mg/L	0.0231	1.15%
Be 313.042†	250142.9	0.5201	mg/L	0.00253	0.5201	mg/L	0.00253	0.49%
Ca 317.933†	97279.9	10.35	mg/L	0.017	10.35	mg/L	0.017	0.17%
Cd 228.802†	17237.9	0.5189	mg/L	0.00089	0.5189	mg/L	0.00089	0.17%
Co 228.616†	19479.5	0.5026	mg/L	0.00094	0.5026	mg/L	0.00094	0.19%
Cr 267.716†	2544.1	0.5298	mg/L	0.00367	0.5298	mg/L	0.00367	0.69%
Cu 324.752†	140801.4	0.5020	mg/L	0.00108	0.5020	mg/L	0.00108	0.21%
Fe 273.955†	2415.0	2.190	mg/L	0.0088	2.190	mg/L	0.0088	0.40%
K 766.490†	22293.0	10.41	mg/L	0.055	10.41	mg/L	0.055	0.53%
Mg 279.077†	11549.1	10.52	mg/L	0.046	10.52	mg/L	0.046	0.44%
Mn 257.610†	15276.8	0.5042	mg/L	0.00128	0.5042	mg/L	0.00128	0.25%
Mo 202.031†	27.6	0.00134	mg/L	0.000325	0.00134	mg/L	0.000325	24.26%
Na 589.592†	132128.6	10.30	mg/L	0.011	10.30	mg/L	0.011	0.11%
Na 330.237†	232.5	11.08	mg/L	0.119	11.08	mg/L	0.119	1.07%
Ni 231.604†	1667.1	0.5131	mg/L	0.00319	0.5131	mg/L	0.00319	0.62%
Pb 220.353†	16925.1	2.083	mg/L	0.0004	2.083	mg/L	0.0004	0.02%
Sb 206.836†	21.8	0.00192	mg/L	0.000572	0.00192	mg/L	0.000572	29.77%
Se 196.026†	2837.1	2.069	mg/L	0.0040	2.069	mg/L	0.0040	0.19%
Si 288.158†	118.4	0.07281	mg/L	0.033305	0.07281	mg/L	0.033305	45.74%
Sn 189.927†	-16.9	-0.00365	mg/L	0.000909	-0.00365	mg/L	0.000909	24.89%
Sr 421.552†	405596.4	0.5094	mg/L	0.00056	0.5094	mg/L	0.00056	0.11%
Ti 334.903†	9.7	-0.00023	mg/L	0.000321	-0.00023	mg/L	0.000321	140.58%
Tl 190.801†	4262.5	2.035	mg/L	0.0069	2.035	mg/L	0.0069	0.34%
V 292.402†	75748.1	0.5072	mg/L	0.00176	0.5072	mg/L	0.00176	0.35%
Zn 206.200†	1678.0	0.5080	mg/L	0.00330	0.5080	mg/L	0.00330	0.65%

Sequence No.: 11
 Sample ID: CV2
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/31/2014 12:50:19 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2860095.4	101.2	%	0.72			0.72%
ScR 361.383	243111.1	102.8	%	0.51			0.50%
Ag 328.068†	200424.2	1.035	mg/L	0.0044	1.035 mg/L	0.0044	0.43%
Al 308.215†	2569.1	2.018	mg/L	0.0120	2.018 mg/L	0.0120	0.60%
As 188.979†	3412.6	2.039	mg/L	0.0077	2.039 mg/L	0.0077	0.38%
B 249.677†	5551.0	1.013	mg/L	0.0026	1.013 mg/L	0.0026	0.26%
Ba 233.527†	3636.6	0.9736	mg/L	0.00887	0.9736 mg/L	0.00887	0.91%
Be 313.042†	497268.6	1.034	mg/L	0.0039	1.034 mg/L	0.0039	0.38%
Ca 317.933†	19876.5	2.114	mg/L	0.0124	2.114 mg/L	0.0124	0.59%
Cd 228.802†	33713.1	1.025	mg/L	0.0050	1.025 mg/L	0.0050	0.49%
Co 228.616†	38540.8	0.9930	mg/L	0.00664	0.9930 mg/L	0.00664	0.67%
Cr 267.716†	4989.6	1.041	mg/L	0.0033	1.041 mg/L	0.0033	0.32%
Cu 324.752†	279332.7	0.9955	mg/L	0.00170	0.9955 mg/L	0.00170	0.17%
Fe 273.955†	2391.3	2.165	mg/L	0.0117	2.165 mg/L	0.0117	0.54%
K 766.490†	43680.4	20.40	mg/L	0.015	20.40 mg/L	0.015	0.07%
Mg 279.077†	2181.4	1.994	mg/L	0.0110	1.994 mg/L	0.0110	0.55%
Mn 257.610†	30211.2	0.9968	mg/L	0.00060	0.9968 mg/L	0.00060	0.06%
Mo 202.031†	17976.2	0.9767	mg/L	0.00845	0.9767 mg/L	0.00845	0.86%
Na 589.592†	648027.7	50.51	mg/L	0.056	50.51 mg/L	0.056	0.11%
Na 330.237†	1068.4	51.83	mg/L	0.264	51.83 mg/L	0.264	0.51%
Ni 231.604†	3300.1	1.018	mg/L	0.0053	1.018 mg/L	0.0053	0.52%
Pb 220.353†	16440.2	2.024	mg/L	0.0166	2.024 mg/L	0.0166	0.82%
Sb 206.836†	6449.8	2.073	mg/L	0.0053	2.073 mg/L	0.0053	0.25%
Se 196.026†	2767.1	2.017	mg/L	0.0041	2.017 mg/L	0.0041	0.20%
Si 288.158†	3358.4	1.968	mg/L	0.0263	1.968 mg/L	0.0263	1.33%
Sn 189.927†	3466.7	1.022	mg/L	0.0017	1.022 mg/L	0.0017	0.16%
Sr 421.552†	808234.2	1.015	mg/L	0.0006	1.015 mg/L	0.0006	0.06%
Ti 334.903†	15932.2	0.9945	mg/L	0.00056	0.9945 mg/L	0.00056	0.06%
Tl 190.801†	4326.7	2.063	mg/L	0.0047	2.063 mg/L	0.0047	0.23%
V 292.402†	149224.3	0.9993	mg/L	0.00484	0.9993 mg/L	0.00484	0.48%
Zn 206.200†	3367.9	1.020	mg/L	0.0050	1.020 mg/L	0.0050	0.49%

Sequence No.: 12
 Sample ID: CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/31/2014 12:54:23 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2895961.1	102.5 %	0.33			0.32%
ScR 361.383	248970.4	105.2 %	0.78			0.74%
Ag 328.068†	25.6	0.00013 mg/L	0.000061	0.00013 mg/L	0.000061	45.88%
Al 308.215†	2.3	0.00185 mg/L	0.002751	0.00185 mg/L	0.002751	148.40%
As 188.979†	0.8	0.00050 mg/L	0.001843	0.00050 mg/L	0.001843	368.93%
B 249.677†	9.1	0.00166 mg/L	0.000852	0.00166 mg/L	0.000852	51.25%
Ba 233.527†	0.0	0.00000 mg/L	0.000431	0.00000 mg/L	0.000431	>999.9%
Be 313.042†	0.3	0.00000 mg/L	0.000018	0.00000 mg/L	0.000018	>999.9%
Ca 317.933†	-0.7	-0.00007 mg/L	0.000614	-0.00007 mg/L	0.000614	848.69%
Cd 228.802†	-11.2	-0.00035 mg/L	0.000099	-0.00035 mg/L	0.000099	28.78%
Co 228.616†	-0.2	-0.00000 mg/L	0.000146	-0.00000 mg/L	0.000146	>999.9%
Cr 267.716†	-2.0	-0.00043 mg/L	0.000051	-0.00043 mg/L	0.000051	11.96%
Cu 324.752†	-430.0	-0.00153 mg/L	0.000136	-0.00153 mg/L	0.000136	8.87%
Fe 273.955†	2.3	0.00212 mg/L	0.000169	0.00212 mg/L	0.000169	7.97%
K 766.490†	-33.4	-0.01562 mg/L	0.019099	-0.01562 mg/L	0.019099	122.23%
Mg 279.077†	3.9	0.00355 mg/L	0.006538	0.00355 mg/L	0.006538	184.15%
Mn 257.610†	-0.9	-0.00003 mg/L	0.000059	-0.00003 mg/L	0.000059	187.05%
Mo 202.031†	13.6	0.00074 mg/L	0.000136	0.00074 mg/L	0.000136	18.36%
Na 589.592†	126.1	0.00983 mg/L	0.001940	0.00983 mg/L	0.001940	19.73%
Na 330.237†	11.6	0.5629 mg/L	0.21305	0.5629 mg/L	0.21305	37.85%
Ni 231.604†	-0.8	-0.00024 mg/L	0.001408	-0.00024 mg/L	0.001408	577.34%
Pb 220.353†	-3.0	-0.00037 mg/L	0.000785	-0.00037 mg/L	0.000785	213.18%
Sb 206.836†	26.8	0.00865 mg/L	0.002536	0.00865 mg/L	0.002536	29.31%
Se 196.026†	6.3	0.00460 mg/L	0.002906	0.00460 mg/L	0.002906	63.24%
Si 288.158†	15.8	0.00925 mg/L	0.005278	0.00925 mg/L	0.005278	57.07%
Sn 189.927†	6.0	0.00176 mg/L	0.000847	0.00176 mg/L	0.000847	48.08%
Sr 421.552†	32.1	0.00004 mg/L	0.000020	0.00004 mg/L	0.000020	50.21%
Ti 334.903†	1.6	0.00010 mg/L	0.000548	0.00010 mg/L	0.000548	562.85%
Tl 190.801†	8.5	0.00406 mg/L	0.000807	0.00406 mg/L	0.000807	19.87%
V 292.402†	-21.6	-0.00015 mg/L	0.000120	-0.00015 mg/L	0.000120	82.28%
Zn 206.200†	2.1	0.00064 mg/L	0.000421	0.00064 mg/L	0.000421	65.51%

Sequence No.: 13
 Sample ID: YE36 MB1 DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 344
 Date Collected: 3/31/2014 12:58:23 PM
 Data Type: Original

Nebulizer Parameters: YE36 MB1 DMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE36 MB1 DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2991269.3	105.9	%	0.80			0.76%
ScR 361.383	255461.0	108.0	%	0.42			0.39%
Ag 328.068†	20.6	0.00011	mg/L	0.000253	0.00011 mg/L	0.000253	236.58%
Al 308.215†	38.9	0.03107	mg/L	0.006113	0.03107 mg/L	0.006113	19.67%
As 188.979†	5.2	0.00306	mg/L	0.002255	0.00306 mg/L	0.002255	73.76%
B 249.677†	30.6	0.00558	mg/L	0.001270	0.00558 mg/L	0.001270	22.75%
Ba 233.527†	1.8	0.00049	mg/L	0.000472	0.00049 mg/L	0.000472	97.17%
Be 313.042†	-7.9	-0.00002	mg/L	0.000028	-0.00002 mg/L	0.000028	168.73%
Ca 317.933†	654.3	0.06959	mg/L	0.001057	0.06959 mg/L	0.001057	1.52%
Cd 228.802†	-9.8	-0.00032	mg/L	0.000053	-0.00032 mg/L	0.000053	16.59%
Co 228.616†	17.2	0.00045	mg/L	0.000098	0.00045 mg/L	0.000098	21.92%
Cr 267.716†	2.9	0.00061	mg/L	0.000809	0.00061 mg/L	0.000809	133.62%
Cu 324.752†	-440.2	-0.00157	mg/L	0.000188	-0.00157 mg/L	0.000188	12.00%
Fe 273.955†	2.6	0.00240	mg/L	0.002387	0.00240 mg/L	0.002387	99.25%
K 766.490†	11.9	0.00555	mg/L	0.008534	0.00555 mg/L	0.008534	153.75%
Mg 279.077†	6.5	0.00593	mg/L	0.003483	0.00593 mg/L	0.003483	58.77%
Mn 257.610†	-4.4	-0.00015	mg/L	0.000072	-0.00015 mg/L	0.000072	49.16%
Mo 202.031†	-10.4	-0.00056	mg/L	0.000288	-0.00056 mg/L	0.000288	50.91%
Na 589.592†	262.1	0.02043	mg/L	0.002763	0.02043 mg/L	0.002763	13.53%
Na 330.237†	4.8	0.2346	mg/L	0.12009	0.2346 mg/L	0.12009	51.19%
Ni 231.604†	-3.4	-0.00106	mg/L	0.000332	-0.00106 mg/L	0.000332	31.27%
Pb 220.353†	2.7	0.00034	mg/L	0.000674	0.00034 mg/L	0.000674	200.05%
Sb 206.836†	-8.3	-0.00266	mg/L	0.001484	-0.00266 mg/L	0.001484	55.75%
Se 196.026†	9.8	0.00717	mg/L	0.001213	0.00717 mg/L	0.001213	16.91%
Si 288.158†	-15.2	-0.00887	mg/L	0.001941	-0.00887 mg/L	0.001941	21.88%
Sn 189.927†	4.8	0.00143	mg/L	0.001068	0.00143 mg/L	0.001068	74.69%
Sr 421.552†	304.6	0.00038	mg/L	0.000050	0.00038 mg/L	0.000050	12.99%
Ti 334.903†	-9.1	-0.00057	mg/L	0.000347	-0.00057 mg/L	0.000347	60.77%
Tl 190.801†	12.0	0.00572	mg/L	0.001807	0.00572 mg/L	0.001807	31.59%
V 292.402†	-27.7	-0.00018	mg/L	0.000128	-0.00018 mg/L	0.000128	70.45%
Zn 206.200†	2.7	0.00080	mg/L	0.000045	0.00080 mg/L	0.000045	5.61%

Sequence No.: 14
 Sample ID: YE36 I TWC
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 345
 Date Collected: 3/31/2014 1:02:39 PM
 Data Type: Original

Nebulizer Parameters: YE36 I TWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE36 I TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2934965.1	103.9 %		0.55			0.53%
ScR 361.383	252385.3	106.7 %		0.34			0.32%
Ag 328.068†	2.2	0.00012 mg/L		0.000074	0.00012 mg/L	0.000074	61.24%
Al 308.215†	6744.1	5.380 mg/L		0.0130	5.380 mg/L	0.0130	0.24%
As 188.979†	8.9	0.01295 mg/L		0.000806	0.01295 mg/L	0.000806	6.22%
B 249.677†	311.6	0.05693 mg/L		0.000497	0.05693 mg/L	0.000497	0.87%
Ba 233.527†	183.0	0.04795 mg/L		0.000405	0.04795 mg/L	0.000405	0.84%
Be 313.042†	22.1	0.00004 mg/L		0.000007	0.00004 mg/L	0.000007	18.39%
Ca 317.933†	165475.7	17.60 mg/L		0.038	17.60 mg/L	0.038	0.21%
Cd 228.802†	-20.9	-0.00047 mg/L		0.000055	-0.00047 mg/L	0.000055	11.72%
Co 228.616†	288.7	0.00694 mg/L		0.000051	0.00694 mg/L	0.000051	0.74%
Cr 267.716†	85.3	0.01725 mg/L		0.000198	0.01725 mg/L	0.000198	1.15%
Cu 324.752†	1506.5	0.00554 mg/L		0.000312	0.00554 mg/L	0.000312	5.63%
Fe 273.955†	7419.1	6.737 mg/L		0.0301	6.737 mg/L	0.0301	0.45%
K 766.490†	4908.0	2.293 mg/L		0.0147	2.293 mg/L	0.0147	0.64%
Mg 279.077†	7292.6	6.638 mg/L		0.0179	6.638 mg/L	0.0179	0.27%
Mn 257.610†	5250.3	0.1730 mg/L		0.00098	0.1730 mg/L	0.00098	0.57%
Mo 202.031†	104.5	0.00541 mg/L		0.000147	0.00541 mg/L	0.000147	2.72%
Na 589.592†	206917.7	16.13 mg/L		0.032	16.13 mg/L	0.032	0.20%
Na 330.237†	347.2	16.82 mg/L		0.138	16.82 mg/L	0.138	0.82%
Ni 231.604†	841.8	0.2595 mg/L		0.00184	0.2595 mg/L	0.00184	0.71%
Pb 220.353†	-7.2	0.00020 mg/L		0.000577	0.00020 mg/L	0.000577	287.37%
Sb 206.836†	0.1	-0.00000 mg/L		0.000687	-0.00000 mg/L	0.000687	>999.9%
Se 196.026†	6.0	0.00438 mg/L		0.000775	0.00438 mg/L	0.000775	17.69%
Si 288.158†	24031.6	14.05 mg/L		0.067	14.05 mg/L	0.067	0.48%
Sn 189.927†	-24.3	-0.00499 mg/L		0.001076	-0.00499 mg/L	0.001076	21.57%
Sr 421.552†	147881.3	0.1857 mg/L		0.00009	0.1857 mg/L	0.00009	0.05%
Ti 334.903†	4160.8	0.2588 mg/L		0.00071	0.2588 mg/L	0.00071	0.27%
Tl 190.801†	9.7	0.00534 mg/L		0.002817	0.00534 mg/L	0.002817	52.77%
V 292.402†	2229.1	0.01444 mg/L		0.000152	0.01444 mg/L	0.000152	1.06%
Zn 206.200†	38.2	0.01418 mg/L		0.001019	0.01418 mg/L	0.001019	7.19%

Sequence No.: 15
 Sample ID: YE36 B DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 346
 Date Collected: 3/31/2014 1:06:54 PM
 Data Type: Original

Nebulizer Parameters: YE36 B DMN
 Analyte Back Pressure Flow
 All 213.0 kPa 0.75 L/min

Mean Data: YE36 B DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2944695.2	104.2	%	0.40			0.39%
ScR 361.383	254916.4	107.8	%	2.01			1.87%
Ag 328.068†	-7.8	0.00013	mg/L	0.000154	0.00013 mg/L	0.000154	119.80%
Al 308.215†	12.5	0.00982	mg/L	0.002171	0.00982 mg/L	0.002171	22.11%
As 188.979†	30.7	0.01564	mg/L	0.001650	0.01564 mg/L	0.001650	10.54%
B 249.677†	603.2	0.1102	mg/L	0.00232	0.1102 mg/L	0.00232	2.11%
Ba 233.527†	43.2	0.01105	mg/L	0.000143	0.01105 mg/L	0.000143	1.29%
Be 313.042†	-23.7	-0.00005	mg/L	0.000039	-0.00005 mg/L	0.000039	78.21%
Ca 317.933†	263176.8	27.99	mg/L	0.347	27.99 mg/L	0.347	1.24%
Cd 228.802†	-117.2	-0.00051	mg/L	0.000135	-0.00051 mg/L	0.000135	26.35%
Co 228.616†	245.4	0.00582	mg/L	0.000130	0.00582 mg/L	0.000130	2.23%
Cr 267.716†	7.3	0.00044	mg/L	0.001006	0.00044 mg/L	0.001006	226.07%
Cu 324.752†	-393.8	-0.00151	mg/L	0.000061	-0.00151 mg/L	0.000061	4.06%
Fe 273.955†	747.5	0.6787	mg/L	0.01259	0.6787 mg/L	0.01259	1.86%
K 766.490†	5406.9	2.526	mg/L	0.0430	2.526 mg/L	0.0430	1.70%
Mg 279.077†	10408.3	9.479	mg/L	0.1669	9.479 mg/L	0.1669	1.76%
Mn 257.610†	4638.1	0.1528	mg/L	0.00268	0.1528 mg/L	0.00268	1.75%
Mo 202.031†	142.8	0.00732	mg/L	0.000314	0.00732 mg/L	0.000314	4.29%
Na 589.592†	165295.6	12.88	mg/L	0.175	12.88 mg/L	0.175	1.36%
Na 330.237†	287.6	13.80	mg/L	0.125	13.80 mg/L	0.125	0.91%
Ni 231.604†	10399.3	3.206	mg/L	0.0756	3.206 mg/L	0.0756	2.36%
Pb 220.353†	-15.7	-0.00157	mg/L	0.000632	-0.00157 mg/L	0.000632	40.16%
Sb 206.836†	-6.0	-0.00204	mg/L	0.001749	-0.00204 mg/L	0.001749	85.77%
Se 196.026†	17.8	0.01299	mg/L	0.004079	0.01299 mg/L	0.004079	31.39%
Si 288.158†	19934.2	11.66	mg/L	0.221	11.66 mg/L	0.221	1.90%
Sn 189.927†	-35.1	-0.00695	mg/L	0.000232	-0.00695 mg/L	0.000232	3.34%
Sr 421.552†	206615.0	0.2595	mg/L	0.00365	0.2595 mg/L	0.00365	1.41%
Ti 334.903†	38.9	0.00045	mg/L	0.000705	0.00045 mg/L	0.000705	157.14%
Tl 190.801†	19.8	0.00955	mg/L	0.001314	0.00955 mg/L	0.001314	13.75%
V 292.402†	5.0	0.00003	mg/L	0.000058	0.00003 mg/L	0.000058	213.20%
Zn 206.200†	-3.9	0.00100	mg/L	0.000247	0.00100 mg/L	0.000247	24.79%

Sequence No.: 16
 Sample ID: YE36 C DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 347
 Date Collected: 3/31/2014 1:11:10 PM
 Data Type: Original

Nebulizer Parameters: YE36 C DMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE36 C DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2884549.6	102.1	%	0.30			0.30%
ScR 361.383	252292.1	106.6	%	2.42			2.27%
Ag 328.068†	46.8	0.00034	mg/L	0.000117	0.00034 mg/L	0.000117	34.70%
Al 308.215†	18.3	0.01452	mg/L	0.005958	0.01452 mg/L	0.005958	41.02%
As 188.979†	19.4	0.01003	mg/L	0.001877	0.01003 mg/L	0.001877	18.70%
B 249.677†	308.7	0.05642	mg/L	0.001955	0.05642 mg/L	0.001955	3.46%
Ba 233.527†	29.0	0.00771	mg/L	0.000561	0.00771 mg/L	0.000561	7.27%
Be 313.042†	9.6	0.00002	mg/L	0.000059	0.00002 mg/L	0.000059	295.31%
Ca 317.933†	148377.1	15.78	mg/L	0.137	15.78 mg/L	0.137	0.87%
Cd 228.802†	-23.7	-0.00056	mg/L	0.000084	-0.00056 mg/L	0.000084	14.93%
Co 228.616†	147.1	0.00376	mg/L	0.000143	0.00376 mg/L	0.000143	3.80%
Cr 267.716†	0.7	-0.00045	mg/L	0.000449	-0.00045 mg/L	0.000449	100.04%
Cu 324.752†	-282.7	-0.00108	mg/L	0.000038	-0.00108 mg/L	0.000038	3.53%
Fe 273.955†	245.8	0.2232	mg/L	0.00677	0.2232 mg/L	0.00677	3.04%
K 766.490†	4029.4	1.882	mg/L	0.0423	1.882 mg/L	0.0423	2.25%
Mg 279.077†	5731.8	5.220	mg/L	0.1381	5.220 mg/L	0.1381	2.64%
Mn 257.610†	2658.0	0.08756	mg/L	0.001647	0.08756 mg/L	0.001647	1.88%
Mo 202.031†	85.4	0.00439	mg/L	0.000106	0.00439 mg/L	0.000106	2.42%
Na 589.592†	197359.1	15.38	mg/L	0.118	15.38 mg/L	0.118	0.76%
Na 330.237†	334.8	16.16	mg/L	0.021	16.16 mg/L	0.021	0.13%
Ni 231.604†	745.4	0.2298	mg/L	0.00611	0.2298 mg/L	0.00611	2.66%
Pb 220.353†	-13.3	-0.00161	mg/L	0.000223	-0.00161 mg/L	0.000223	13.85%
Sb 206.836†	-8.0	-0.00261	mg/L	0.000727	-0.00261 mg/L	0.000727	27.85%
Se 196.026†	10.7	0.00778	mg/L	0.000553	0.00778 mg/L	0.000553	7.11%
Si 288.158†	17982.4	10.51	mg/L	0.229	10.51 mg/L	0.229	2.18%
Sn 189.927†	-21.9	-0.00454	mg/L	0.000811	-0.00454 mg/L	0.000811	17.88%
Sr 421.552†	129067.1	0.1621	mg/L	0.00139	0.1621 mg/L	0.00139	0.86%
Ti 334.903†	22.2	0.00027	mg/L	0.000568	0.00027 mg/L	0.000568	209.89%
Tl 190.801†	14.3	0.00687	mg/L	0.001322	0.00687 mg/L	0.001322	19.23%
V 292.402†	35.7	0.00024	mg/L	0.000150	0.00024 mg/L	0.000150	62.06%
Zn 206.200†	-1.2	0.00158	mg/L	0.000707	0.00158 mg/L	0.000707	44.71%

Sequence No.: 17
 Sample ID: YE36 E WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 348
 Date Collected: 3/31/2014 1:15:25 PM
 Data Type: Original

Nebulizer Parameters: YE36 E WMN
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE36 E WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2892877.0	102.4 %	0.50			0.49%
ScR 361.383	-249587.4	105.5 %	0.52			0.49%
Ag 328.068†	13.4	0.00025 mg/L	0.000326	0.00025 mg/L	0.000326	130.33%
Al 308.215†	146.0	0.1164 mg/L	0.00184	0.1164 mg/L	0.00184	1.58%
As 188.979†	29.2	0.01475 mg/L	0.000976	0.01475 mg/L	0.000976	6.61%
B 249.677†	631.1	0.1153 mg/L	0.00027	0.1153 mg/L	0.00027	0.23%
Ba 233.527†	44.5	0.01136 mg/L	0.000152	0.01136 mg/L	0.000152	1.34%
Be 313.042†	16.3	0.00003 mg/L	0.000007	0.00003 mg/L	0.000007	20.78%
Ca 317.933†	281172.3	29.91 mg/L	0.090	29.91 mg/L	0.090	0.30%
Cd 228.802†	-122.5	-0.00045 mg/L	0.000134	-0.00045 mg/L	0.000134	29.78%
Co 228.616†	207.2	0.00479 mg/L	0.000131	0.00479 mg/L	0.000131	2.74%
Cr 267.716†	30.5	0.00523 mg/L	0.000123	0.00523 mg/L	0.000123	2.36%
Cu 324.752†	-228.0	-0.00093 mg/L	0.000066	-0.00093 mg/L	0.000066	7.11%
Fe 273.955†	827.9	0.7517 mg/L	0.00359	0.7517 mg/L	0.00359	0.48%
K 766.490†	5530.6	2.583 mg/L	0.0125	2.583 mg/L	0.0125	0.48%
Mg 279.077†	11077.7	10.09 mg/L	0.057	10.09 mg/L	0.057	0.56%
Mn 257.610†	3920.5	0.1291 mg/L	0.00031	0.1291 mg/L	0.00031	0.24%
Mo 202.031†	106.4	0.00532 mg/L	0.000207	0.00532 mg/L	0.000207	3.89%
Na 589.592†	177530.4	13.84 mg/L	0.089	13.84 mg/L	0.089	0.64%
Na 330.237†	296.0	14.19 mg/L	0.455	14.19 mg/L	0.455	3.21%
Ni 231.604†	11132.0	3.432 mg/L	0.0269	3.432 mg/L	0.0269	0.78%
Pb 220.353†	-22.2	-0.00231 mg/L	0.000544	-0.00231 mg/L	0.000544	23.52%
Sb 206.836†	-5.9	-0.00205 mg/L	0.001909	-0.00205 mg/L	0.001909	93.06%
Se 196.026†	15.3	0.01114 mg/L	0.003247	0.01114 mg/L	0.003247	29.15%
Si 288.158†	21413.1	12.52 mg/L	0.053	12.52 mg/L	0.053	0.42%
Sn 189.927†	-29.8	-0.00516 mg/L	0.001745	-0.00516 mg/L	0.001745	33.83%
Sr 421.552†	221691.0	0.2784 mg/L	0.00127	0.2784 mg/L	0.00127	0.45%
Ti 334.903†	97.3	0.00396 mg/L	0.000358	0.00396 mg/L	0.000358	9.05%
Tl 190.801†	17.1	0.00825 mg/L	0.000995	0.00825 mg/L	0.000995	12.06%
V 292.402†	76.2	0.00051 mg/L	0.000237	0.00051 mg/L	0.000237	46.27%
Zn 206.200†	-0.3	0.00223 mg/L	0.000290	0.00223 mg/L	0.000290	12.98%

Sequence No.: 18
 Sample ID: YE36 F WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 349
 Date Collected: 3/31/2014 1:19:40 PM
 Data Type: Original

Nebulizer Parameters: YE36 F WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE36 F WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2923673.9	103.5 %		0.85			0.82%
ScR 361.383	252636.6	106.8 %		1.20			1.13%
Ag 328.068†	-4.1	0.00008 mg/L		0.000047	0.00008 mg/L	0.000047	61.02%
Al 308.215†	17.2	0.01366 mg/L		0.005755	0.01366 mg/L	0.005755	42.11%
As 188.979†	19.2	0.00991 mg/L		0.003424	0.00991 mg/L	0.003424	34.55%
B 249.677†	314.2	0.05741 mg/L		0.001260	0.05741 mg/L	0.001260	2.19%
Ba 233.527†	30.6	0.00814 mg/L		0.000433	0.00814 mg/L	0.000433	5.32%
Be 313.042†	11.2	0.00002 mg/L		0.000022	0.00002 mg/L	0.000022	95.47%
Ca 317.933†	152891.0	16.26 mg/L		0.073	16.26 mg/L	0.073	0.45%
Cd 228.802†	-27.4	-0.00067 mg/L		0.000154	-0.00067 mg/L	0.000154	23.03%
Co 228.616†	137.4	0.00351 mg/L		0.000099	0.00351 mg/L	0.000099	2.82%
Cr 267.716†	7.2	0.00088 mg/L		0.000886	0.00088 mg/L	0.000886	100.54%
Cu 324.752†	-307.3	-0.00117 mg/L		0.000219	-0.00117 mg/L	0.000219	18.78%
Fe 273.955†	282.1	0.2562 mg/L		0.00262	0.2562 mg/L	0.00262	1.02%
K 766.490†	4133.4	1.931 mg/L		0.0130	1.931 mg/L	0.0130	0.67%
Mg 279.077†	5893.2	5.367 mg/L		0.0291	5.367 mg/L	0.0291	0.54%
Mn 257.610†	2544.3	0.08380 mg/L		0.000526	0.08380 mg/L	0.000526	0.63%
Mo 202.031†	78.6	0.00402 mg/L		0.000119	0.00402 mg/L	0.000119	2.95%
Na 589.592†	203615.8	15.87 mg/L		0.036	15.87 mg/L	0.036	0.23%
Na 330.237†	351.7	16.97 mg/L		0.177	16.97 mg/L	0.177	1.04%
Ni 231.604†	764.8	0.2358 mg/L		0.00112	0.2358 mg/L	0.00112	0.48%
Pb 220.353†	-6.0	-0.00072 mg/L		0.001567	-0.00072 mg/L	0.001567	217.77%
Sb 206.836†	-10.5	-0.00344 mg/L		0.002243	-0.00344 mg/L	0.002243	65.31%
Se 196.026†	13.3	0.00967 mg/L		0.001452	0.00967 mg/L	0.001452	15.01%
Si 288.158†	18650.6	10.91 mg/L		0.021	10.91 mg/L	0.021	0.19%
Sr 189.927†	-21.2	-0.00427 mg/L		0.000724	-0.00427 mg/L	0.000724	16.95%
Sr 421.552†	132780.9	0.1668 mg/L		0.00029	0.1668 mg/L	0.00029	0.17%
Ti 334.903†	23.4	0.00031 mg/L		0.000287	0.00031 mg/L	0.000287	91.68%
Tl 190.801†	13.6	0.00655 mg/L		0.003912	0.00655 mg/L	0.003912	59.77%
V 292.402†	53.3	0.00036 mg/L		0.000096	0.00036 mg/L	0.000096	26.54%
Zn 206.200†	5.9	0.00383 mg/L		0.000681	0.00383 mg/L	0.000681	17.77%

Sequence No.: 19
 Sample ID: YE36 ADUP DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 350
 Date Collected: 3/31/2014 1:23:55 PM
 Data Type: Original

Nebulizer Parameters: YE36 ADUP DMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE36 ADUP DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2936656.1	103.9 %		0.44			0.42%
ScR 361.383	252325.8	106.7 %		1.82			1.70%
Ag 328.068†	35.9	0.00024 mg/L		0.000139	0.00024 mg/L	0.000139	57.68%
Al 308.215†	20.7	0.01640 mg/L		0.004858	0.01640 mg/L	0.004858	29.63%
As 188.979†	12.7	0.00664 mg/L		0.002631	0.00664 mg/L	0.002631	39.64%
B 249.677†	2787.6	0.5094 mg/L		0.00973	0.5094 mg/L	0.00973	1.91%
Ba 233.527†	24.3	0.00633 mg/L		0.000259	0.00633 mg/L	0.000259	4.08%
Be 313.042†	3.1	0.00001 mg/L		0.000035	0.00001 mg/L	0.000035	553.01%
Ca 317.933†	86768.9	9.229 mg/L		0.0276	9.229 mg/L	0.0276	0.30%
Cd 228.802†	-53.6	-0.00041 mg/L		0.000119	-0.00041 mg/L	0.000119	29.37%
Co 228.616†	151.2	0.00370 mg/L		0.000022	0.00370 mg/L	0.000022	0.61%
Cr 267.716†	93.3	0.01921 mg/L		0.000883	0.01921 mg/L	0.000883	4.60%
Cu 324.752†	-416.6	-0.00152 mg/L		0.000208	-0.00152 mg/L	0.000208	13.62%
Fe 273.955†	23.0	0.02092 mg/L		0.003835	0.02092 mg/L	0.003835	18.33%
K 766.490†	6295.6	2.941 mg/L		0.0498	2.941 mg/L	0.0498	1.69%
Mg 279.077†	2097.5	1.910 mg/L		0.0302	1.910 mg/L	0.0302	1.58%
Mn 257.610†	2295.0	0.07564 mg/L		0.001546	0.07564 mg/L	0.001546	2.04%
Mo 202.031†	121.6	0.00646 mg/L		0.000287	0.00646 mg/L	0.000287	4.44%
Na 589.592†	182817.2	14.25 mg/L		0.031	14.25 mg/L	0.031	0.21%
Na 330.237†	311.5	15.07 mg/L		0.184	15.07 mg/L	0.184	1.22%
Ni 231.604†	4179.9	1.289 mg/L		0.0270	1.289 mg/L	0.0270	2.10%
Pb 220.353†	-11.7	-0.00124 mg/L		0.001025	-0.00124 mg/L	0.001025	82.47%
Sb 206.836†	-8.9	-0.00313 mg/L		0.001155	-0.00313 mg/L	0.001155	36.94%
Se 196.026†	13.0	0.00946 mg/L		0.001406	0.00946 mg/L	0.001406	14.87%
Si 288.158†	19712.1	11.53 mg/L		0.199	11.53 mg/L	0.199	1.73%
Sn 189.927†	-12.6	-0.00258 mg/L		0.000875	-0.00258 mg/L	0.000875	33.88%
Sr 421.552†	91311.4	0.1147 mg/L		0.00042	0.1147 mg/L	0.00042	0.36%
Ti 334.903†	3.9	-0.00041 mg/L		0.000512	-0.00041 mg/L	0.000512	123.38%
Tl 190.801†	11.9	0.00567 mg/L		0.000852	0.00567 mg/L	0.000852	15.04%
V 292.402†	27.4	0.00028 mg/L		0.000062	0.00028 mg/L	0.000062	22.29%
Zn 206.200†	-1.9	0.00158 mg/L		0.000378	0.00158 mg/L	0.000378	23.88%

Sequence No.: 20
Sample ID: YE36 A DMN
Analyst: ALA
Dilution: 1.000000X

Autosampler Location: 351
Date Collected: 3/31/2014 1:28:10 PM
Data Type: Original

Nebulizer Parameters: YE36 A DMN

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

Mean Data: YE36 A DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2902826.0	102.7 %		0.74			0.72%
ScR 361.383	252593.6	106.8 %		0.92			0.87%
Ag 328.068†	17.6	0.00015 mg/L		0.000082	0.00015 mg/L	0.000082	55.98%
Al 308.215†	19.3	0.01531 mg/L		0.002841	0.01531 mg/L	0.002841	18.56%
As 188.979†	16.3	0.00876 mg/L		0.002138	0.00876 mg/L	0.002138	24.41%
B 249.677†	2773.3	0.5068 mg/L		0.00545	0.5068 mg/L	0.00545	1.08%
Ba 233.527†	22.5	0.00587 mg/L		0.000404	0.00587 mg/L	0.000404	6.89%
Be 313.042†	-1.5	-0.00000 mg/L		0.000038	-0.00000 mg/L	0.000038	>999.9%
Ca 317.933†	85884.7	9.135 mg/L		0.0260	9.135 mg/L	0.0260	0.29%
Cd 228.802†	-54.9	-0.00046 mg/L		0.000070	-0.00046 mg/L	0.000070	15.27%
Co 228.616†	149.5	0.00365 mg/L		0.000085	0.00365 mg/L	0.000085	2.33%
Cr 267.716†	91.4	0.01882 mg/L		0.001277	0.01882 mg/L	0.001277	6.79%
Cu 324.752†	-363.7	-0.00133 mg/L		0.000055	-0.00133 mg/L	0.000055	4.08%
Fe 273.955†	22.0	0.02002 mg/L		0.001347	0.02002 mg/L	0.001347	6.73%
K 766.490†	6215.2	2.903 mg/L		0.0243	2.903 mg/L	0.0243	0.84%
Mg 279.077†	2073.0	1.888 mg/L		0.0156	1.888 mg/L	0.0156	0.83%
Mn 257.610†	2274.7	0.07497 mg/L		0.000911	0.07497 mg/L	0.000911	1.22%
Mo 202.031†	119.8	0.00637 mg/L		0.000196	0.00637 mg/L	0.000196	3.08%
Na 589.592†	180009.4	14.03 mg/L		0.085	14.03 mg/L	0.085	0.61%
Na 330.237†	305.6	14.78 mg/L		0.112	14.78 mg/L	0.112	0.76%
Ni 231.604†	4177.5	1.288 mg/L		0.0237	1.288 mg/L	0.0237	1.84%
Pb 220.353†	-10.5	-0.00110 mg/L		0.000455	-0.00110 mg/L	0.000455	41.41%
Sb 206.836†	-8.4	-0.00298 mg/L		0.000869	-0.00298 mg/L	0.000869	29.17%
Se 196.026†	13.2	0.00962 mg/L		0.003661	0.00962 mg/L	0.003661	38.05%
Si 288.158†	19576.8	11.45 mg/L		0.141	11.45 mg/L	0.141	1.23%
Sn 189.927†	-10.5	-0.00198 mg/L		0.001189	-0.00198 mg/L	0.001189	60.18%
Sr 421.552†	90218.4	0.1133 mg/L		0.00048	0.1133 mg/L	0.00048	0.43%
Ti 334.903†	1.7	-0.00055 mg/L		0.000268	-0.00055 mg/L	0.000268	48.61%
Tl 190.801†	15.5	0.00738 mg/L		0.000310	0.00738 mg/L	0.000310	4.19%
V 292.402†	29.8	0.00029 mg/L		0.000048	0.00029 mg/L	0.000048	16.67%
Zn 206.200†	-2.3	0.00145 mg/L		0.000092	0.00145 mg/L	0.000092	6.37%

Sequence No.: 21
 Sample ID: YE36 ASPK DMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 352
 Date Collected: 3/31/2014 1:32:25 PM
 Data Type: Original

Nebulizer Parameters: YE36 ASPK DMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE36 ASPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2958208.3	104.7	%	0.55			0.52%
ScR 361.383	249620.5	105.5	%	4.15			3.93%
Ag 328.068†	88144.4	0.4554	mg/L	0.00646	0.4554 mg/L	0.00646	1.42%
Al 308.215†	2581.5	2.052	mg/L	0.0828	2.052 mg/L	0.0828	4.03%
As 188.979†	3647.6	2.144	mg/L	0.0170	2.144 mg/L	0.0170	0.79%
B 249.677†	2827.9	0.5157	mg/L	0.02070	0.5157 mg/L	0.02070	4.01%
Ba 233.527†	7414.0	1.985	mg/L	0.0845	1.985 mg/L	0.0845	4.25%
Be 313.042†	242750.1	0.5047	mg/L	0.02462	0.5047 mg/L	0.02462	4.88%
Ca 317.933†	187233.4	19.92	mg/L	0.860	19.92 mg/L	0.860	4.32%
Cd 228.802†	17613.1	0.5313	mg/L	0.00489	0.5313 mg/L	0.00489	0.92%
Co 228.616†	19367.7	0.4995	mg/L	0.00443	0.4995 mg/L	0.00443	0.89%
Cr 267.716†	2623.7	0.5461	mg/L	0.02024	0.5461 mg/L	0.02024	3.71%
Cu 324.752†	138619.5	0.4942	mg/L	0.00590	0.4942 mg/L	0.00590	1.19%
Fe 273.955†	2439.2	2.212	mg/L	0.0789	2.212 mg/L	0.0789	3.57%
K 766.490†	29171.2	13.63	mg/L	0.546	13.63 mg/L	0.546	4.01%
Mg 279.077†	13835.5	12.60	mg/L	0.482	12.60 mg/L	0.482	3.82%
Mn 257.610†	18400.0	0.6071	mg/L	0.02153	0.6071 mg/L	0.02153	3.55%
Mo 202.031†	141.1	0.00736	mg/L	0.000297	0.00736 mg/L	0.000297	4.04%
Na 589.592†	316323.6	24.66	mg/L	1.035	24.66 mg/L	1.035	4.20%
Na 330.237†	528.8	25.40	mg/L	0.682	25.40 mg/L	0.682	2.69%
Ni 231.604†	5903.4	1.819	mg/L	0.0703	1.819 mg/L	0.0703	3.86%
Pb 220.353†	16874.5	2.077	mg/L	0.0201	2.077 mg/L	0.0201	0.97%
Sb 206.836†	10.6	-0.00197	mg/L	0.001016	-0.00197 mg/L	0.001016	51.71%
Se 196.026†	3134.5	2.286	mg/L	0.0154	2.286 mg/L	0.0154	0.67%
Si 288.158†	20248.3	11.84	mg/L	0.428	11.84 mg/L	0.428	3.61%
Sn 189.927†	-22.5	-0.00413	mg/L	0.001472	-0.00413 mg/L	0.001472	35.65%
Sr 421.552†	503626.8	0.6325	mg/L	0.02681	0.6325 mg/L	0.02681	4.24%
Ti 334.903†	18.8	-0.00034	mg/L	0.000511	-0.00034 mg/L	0.000511	150.05%
Tl 190.801†	4256.7	2.033	mg/L	0.0167	2.033 mg/L	0.0167	0.82%
V 292.402†	73864.9	0.4948	mg/L	0.00474	0.4948 mg/L	0.00474	0.96%
Zn 206.200†	1756.8	0.5340	mg/L	0.02265	0.5340 mg/L	0.02265	4.24%

Sequence No.: 22

Autosampler Location: 353

Sample ID: YE36 MB1SPK DMN

Date Collected: 3/31/2014 1:36:26 PM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE36 MB1SPK DMN

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE36 MB1SPK DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2973457.7	105.2	%	0.26				0.24%
ScR 361.383	253709.0	107.2	%	0.53				0.50%
Ag 328.068†	82217.0	0.4247	mg/L	0.03037	0.4247	mg/L	0.03037	7.15%
Al 308.215†	2548.2	2.026	mg/L	0.0058	2.026	mg/L	0.0058	0.29%
As 188.979†	3605.7	2.120	mg/L	0.0157	2.120	mg/L	0.0157	0.74%
B 249.677†	41.9	0.00662	mg/L	0.000528	0.00662	mg/L	0.000528	7.98%
Ba 233.527†	7116.9	1.906	mg/L	0.0043	1.906	mg/L	0.0043	0.23%
Be 313.042†	231845.5	0.4820	mg/L	0.00248	0.4820	mg/L	0.00248	0.52%
Ca 317.933†	95283.8	10.13	mg/L	0.024	10.13	mg/L	0.024	0.24%
Cd 228.802†	17469.7	0.5257	mg/L	0.00238	0.5257	mg/L	0.00238	0.45%
Co 228.616†	19016.8	0.4906	mg/L	0.00213	0.4906	mg/L	0.00213	0.43%
Cr 267.716†	2472.4	0.5148	mg/L	0.00100	0.5148	mg/L	0.00100	0.19%
Cu 324.752†	135517.2	0.4832	mg/L	0.00293	0.4832	mg/L	0.00293	0.61%
Fe 273.955†	2360.5	2.140	mg/L	0.0067	2.140	mg/L	0.0067	0.31%
K 766.490†	21787.9	10.18	mg/L	0.046	10.18	mg/L	0.046	0.45%
Mg 279.077†	11320.9	10.31	mg/L	0.012	10.31	mg/L	0.012	0.12%
Mn 257.610†	14951.7	0.4934	mg/L	0.00166	0.4934	mg/L	0.00166	0.34%
Mo 202.031†	17.9	0.00082	mg/L	0.000235	0.00082	mg/L	0.000235	28.80%
Na 589.592†	128763.8	10.04	mg/L	0.054	10.04	mg/L	0.054	0.54%
Na 330.237†	223.2	10.63	mg/L	0.174	10.63	mg/L	0.174	1.64%
Ni 231.604†	1624.9	0.5001	mg/L	0.00143	0.5001	mg/L	0.00143	0.29%
Pb 220.353†	16764.5	2.063	mg/L	0.0051	2.063	mg/L	0.0051	0.25%
Sb 206.836†	4.0	-0.00368	mg/L	0.001332	-0.00368	mg/L	0.001332	36.25%
Se 196.026†	3168.7	2.311	mg/L	0.0110	2.311	mg/L	0.0110	0.48%
Si 288.158†	-15.5	-0.00546	mg/L	0.002434	-0.00546	mg/L	0.002434	44.56%
Sn 189.927†	-15.6	-0.00330	mg/L	0.000376	-0.00330	mg/L	0.000376	11.41%
Sr 421.552†	394764.0	0.4958	mg/L	0.00161	0.4958	mg/L	0.00161	0.32%
Ti 334.903†	10.4	-0.00016	mg/L	0.000391	-0.00016	mg/L	0.000391	237.87%
Tl 190.801†	4236.7	2.023	mg/L	0.0080	2.023	mg/L	0.0080	0.40%
V 292.402†	73136.2	0.4897	mg/L	0.00196	0.4897	mg/L	0.00196	0.40%
Zn 206.200†	1699.9	0.5146	mg/L	0.00129	0.5146	mg/L	0.00129	0.25%

Sequence No.: 23
 Sample ID: CV 0
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/31/2014 1:40:26 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2852660.9	101.0 %	0.24			0.24%
ScR 361.383	244742.4	103.5 %	0.26			0.25%
Ag 328.068†	211061.1	1.090 mg/L	0.0026	1.090 mg/L	0.0026	0.24%
Al 308.215†	2546.4	2.000 mg/L	0.0043	2.000 mg/L	0.0043	0.21%
As 188.979†	3431.6	2.050 mg/L	0.0110	2.050 mg/L	0.0110	0.54%
B 249.677†	5513.7	1.007 mg/L	0.0029	1.007 mg/L	0.0029	0.29%
Ba 233.527†	3570.4	0.9559 mg/L	0.00496	0.9559 mg/L	0.00496	0.52%
Be 313.042†	501584.0	1.043 mg/L	0.0025	1.043 mg/L	0.0025	0.24%
Ca 317.933†	19821.6	2.108 mg/L	0.0086	2.108 mg/L	0.0086	0.41%
Cd 228.802†	33675.6	1.024 mg/L	0.0071	1.024 mg/L	0.0071	0.70%
Co 228.616†	38331.4	0.9876 mg/L	0.00912	0.9876 mg/L	0.00912	0.92%
Cr 267.716†	4974.4	1.038 mg/L	0.0027	1.038 mg/L	0.0027	0.26%
Cu 324.752†	279201.8	0.9950 mg/L	0.00303	0.9950 mg/L	0.00303	0.30%
Fe 273.955†	2403.4	2.176 mg/L	0.0079	2.176 mg/L	0.0079	0.36%
K 766.490†	43613.8	20.37 mg/L	0.073	20.37 mg/L	0.073	0.36%
Mg 279.077†	2169.5	1.983 mg/L	0.0070	1.983 mg/L	0.0070	0.35%
Mn 257.610†	30301.8	0.9998 mg/L	0.00428	0.9998 mg/L	0.00428	0.43%
Mo 202.031†	17998.9	0.9779 mg/L	0.00434	0.9779 mg/L	0.00434	0.44%
Na 589.592†	642894.7	50.11 mg/L	0.241	50.11 mg/L	0.241	0.48%
Na 330.237†	1064.0	51.62 mg/L	0.203	51.62 mg/L	0.203	0.39%
Ni 231.604†	3270.6	1.009 mg/L	0.0062	1.009 mg/L	0.0062	0.62%
Pb 220.353†	16493.1	2.030 mg/L	0.0120	2.030 mg/L	0.0120	0.59%
Sb 206.836†	6447.9	2.073 mg/L	0.0119	2.073 mg/L	0.0119	0.57%
Se 196.026†	2792.0	2.035 mg/L	0.0144	2.035 mg/L	0.0144	0.71%
Si 288.158†	3359.2	1.969 mg/L	0.0291	1.969 mg/L	0.0291	1.48%
Sn 189.927†	3485.6	1.028 mg/L	0.0046	1.028 mg/L	0.0046	0.45%
Sr 421.552†	804746.7	1.011 mg/L	0.0046	1.011 mg/L	0.0046	0.45%
Ti 334.903†	15930.1	0.9943 mg/L	0.00524	0.9943 mg/L	0.00524	0.53%
Tl 190.801†	4290.8	2.046 mg/L	0.0107	2.046 mg/L	0.0107	0.52%
V 292.402†	149071.9	0.9983 mg/L	0.00525	0.9983 mg/L	0.00525	0.53%
Zn 206.200†	3361.5	1.018 mg/L	0.0032	1.018 mg/L	0.0032	0.31%

Sequence No.: 24
 Sample ID: CB
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/31/2014 1:44:30 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2853977.3	101.0	%	0.26				0.25%
ScR 361.383	245615.4	103.8	%	0.75				0.72%
Ag 328.068†	76.6	0.00040	mg/L	0.000229	0.00040	mg/L	0.000229	57.94%
Al 308.215†	0.8	0.00059	mg/L	0.002423	0.00059	mg/L	0.002423	408.24%
As 188.979†	2.9	0.00167	mg/L	0.001478	0.00167	mg/L	0.001478	88.39%
B 249.677†	4.9	0.00089	mg/L	0.000887	0.00089	mg/L	0.000887	99.23%
Ba 233.527†	2.9	0.00077	mg/L	0.000787	0.00077	mg/L	0.000787	102.57%
Be 313.042†	21.3	0.00004	mg/L	0.000030	0.00004	mg/L	0.000030	67.44%
Ca 317.933†	1.8	0.00019	mg/L	0.001070	0.00019	mg/L	0.001070	554.54%
Cd 228.802†	-18.1	-0.00057	mg/L	0.000138	-0.00057	mg/L	0.000138	24.45%
Co 228.616†	2.1	0.00005	mg/L	0.000139	0.00005	mg/L	0.000139	253.99%
Cr 267.716†	3.8	0.00079	mg/L	0.000643	0.00079	mg/L	0.000643	81.20%
Cu 324.752†	-405.4	-0.00145	mg/L	0.000152	-0.00145	mg/L	0.000152	10.53%
Fe 273.955†	-0.3	-0.00029	mg/L	0.000357	-0.00029	mg/L	0.000357	121.52%
K 766.490†	-37.9	-0.01772	mg/L	0.016069	-0.01772	mg/L	0.016069	90.68%
Mg 279.077†	4.5	0.00406	mg/L	0.002681	0.00406	mg/L	0.002681	65.99%
Mn 257.610†	0.5	0.00002	mg/L	0.000184	0.00002	mg/L	0.000184	>999.9%
Mo 202.031†	16.0	0.00087	mg/L	0.000171	0.00087	mg/L	0.000171	19.70%
Na 589.592†	205.3	0.01600	mg/L	0.000988	0.01600	mg/L	0.000988	6.17%
Na 330.237†	4.8	0.2328	mg/L	0.10814	0.2328	mg/L	0.10814	46.45%
Ni 231.604†	-6.1	-0.00187	mg/L	0.000379	-0.00187	mg/L	0.000379	20.22%
Pb 220.353†	3.8	0.00048	mg/L	0.000425	0.00048	mg/L	0.000425	89.24%
Sb 206.836†	30.1	0.00967	mg/L	0.002314	0.00967	mg/L	0.002314	23.93%
Se 196.026†	3.2	0.00233	mg/L	0.003114	0.00233	mg/L	0.003114	133.41%
Si 288.158†	11.5	0.00674	mg/L	0.009883	0.00674	mg/L	0.009883	146.61%
Sn 189.927†	3.3	0.00098	mg/L	0.000653	0.00098	mg/L	0.000653	66.54%
Sr 421.552†	85.3	0.00011	mg/L	0.000044	0.00011	mg/L	0.000044	40.72%
Ti 334.903†	-4.6	-0.00029	mg/L	0.000539	-0.00029	mg/L	0.000539	186.76%
Tl 190.801†	6.8	0.00326	mg/L	0.001017	0.00326	mg/L	0.001017	31.21%
V 292.402†	-13.3	-0.00008	mg/L	0.000014	-0.00008	mg/L	0.000014	16.35%
Zn 206.200†	1.5	0.00046	mg/L	0.000511	0.00046	mg/L	0.000511	110.32%

Sequence No.: 25
 Sample ID: YE30 MB SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 354
 Date Collected: 3/31/2014 1:48:31 PM
 Data Type: Original

Nebulizer Parameters: YE30 MB SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE30 MB SWC

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	2847473.1	100.8 %	%	0.37				0.37%
ScR 361.383	247375.8	104.6 %	%	0.71				0.68%
Ag 328.068†	37.7	0.00019 mg/L	mg/L	0.000163	0.00039 mg/L	0.000326	83.70%	
Al 308.215†	21.3	0.01701 mg/L	mg/L	0.003200	0.03402 mg/L	0.006399	18.81%	
As 188.979†	2.1	0.00128 mg/L	mg/L	0.000643	0.00256 mg/L	0.001287	50.29%	
B 249.677†	1.5	0.00027 mg/L	mg/L	0.000347	0.00054 mg/L	0.000695	129.72%	
Ba 233.527†	5.2	0.00139 mg/L	mg/L	0.000896	0.00278 mg/L	0.001792	64.52%	
Be 313.042†	6.7	0.00001 mg/L	mg/L	0.000021	0.00003 mg/L	0.000042	150.04%	
Ca 317.933†	231.1	0.02458 mg/L	mg/L	0.001699	0.04916 mg/L	0.003399	6.91%	
Cd 228.802†	-15.7	-0.00049 mg/L	mg/L	0.000040	-0.00098 mg/L	0.000079	8.07%	
Co 228.616†	4.7	0.00012 mg/L	mg/L	0.000030	0.00024 mg/L	0.000060	25.21%	
Cr 267.716†	-3.9	-0.00082 mg/L	mg/L	0.001928	-0.00164 mg/L	0.003856	234.95%	
Cu 324.752†	-382.2	-0.00136 mg/L	mg/L	0.000147	-0.00272 mg/L	0.000295	10.82%	
Fe 273.955†	5.6	0.00506 mg/L	mg/L	0.001623	0.01011 mg/L	0.003245	32.09%	
K 766.490†	-12.7	-0.00594 mg/L	mg/L	0.008362	-0.01188 mg/L	0.016723	140.75%	
Mg 279.077†	4.9	0.00450 mg/L	mg/L	0.010967	0.00899 mg/L	0.021934	243.97%	
Mn 257.610†	-2.2	-0.00007 mg/L	mg/L	0.000101	-0.00015 mg/L	0.000202	136.33%	
Mo 202.031†	-1.8	-0.00010 mg/L	mg/L	0.000390	-0.00019 mg/L	0.000779	401.68%	
Na 589.592†	587.4	0.04579 mg/L	mg/L	0.002119	0.09157 mg/L	0.004237	4.63%	
Na 330.237†	8.0	0.3894 mg/L	mg/L	0.20633	0.7788 mg/L	0.41266	52.99%	
Ni 231.604†	-7.2	-0.00223 mg/L	mg/L	0.000452	-0.00446 mg/L	0.000904	20.28%	
Pb 220.353†	5.2	0.00065 mg/L	mg/L	0.000649	0.00130 mg/L	0.001297	100.13%	
Sb 206.836†	7.5	0.00242 mg/L	mg/L	0.002545	0.00484 mg/L	0.005090	105.24%	
Se 196.026†	3.6	0.00265 mg/L	mg/L	0.001994	0.00531 mg/L	0.003987	75.15%	
Si 288.158†	1.4	0.00081 mg/L	mg/L	0.002224	0.00163 mg/L	0.004448	272.98%	
Sn 189.927†	2.8	0.00083 mg/L	mg/L	0.000681	0.00167 mg/L	0.001362	81.61%	
Sr 421.552†	34.6	0.00004 mg/L	mg/L	0.000023	0.00009 mg/L	0.000046	52.61%	
Ti 334.903†	10.7	0.00067 mg/L	mg/L	0.000387	0.00134 mg/L	0.000773	57.78%	
Tl 190.801†	5.9	0.00281 mg/L	mg/L	0.002354	0.00562 mg/L	0.004708	83.79%	
V 292.402†	-11.9	-0.00008 mg/L	mg/L	0.000009	-0.00017 mg/L	0.000018	10.98%	
Zn 206.200†	2.6	0.00078 mg/L	mg/L	0.000854	0.00156 mg/L	0.001709	109.31%	

Sequence No.: 26
 Sample ID: YE36 MB2 WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 355
 Date Collected: 3/31/2014 1:52:32 PM
 Data Type: Original

Nebulizer Parameters: YE36 MB2 WMN

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE36 MB2 WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2944168.9	104.2 %		0.40			0.38%
ScR 361.383	249583.6	105.5 %		0.22			0.21%
Ag 328.068†	12.7	0.00007 mg/L		0.000242	0.00007 mg/L	0.000242	370.50%
Al 308.215†	5.7	0.00456 mg/L		0.003211	0.00456 mg/L	0.003211	70.38%
As 188.979†	4.9	0.00287 mg/L		0.000347	0.00287 mg/L	0.000347	12.10%
B 249.677†	-0.3	-0.00005 mg/L		0.000490	-0.00005 mg/L	0.000490	920.21%
Ba 233.527†	1.2	0.00031 mg/L		0.001289	0.00031 mg/L	0.001289	410.47%
Be 313.042†	6.8	0.00001 mg/L		0.000015	0.00001 mg/L	0.000015	109.84%
Ca 317.933†	7.7	0.00082 mg/L		0.001269	0.00082 mg/L	0.001269	154.80%
Cd 228.802†	-16.4	-0.00052 mg/L		0.000097	-0.00052 mg/L	0.000097	18.66%
Co 228.616†	17.6	0.00046 mg/L		0.000088	0.00046 mg/L	0.000088	19.40%
Cr 267.716†	-1.9	-0.00040 mg/L		0.000424	-0.00040 mg/L	0.000424	105.81%
Cu 324.752†	-507.1	-0.00181 mg/L		0.000052	-0.00181 mg/L	0.000052	2.86%
Fe 273.955†	2.0	0.00183 mg/L		0.001178	0.00183 mg/L	0.001178	64.45%
K 766.490†	13.1	0.00612 mg/L		0.009575	0.00612 mg/L	0.009575	156.47%
Mg 279.077†	3.7	0.00337 mg/L		0.001837	0.00337 mg/L	0.001837	54.57%
Mn 257.610†	-1.5	-0.00005 mg/L		0.000014	-0.00005 mg/L	0.000014	28.47%
Mo 202.031†	-11.7	-0.00064 mg/L		0.000176	-0.00064 mg/L	0.000176	27.57%
Na 589.592†	250.8	0.01955 mg/L		0.000718	0.01955 mg/L	0.000718	3.67%
Na 330.237†	0.4	0.01758 mg/L		0.148857	0.01758 mg/L	0.148857	846.53%
Ni 231.604†	-3.8	-0.00119 mg/L		0.000684	-0.00119 mg/L	0.000684	57.72%
Pb 220.353†	3.2	0.00039 mg/L		0.000849	0.00039 mg/L	0.000849	216.86%
Sb 206.836†	-3.7	-0.00118 mg/L		0.001471	-0.00118 mg/L	0.001471	124.63%
Se 196.026†	7.2	0.00524 mg/L		0.002780	0.00524 mg/L	0.002780	53.07%
Si 288.158†	-27.6	-0.01616 mg/L		0.001037	-0.01616 mg/L	0.001037	6.42%
Sn 189.927†	1.3	0.00038 mg/L		0.000097	0.00038 mg/L	0.000097	25.87%
Sr 421.552†	29.4	0.00004 mg/L		0.000012	0.00004 mg/L	0.000012	31.64%
Ti 334.903†	-7.9	-0.00049 mg/L		0.000109	-0.00049 mg/L	0.000109	22.22%
Tl 190.801†	13.8	0.00658 mg/L		0.001852	0.00658 mg/L	0.001852	28.13%
V 292.402†	-11.0	-0.00008 mg/L		0.000131	-0.00008 mg/L	0.000131	175.02%
Zn 206.200†	0.6	0.00017 mg/L		0.000226	0.00017 mg/L	0.000226	130.96%

Sequence No.: 27

Autosampler Location: 356

Sample ID: YE36 DDUP WMN

Date Collected: 3/31/2014 1:56:46 PM

Analyst: ALA

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE36 DDUP WMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE36 DDUP WMN

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2943381.3	104.2	%	0.28				0.27%
ScR 361.383	254809.4	107.7	%	0.78				0.73%
Ag 328.068†	19.1	0.00016	mg/L	0.000173	0.00016	mg/L	0.000173	110.40%
Al 308.215†	14.3	0.01132	mg/L	0.005887	0.01132	mg/L	0.005887	52.03%
As 188.979†	13.2	0.00685	mg/L	0.000140	0.00685	mg/L	0.000140	2.05%
B 249.677†	2848.1	0.5205	mg/L	0.00605	0.5205	mg/L	0.00605	1.16%
Ba 233.527†	21.5	0.00556	mg/L	0.000579	0.00556	mg/L	0.000579	10.42%
Be 313.042†	-8.6	-0.00002	mg/L	0.000015	-0.00002	mg/L	0.000015	86.28%
Ca 317.933†	90982.3	9.677	mg/L	0.0070	9.677	mg/L	0.0070	0.07%
Cd 228.802†	-55.9	-0.00037	mg/L	0.000062	-0.00037	mg/L	0.000062	16.95%
Co 228.616†	185.3	0.00456	mg/L	0.000112	0.00456	mg/L	0.000112	2.46%
Cr 267.716†	184.4	0.03822	mg/L	0.001373	0.03822	mg/L	0.001373	3.59%
Cu 324.752†	-448.0	-0.00163	mg/L	0.000114	-0.00163	mg/L	0.000114	6.96%
Fe 273.955†	138.0	0.1254	mg/L	0.00209	0.1254	mg/L	0.00209	1.66%
K 766.490†	6544.0	3.057	mg/L	0.0131	3.057	mg/L	0.0131	0.43%
Mg 279.077†	2167.5	1.974	mg/L	0.0134	1.974	mg/L	0.0134	0.68%
Mn 257.610†	2538.2	0.08365	mg/L	0.000299	0.08365	mg/L	0.000299	0.36%
Mo 202.031†	127.6	0.00678	mg/L	0.000178	0.00678	mg/L	0.000178	2.63%
Na 589.592†	190192.2	14.82	mg/L	0.050	14.82	mg/L	0.050	0.34%
Na 330.237†	319.4	15.45	mg/L	0.104	15.45	mg/L	0.104	0.68%
Ni 231.604†	4545.3	1.401	mg/L	0.0076	1.401	mg/L	0.0076	0.54%
Pb 220.353†	-9.1	-0.00088	mg/L	0.001093	-0.00088	mg/L	0.001093	123.79%
Sb 206.836†	-7.4	-0.00291	mg/L	0.001698	-0.00291	mg/L	0.001698	58.38%
Se 196.026†	10.0	0.00731	mg/L	0.005578	0.00731	mg/L	0.005578	76.28%
Si 288.158†	20422.3	11.94	mg/L	0.052	11.94	mg/L	0.052	0.43%
Sn 189.927†	-11.2	-0.00211	mg/L	0.000580	-0.00211	mg/L	0.000580	27.45%
Sr 421.552†	96337.5	0.1210	mg/L	0.00025	0.1210	mg/L	0.00025	0.21%
Ti 334.903†	7.7	-0.00022	mg/L	0.000287	-0.00022	mg/L	0.000287	132.73%
Tl 190.801†	18.3	0.00874	mg/L	0.001628	0.00874	mg/L	0.001628	18.64%
V 292.402†	24.1	0.00033	mg/L	0.000061	0.00033	mg/L	0.000061	18.48%
Zn 206.200†	-1.7	0.00172	mg/L	0.000477	0.00172	mg/L	0.000477	27.68%

Sequence No.: 28
 Sample ID: YE36 D WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 357
 Date Collected: 3/31/2014 2:01:01 PM
 Data Type: Original

Nebulizer Parameters: YE36 D WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE36 D WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2982250.8	105.6	%	0.21			0.20%
ScR 361.383	257854.4	109.0	%	1.40			1.28%
Ag 328.068†	-17.3	-0.00003	mg/L	0.000118	-0.00003 mg/L	0.000118	381.68%
Al 308.215†	15.8	0.01249	mg/L	0.006953	0.01249 mg/L	0.006953	55.67%
As 188.979†	11.8	0.00602	mg/L	0.001756	0.00602 mg/L	0.001756	29.17%
B 249.677†	2845.5	0.5200	mg/L	0.00993	0.5200 mg/L	0.00993	1.91%
Ba 233.527†	19.7	0.00507	mg/L	0.000308	0.00507 mg/L	0.000308	6.08%
Be 313.042†	-15.6	-0.00003	mg/L	0.000035	-0.00003 mg/L	0.000035	107.48%
Ca 317.933†	90801.7	9.658	mg/L	0.0327	9.658 mg/L	0.0327	0.34%
Cd 228.802†	-63.4	-0.00059	mg/L	0.000175	-0.00059 mg/L	0.000175	29.68%
Co 228.616†	182.4	0.00448	mg/L	0.000127	0.00448 mg/L	0.000127	2.83%
Cr 267.716†	181.8	0.03768	mg/L	0.000700	0.03768 mg/L	0.000700	1.86%
Cu 324.752†	-454.2	-0.00166	mg/L	0.000124	-0.00166 mg/L	0.000124	7.47%
Fe 273.955†	141.3	0.1284	mg/L	0.00352	0.1284 mg/L	0.00352	2.74%
K 766.490†	6463.4	3.019	mg/L	0.0357	3.019 mg/L	0.0357	1.18%
Mg 279.077†	2187.3	1.992	mg/L	0.0286	1.992 mg/L	0.0286	1.43%
Mn 257.610†	2539.6	0.08370	mg/L	0.001803	0.08370 mg/L	0.001803	2.15%
Mo 202.031†	128.1	0.00681	mg/L	0.000114	0.00681 mg/L	0.000114	1.68%
Na 589.592†	189518.6	14.77	mg/L	0.027	14.77 mg/L	0.027	0.18%
Na 330.237†	329.7	15.95	mg/L	0.057	15.95 mg/L	0.057	0.35%
Ni 231.604†	4557.8	1.405	mg/L	0.0225	1.405 mg/L	0.0225	1.60%
Pb 220.353†	-11.2	-0.00114	mg/L	0.000442	-0.00114 mg/L	0.000442	38.76%
Sb 206.836†	-4.0	-0.00180	mg/L	0.002143	-0.00180 mg/L	0.002143	119.21%
Se 196.026†	10.1	0.00736	mg/L	0.001865	0.00736 mg/L	0.001865	25.34%
Si 288.158†	20482.3	11.98	mg/L	0.201	11.98 mg/L	0.201	1.68%
Sn 189.927†	-10.5	-0.00191	mg/L	0.000694	-0.00191 mg/L	0.000694	36.25%
Sr 421.552†	96009.0	0.1206	mg/L	0.00021	0.1206 mg/L	0.00021	0.17%
Ti 334.903†	6.9	-0.00026	mg/L	0.000084	-0.00026 mg/L	0.000084	31.74%
Tl 190.801†	14.0	0.00670	mg/L	0.000151	0.00670 mg/L	0.000151	2.25%
V 292.402†	32.6	0.00038	mg/L	0.000123	0.00038 mg/L	0.000123	32.03%
Zn 206.200†	1.7	0.00277	mg/L	0.000860	0.00277 mg/L	0.000860	31.07%

Sequence No.: 29
 Sample ID: YE36 DSPK WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 358
 Date Collected: 3/31/2014 2:05:16 PM
 Data Type: Original

 Nebulizer Parameters: YE36 DSPK WMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE36 DSPK WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2912787.8		103.1 %	1.10				1.07%
ScR 361.383	250074.0		105.7 %	1.02				0.97%
Ag 328.068†	84201.3		0.4351 mg/L	0.00713	0.4351 mg/L	0.00713		1.64%
Al 308.215†	2528.2		2.010 mg/L	0.0127	2.010 mg/L	0.0127		0.63%
As 188.979†	3707.5		2.179 mg/L	0.0196	2.179 mg/L	0.0196		0.90%
B 249.677†	2901.3		0.5291 mg/L	0.00589	0.5291 mg/L	0.00589		1.11%
Ba 233.527†	7209.4		1.931 mg/L	0.0201	1.931 mg/L	0.0201		1.04%
Be 313.042†	241929.3		0.5030 mg/L	0.00618	0.5030 mg/L	0.00618		1.23%
Ca 317.933†	189904.0		20.20 mg/L	0.076	20.20 mg/L	0.076		0.38%
Cd 228.802†	17995.8		0.5430 mg/L	0.00923	0.5430 mg/L	0.00923		1.70%
Co 228.616†	19608.4		0.5057 mg/L	0.00892	0.5057 mg/L	0.00892		1.76%
Cr 267.716†	2665.0		0.5547 mg/L	0.00518	0.5547 mg/L	0.00518		0.93%
Cu 324.752†	140787.3		0.5019 mg/L	0.00809	0.5019 mg/L	0.00809		1.61%
Fe 273.955†	2522.8		2.288 mg/L	0.0264	2.288 mg/L	0.0264		1.16%
K 766.490†	29091.1		13.59 mg/L	0.088	13.59 mg/L	0.088		0.65%
Mg 279.077†	13722.8		12.50 mg/L	0.099	12.50 mg/L	0.099		0.80%
Mn 257.610†	18512.0		0.6108 mg/L	0.00496	0.6108 mg/L	0.00496		0.81%
Mo 202.031†	154.8		0.00810 mg/L	0.000206	0.00810 mg/L	0.000206		2.54%
Na 589.592†	323855.8		25.24 mg/L	0.128	25.24 mg/L	0.128		0.51%
Na 330.237†	540.4		25.97 mg/L	0.152	25.97 mg/L	0.152		0.59%
Ni 231.604†	6224.8		1.918 mg/L	0.0198	1.918 mg/L	0.0198		1.03%
Pb 220.353†	17110.1		2.106 mg/L	0.0327	2.106 mg/L	0.0327		1.55%
Pb 206.836†	10.2		-0.00219 mg/L	0.001364	-0.00219 mg/L	0.001364		62.23%
Se 196.026†	3266.0		2.382 mg/L	0.0203	2.382 mg/L	0.0203		0.85%
Si 288.158†	21135.7		12.36 mg/L	0.090	12.36 mg/L	0.090		0.73%
Sn 189.927†	-29.5		-0.00617 mg/L	0.000537	-0.00617 mg/L	0.000537		8.71%
Sr 421.552†	503815.4		0.6327 mg/L	0.00264	0.6327 mg/L	0.00264		0.42%
Ti 334.903†	27.4		0.00017 mg/L	0.001023	0.00017 mg/L	0.001023		584.70%
Tl 190.801†	4275.4		2.042 mg/L	0.0258	2.042 mg/L	0.0258		1.26%
V 292.402†	75018.8		0.5025 mg/L	0.00567	0.5025 mg/L	0.00567		1.13%
Zn 206.200†	1723.2		0.5240 mg/L	0.00394	0.5240 mg/L	0.00394		0.75%

Sequence No.: 30
 Sample ID: YE30 ADUP SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 359
 Date Collected: 3/31/2014 2:09:16 PM
 Data Type: Original

Nebulizer Parameters: YE30 ADUP SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE30 ADUP SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2832253.9	100.2	%	0.50			0.50%
ScR 361.383	248905.0	105.2	%	0.29			0.28%
Ag 328.068†	5997.5	0.03140	mg/L	0.003347	0.06280	mg/L	0.006694 10.66%
Al 308.215†	157767.8	125.8	mg/L	0.26	251.7	mg/L	0.51 0.20%
As 188.979†	-245.4	0.1110	mg/L	0.00028	0.2220	mg/L	0.00057 0.25%
B 249.677†	65.4	0.01179	mg/L	0.000543	0.02357	mg/L	0.001085 4.60%
Ba 233.527†	2007.1	0.5065	mg/L	0.00228	1.013	mg/L	0.0046 0.45%
Be 313.042†	1129.9	0.00216	mg/L	0.000014	0.00431	mg/L	0.000028 0.65%
Ca 317.933†	483769.1	51.46	mg/L	0.135	102.9	mg/L	0.27 0.26%
Cd 228.802†	65.5	0.00117	mg/L	0.000042	0.00234	mg/L	0.000083 3.56%
Co 228.616†	3094.4	0.06678	mg/L	0.000742	0.1336	mg/L	0.00148 1.11%
Cr 267.716†	1319.7	0.2768	mg/L	0.00359	0.5537	mg/L	0.00718 1.30%
Cu 324.752†	50937.7	0.1890	mg/L	0.00129	0.3779	mg/L	0.00259 0.68%
Fe 273.955†	221365.5	201.0	mg/L	0.56	402.0	mg/L	1.12 0.28%
K 766.490†	13325.0	6.224	mg/L	0.0265	12.45	mg/L	0.053 0.43%
Mg 279.077†	53463.1	48.58	mg/L	0.057	97.15	mg/L	0.113 0.12%
Mn 257.610†	90313.9	2.977	mg/L	0.0099	5.954	mg/L	0.0197 0.33%
Mo 202.031†	90.4	0.00411	mg/L	0.000255	0.00823	mg/L	0.000511 6.21%
Na 589.592†	45526.6	3.549	mg/L	0.0153	7.097	mg/L	0.0307 0.43%
Na 330.237†	42.8	3.595	mg/L	0.2495	7.189	mg/L	0.4990 6.94%
Ni 231.604†	658.1	0.2029	mg/L	0.00132	0.4058	mg/L	0.00264 0.65%
Pb 220.353†	483.2	0.08180	mg/L	0.001286	0.1636	mg/L	0.00257 1.57%
Sb 206.836†	34.8	0.01487	mg/L	0.001820	0.02975	mg/L	0.003639 12.23%
Se 196.026†	32.9	0.02370	mg/L	0.005726	0.04740	mg/L	0.011452 24.16%
Si 288.158†	3164.0	1.856	mg/L	0.0155	3.712	mg/L	0.0311 0.84%
Sn 189.927†	-53.7	-0.00818	mg/L	0.001085	-0.01636	mg/L	0.002169 13.26%
Sr 421.552†	316306.7	0.3972	mg/L	0.00118	0.7945	mg/L	0.00235 0.30%
Ti 334.903†	116597.1	7.284	mg/L	0.0120	14.57	mg/L	0.024 0.16%
Tl 190.801†	-30.6	0.00632	mg/L	0.002530	0.01265	mg/L	0.005059 40.01%
V 292.402†	68405.0	0.4422	mg/L	0.00261	0.8843	mg/L	0.00521 0.59%
Zn 206.200†	1154.3	0.3497	mg/L	0.00214	0.6993	mg/L	0.00428 0.61%

Sequence No.: 31
 Sample ID: YE30 A SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 360
 Date Collected: 3/31/2014 2:13:16 PM
 Data Type: Original

Nebulizer Parameters: YE30 A SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE30 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2884303.1	102.1	%	0.50			0.49%
ScR 361.383	250416.4	105.9	%	0.23			0.22%
Ag 328.068†	-267.7	-0.00098	mg/L	0.000244	-0.00197 mg/L	0.000489	24.85%
Al 308.215†	149082.9	118.9	mg/L	0.47	237.8 mg/L	0.93	0.39%
As 188.979†	-281.9	0.1070	mg/L	0.00510	0.2140 mg/L	0.01019	4.76%
B 249.677†	63.7	0.01148	mg/L	0.000472	0.02296 mg/L	0.000943	4.11%
Ba 233.527†	1857.1	0.4670	mg/L	0.00237	0.9341 mg/L	0.00475	0.51%
Be 313.042†	1027.7	0.00195	mg/L	0.000004	0.00389 mg/L	0.000008	0.21%
Ca 317.933†	450155.0	47.88	mg/L	0.128	95.76 mg/L	0.257	0.27%
Cd 228.802†	45.9	0.00072	mg/L	0.000181	0.00144 mg/L	0.000362	25.11%
Co 228.616†	3049.0	0.06476	mg/L	0.000096	0.1295 mg/L	0.00019	0.15%
Cr 267.716†	1041.8	0.2190	mg/L	0.00037	0.4380 mg/L	0.00075	0.17%
Cu 324.752†	51007.8	0.1889	mg/L	0.00265	0.3779 mg/L	0.00530	1.40%
Fe 273.955†	216228.2	196.3	mg/L	0.71	392.7 mg/L	1.41	0.36%
K 766.490†	15766.4	7.365	mg/L	0.0273	14.73 mg/L	0.055	0.37%
Mg 279.077†	50368.4	45.76	mg/L	0.069	91.52 mg/L	0.138	0.15%
Mn 257.610†	85207.7	2.809	mg/L	0.0126	5.618 mg/L	0.0252	0.45%
Mo 202.031†	71.4	0.00313	mg/L	0.000216	0.00627 mg/L	0.000432	6.89%
Na 589.592†	43932.9	3.424	mg/L	0.0106	6.849 mg/L	0.0212	0.31%
Na 330.237†	36.7	3.438	mg/L	0.2652	6.875 mg/L	0.5303	7.71%
Ni 231.604†	655.3	0.2020	mg/L	0.00048	0.4041 mg/L	0.00097	0.24%
Pb 220.353†	303.1	0.05802	mg/L	0.002020	0.1160 mg/L	0.00404	3.48%
Sb 206.836†	34.6	0.01584	mg/L	0.002091	0.03167 mg/L	0.004183	13.21%
Se 196.026†	23.3	0.01669	mg/L	0.004306	0.03338 mg/L	0.008611	25.80%
Si 288.158†	5496.8	3.219	mg/L	0.0115	6.439 mg/L	0.0229	0.36%
Sn 189.927†	-53.1	-0.00837	mg/L	0.002467	-0.01675 mg/L	0.004934	29.45%
Sr 421.552†	278108.5	0.3493	mg/L	0.00129	0.6985 mg/L	0.00259	0.37%
Ti 334.903†	124235.4	7.761	mg/L	0.0210	15.52 mg/L	0.042	0.27%
Tl 190.801†	-30.7	0.00585	mg/L	0.003599	0.01170 mg/L	0.007197	61.51%
V 292.402†	63602.8	0.4099	mg/L	0.00706	0.8197 mg/L	0.01413	1.72%
Zn 206.200†	1249.3	0.3787	mg/L	0.00158	0.7573 mg/L	0.00316	0.42%

Sequence No.: 32
 Sample ID: YE30 ASPK SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 361
 Date Collected: 3/31/2014 2:17:16 PM
 Data Type: Original

 Nebulizer Parameters: YE30 ASPK SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE30 ASPK SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2851707.7	100.9 %	0.20				0.20%
ScR 361.383	249212.4	105.3 %	1.05				1.00%
Ag 328.068†	72954.9	0.3772 mg/L	0.00462	0.7543 mg/L	0.00923		1.22%
Al 308.215†	110879.6	88.44 mg/L	0.143	176.9 mg/L	0.29		0.16%
As 188.979†	2411.3	1.607 mg/L	0.0035	3.213 mg/L	0.0070		0.22%
B 249.677†	53.2	0.00882 mg/L	0.001854	0.01764 mg/L	0.003707		21.02%
Ba 233.527†	7064.3	1.869 mg/L	0.0232	3.738 mg/L	0.0464		1.24%
Be 313.042†	188053.7	0.3908 mg/L	0.00208	0.7817 mg/L	0.00416		0.53%
Ca 317.933†	386217.9	41.08 mg/L	0.185	82.16 mg/L	0.369		0.45%
Cd 228.802†	13286.5	0.3997 mg/L	0.00086	0.7993 mg/L	0.00172		0.22%
Co 228.616†	16624.3	0.4193 mg/L	0.00183	0.8385 mg/L	0.00365		0.44%
Cr 267.716†	2587.8	0.5405 mg/L	0.00501	1.081 mg/L	0.0100		0.93%
Cu 324.752†	140696.9	0.5071 mg/L	0.00417	1.014 mg/L	0.0083		0.82%
Fe 273.955†	165031.2	149.9 mg/L	0.95	299.7 mg/L	1.90		0.63%
K 766.490†	27040.2	12.63 mg/L	0.053	25.26 mg/L	0.105		0.42%
Mg 279.077†	45043.8	40.94 mg/L	0.119	81.88 mg/L	0.238		0.29%
Mn 257.610†	75320.1	2.483 mg/L	0.0150	4.967 mg/L	0.0300		0.60%
Mo 202.031†	75.8	0.00348 mg/L	0.000227	0.00697 mg/L	0.000454		6.52%
Na 589.592†	129787.9	10.12 mg/L	0.020	20.23 mg/L	0.039		0.19%
Na 330.237†	192.4	10.33 mg/L	0.266	20.67 mg/L	0.532		2.57%
Ni 231.604†	1667.1	0.5134 mg/L	0.00428	1.027 mg/L	0.0086		0.83%
Pb 220.353†	12950.5	1.609 mg/L	0.0041	3.217 mg/L	0.0081		0.25%
Sb 206.836†	31.0	0.00954 mg/L	0.000324	0.01908 mg/L	0.000648		3.39%
Se 196.026†	2148.2	1.566 mg/L	0.0077	3.133 mg/L	0.0154		0.49%
Si 288.158†	4795.7	2.811 mg/L	0.0275	5.621 mg/L	0.0550		0.98%
Sn 189.927†	-43.1	-0.00664 mg/L	0.001075	-0.01328 mg/L	0.002149		16.19%
Sr 421.552†	555874.6	0.6981 mg/L	0.00221	1.396 mg/L	0.0044		0.32%
Ti 334.903†	86198.5	5.384 mg/L	0.0158	10.77 mg/L	0.032		0.29%
Tl 190.801†	3030.1	1.462 mg/L	0.0038	2.925 mg/L	0.0075		0.26%
V 292.402†	100759.6	0.6629 mg/L	0.00598	1.326 mg/L	0.0120		0.90%
Zn 206.200†	2113.6	0.6403 mg/L	0.00694	1.281 mg/L	0.0139		1.08%

Sequence No.: 33
 Sample ID: YE30 MBSPK SWC
 Analyst: ALA
 Dilution: 2.000000X

Autosampler Location: 362
 Date Collected: 3/31/2014 2:21:18 PM
 Data Type: Original

Nebulizer Parameters: YE30 MBSPK SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE30 MBSPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2885317.4	102.1	%	0.64			0.63%
ScR 361.383	249002.4	105.3	%	0.17			0.16%
Ag 328.068†	100931.5	0.5214	mg/L	0.00367	1.043 mg/L	0.0073	0.70%
Al 308.215†	2557.4	2.033	mg/L	0.0107	4.066 mg/L	0.0214	0.53%
As 188.979†	3539.5	2.081	mg/L	0.0095	4.162 mg/L	0.0191	0.46%
B 249.677†	4.7	-0.00019	mg/L	0.000974	-0.00038 mg/L	0.001949	514.16%
Ba 233.527†	7192.7	1.926	mg/L	0.0095	3.853 mg/L	0.0190	0.49%
Be 313.042†	251924.3	0.5238	mg/L	0.00380	1.048 mg/L	0.0076	0.73%
Ca 317.933†	96219.9	10.23	mg/L	0.081	20.47 mg/L	0.162	0.79%
Cd 228.802†	17211.7	0.5180	mg/L	0.00397	1.036 mg/L	0.0079	0.77%
Co 228.616†	19237.4	0.4963	mg/L	0.00321	0.9927 mg/L	0.00642	0.65%
Cr 267.716†	2502.1	0.5210	mg/L	0.00342	1.042 mg/L	0.0068	0.66%
Cu 324.752†	138269.8	0.4930	mg/L	0.00414	0.9859 mg/L	0.00829	0.84%
Fe 273.955†	2436.4	2.209	mg/L	0.0051	4.418 mg/L	0.0102	0.23%
K 766.490†	21996.7	10.27	mg/L	0.043	20.55 mg/L	0.086	0.42%
Mg 279.077†	11353.3	10.34	mg/L	0.038	20.68 mg/L	0.075	0.36%
Mn 257.610†	15310.6	0.5053	mg/L	0.00300	1.011 mg/L	0.0060	0.59%
Mo 202.031†	24.0	0.00115	mg/L	0.000094	0.00229 mg/L	0.000189	8.24%
Na 589.592†	130796.2	10.20	mg/L	0.070	20.39 mg/L	0.139	0.68%
Na 330.237†	227.9	10.86	mg/L	0.271	21.72 mg/L	0.542	2.49%
Ni 231.604†	1622.3	0.4993	mg/L	0.00410	0.9986 mg/L	0.00821	0.82%
Pb 220.353†	16873.8	2.077	mg/L	0.0154	4.153 mg/L	0.0309	0.74%
Sb 206.836†	18.6	0.00095	mg/L	0.001817	0.00191 mg/L	0.003634	190.58%
Se 196.026†	2864.3	2.089	mg/L	0.0068	4.177 mg/L	0.0136	0.33%
Si 288.158†	-2.9	0.00191	mg/L	0.004995	0.00381 mg/L	0.009990	261.90%
Sn 189.927†	-15.0	-0.00310	mg/L	0.000349	-0.00621 mg/L	0.000698	11.25%
Sr 421.552†	401021.4	0.5036	mg/L	0.00276	1.007 mg/L	0.0055	0.55%
Ti 334.903†	77.3	0.00401	mg/L	0.000819	0.00801 mg/L	0.001638	20.45%
Tl 190.801†	4210.4	2.011	mg/L	0.0057	4.021 mg/L	0.0115	0.28%
V 292.402†	74369.9	0.4980	mg/L	0.00335	0.9960 mg/L	0.00670	0.67%
Zn 206.200†	1663.1	0.5035	mg/L	0.00217	1.007 mg/L	0.0043	0.43%

Sequence No.: 34
 Sample ID: YE36 MB2SPK WMN
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 363
 Date Collected: 3/31/2014 2:25:18 PM
 Data Type: Original

Nebulizer Parameters: YE36 MB2SPK WMN

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE36 MB2SPK WMN

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.	Units		Conc.	Units		
ScA 357.253	2929357.4	103.7	%	0.31				0.30%
ScR 361.383	253772.7	107.3	%	1.70				1.58%
Ag 328.068†	96528.8	0.4987	mg/L	0.00076	0.4987	mg/L	0.00076	0.15%
Al 308.215†	2552.3	2.029	mg/L	0.0322	2.029	mg/L	0.0322	1.59%
As 188.979†	3685.0	2.166	mg/L	0.0048	2.166	mg/L	0.0048	0.22%
B 249.677†	3.2	-0.00048	mg/L	0.000844	-0.00048	mg/L	0.000844	175.78%
Ba 233.527†	7125.0	1.908	mg/L	0.0340	1.908	mg/L	0.0340	1.78%
Be 313.042†	239637.4	0.4982	mg/L	0.00092	0.4982	mg/L	0.00092	0.18%
Ca 317.933†	96796.2	10.30	mg/L	0.027	10.30	mg/L	0.027	0.26%
Cd 228.802†	17920.2	0.5393	mg/L	0.00134	0.5393	mg/L	0.00134	0.25%
Co 228.616†	19427.5	0.5012	mg/L	0.00090	0.5012	mg/L	0.00090	0.18%
Cr 267.716†	2504.9	0.5216	mg/L	0.00758	0.5216	mg/L	0.00758	1.45%
Cu 324.752†	139625.4	0.4978	mg/L	0.00057	0.4978	mg/L	0.00057	0.11%
Fe 273.955†	2401.0	2.177	mg/L	0.0230	2.177	mg/L	0.0230	1.06%
K 766.490†	22305.1	10.42	mg/L	0.020	10.42	mg/L	0.020	0.19%
Mg 279.077†	11450.1	10.43	mg/L	0.122	10.43	mg/L	0.122	1.17%
Mn 257.610†	15337.2	0.5062	mg/L	0.00210	0.5062	mg/L	0.00210	0.41%
Mo 202.031†	17.6	0.00079	mg/L	0.000285	0.00079	mg/L	0.000285	35.83%
Na 589.592†	131985.6	10.29	mg/L	0.006	10.29	mg/L	0.006	0.06%
Na 330.237†	228.5	10.88	mg/L	0.066	10.88	mg/L	0.066	0.61%
Ni 231.604†	1634.6	0.5031	mg/L	0.00669	0.5031	mg/L	0.00669	1.33%
Pb 220.353†	17180.8	2.114	mg/L	0.0084	2.114	mg/L	0.0084	0.40%
Sb 206.836†	6.5	-0.00294	mg/L	0.001699	-0.00294	mg/L	0.001699	57.88%
Se 196.026†	3243.0	2.365	mg/L	0.0116	2.365	mg/L	0.0116	0.49%
Si 288.158†	-32.4	-0.01527	mg/L	0.001752	-0.01527	mg/L	0.001752	11.48%
Sn 189.927†	-14.1	-0.00284	mg/L	0.001488	-0.00284	mg/L	0.001488	52.47%
Sr 421.552†	401802.6	0.5046	mg/L	0.00139	0.5046	mg/L	0.00139	0.28%
Ti 334.903†	8.2	-0.00032	mg/L	0.000532	-0.00032	mg/L	0.000532	167.45%
Tl 190.801†	4284.6	2.046	mg/L	0.0018	2.046	mg/L	0.0018	0.09%
V 292.402†	74971.5	0.5020	mg/L	0.00073	0.5020	mg/L	0.00073	0.15%
Zn 206.200†	1715.4	0.5193	mg/L	0.00809	0.5193	mg/L	0.00809	1.56%

Sequence No.: 35
 Sample ID: CV 1
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 3/31/2014 2:29:18 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2867923.4	101.5	%	0.63			0.62%
ScR 361.383	244893.0	103.5	%	1.38			1.33%
Ag 328.068†	198800.1	1.027	mg/L	0.0027	1.027	mg/L	0.26%
Al 308.215†	2555.7	2.007	mg/L	0.0413	2.007	mg/L	2.06%
As 188.979†	3403.7	2.034	mg/L	0.0091	2.034	mg/L	0.45%
B 249.677†	5522.9	1.008	mg/L	0.0174	1.008	mg/L	1.72%
Ba 233.527†	3564.5	0.9543	mg/L	0.01377	0.9543	mg/L	1.44%
Be 313.042†	503997.7	1.048	mg/L	0.0011	1.048	mg/L	0.11%
Ca 317.933†	19813.9	2.108	mg/L	0.0396	2.108	mg/L	1.88%
Cd 228.802†	33535.1	1.020	mg/L	0.0053	1.020	mg/L	0.52%
Co 228.616†	38109.8	0.9819	mg/L	0.00422	0.9819	mg/L	0.43%
Cr 267.716†	4986.2	1.040	mg/L	0.0173	1.040	mg/L	1.67%
Cu 324.752†	278201.9	0.9914	mg/L	0.00126	0.9914	mg/L	0.13%
Fe 273.955†	2412.2	2.184	mg/L	0.0382	2.184	mg/L	1.75%
K 766.490†	43682.8	20.40	mg/L	0.074	20.40	mg/L	0.37%
Mg 279.077†	2165.9	1.979	mg/L	0.0267	1.979	mg/L	1.35%
Mn 257.610†	30627.6	1.011	mg/L	0.0047	1.011	mg/L	0.46%
Mo 202.031†	17958.1	0.9757	mg/L	0.00379	0.9757	mg/L	0.39%
Na 589.592†	646876.8	50.42	mg/L	0.190	50.42	mg/L	0.38%
Na 330.237†	1066.4	51.74	mg/L	0.538	51.74	mg/L	1.04%
Ni 231.604†	3267.8	1.008	mg/L	0.0193	1.008	mg/L	1.92%
Pb 220.353†	16402.9	2.019	mg/L	0.0111	2.019	mg/L	0.55%
Sb 206.836†	6399.9	2.057	mg/L	0.0081	2.057	mg/L	0.39%
Se 196.026†	2765.8	2.016	mg/L	0.0087	2.016	mg/L	0.43%
Si 288.158†	3298.6	1.933	mg/L	0.0551	1.933	mg/L	2.85%
Sn 189.927†	3474.2	1.024	mg/L	0.0070	1.024	mg/L	0.69%
Sr 421.552†	809276.2	1.016	mg/L	0.0039	1.016	mg/L	0.38%
Ti 334.903†	16026.0	1.000	mg/L	0.0043	1.000	mg/L	0.43%
Tl 190.801†	4262.3	2.032	mg/L	0.0069	2.032	mg/L	0.34%
V 292.402†	148489.9	0.9944	mg/L	0.00263	0.9944	mg/L	0.26%
Zn 206.200†	3349.5	1.014	mg/L	0.0191	1.014	mg/L	1.88%

Sequence No.: 36
 Sample ID: CB 7
 Analyst: ALA
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 3/31/2014 2:33:22 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2867094.0	101.5	%	0.51			0.50%
ScR 361.383	247507.6	104.6	%	1.08			1.03%
Ag 328.068†	83.8	0.00043	mg/L	0.000102	0.00043 mg/L	0.000102	23.63%
Al 308.215†	13.1	0.01040	mg/L	0.001453	0.01040 mg/L	0.001453	13.96%
As 188.979†	0.7	0.00042	mg/L	0.000613	0.00042 mg/L	0.000613	145.26%
B 249.677†	4.6	0.00084	mg/L	0.000648	0.00084 mg/L	0.000648	77.15%
Ba 233.527†	1.5	0.00040	mg/L	0.001098	0.00040 mg/L	0.001098	271.66%
Be 313.042†	7.5	0.00002	mg/L	0.000022	0.00002 mg/L	0.000022	140.03%
Ca 317.933†	3.3	0.00035	mg/L	0.000349	0.00035 mg/L	0.000349	98.53%
Cd 228.802†	-13.6	-0.00042	mg/L	0.000142	-0.00042 mg/L	0.000142	33.77%
Co 228.616†	7.1	0.00018	mg/L	0.000077	0.00018 mg/L	0.000077	41.84%
Cr 267.716†	2.9	0.00060	mg/L	0.001219	0.00060 mg/L	0.001219	203.15%
Cu 324.752†	-481.4	-0.00172	mg/L	0.000204	-0.00172 mg/L	0.000204	11.87%
Fe 273.955†	2.3	0.00210	mg/L	0.002236	0.00210 mg/L	0.002236	106.71%
K 766.490†	-30.8	-0.01439	mg/L	0.008862	-0.01439 mg/L	0.008862	61.60%
Mg 279.077†	5.0	0.00457	mg/L	0.004519	0.00457 mg/L	0.004519	98.83%
Mn 257.610†	-2.8	-0.00009	mg/L	0.000113	-0.00009 mg/L	0.000113	120.35%
Mo 202.031†	17.3	0.00094	mg/L	0.000319	0.00094 mg/L	0.000319	33.87%
Na 589.592†	139.4	0.01087	mg/L	0.002871	0.01087 mg/L	0.002871	26.42%
Na 330.237†	10.6	0.5135	mg/L	0.23028	0.5135 mg/L	0.23028	44.85%
Ni 231.604†	-3.7	-0.00112	mg/L	0.000106	-0.00112 mg/L	0.000106	9.42%
Pb 220.353†	4.6	0.00057	mg/L	0.000859	0.00057 mg/L	0.000859	149.53%
Sb 206.836†	29.0	0.00933	mg/L	0.001567	0.00933 mg/L	0.001567	16.79%
Se 196.026†	-0.8	-0.00058	mg/L	0.001632	-0.00058 mg/L	0.001632	282.55%
Si 288.158†	-1.8	-0.00103	mg/L	0.006150	-0.00103 mg/L	0.006150	595.50%
Sn 189.927†	6.9	0.00204	mg/L	0.000750	0.00204 mg/L	0.000750	36.77%
Sr 421.552†	37.7	0.00005	mg/L	0.000021	0.00005 mg/L	0.000021	44.97%
Ti 334.903†	3.4	0.00021	mg/L	0.000149	0.00021 mg/L	0.000149	71.03%
Tl 190.801†	2.9	0.00138	mg/L	0.002344	0.00138 mg/L	0.002344	169.95%
V 292.402†	-21.7	-0.00014	mg/L	0.000129	-0.00014 mg/L	0.000129	90.65%
Zn 206.200†	0.1	0.00002	mg/L	0.000747	0.00002 mg/L	0.000747	>999.9%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YE36

2-26-14

HEXAVALENT CHROMIUM BENCHSHEET						Date / Time: 3/26/14 12:13		
Diphenyl carbazide colorimetric (SW-846 7196A)						Analyst: CDE		
REAGENTS Sulfuric Acid: ID 10317C Acetone: _____ Diphenylcarbazide: C001179				pH METER Meter ID: ACCUMET AR60 Electrode ID: 1320016P 16				
CALIBRATION								
Cr+6 Curve Standard		ARI ID: C000892		Date Prepared: 3/26/2014				
Stock	0.0709	g K2Cr2O7 to	500	mL =	50.1	mg/L Cr+6		
Intermediate	5	mL Stock to	50	mL =	5.01	mg/L Cr+6		
Standard Curve Data								
final volume of prepared standards =				50 mL				
TIME:	16:25	Instrument Used:		SPEC 1				
ml Intermediate	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk Corr Abs		Regression Data		
		1	2			Conc = (abs-intercept)/slope		
0.0	0.00	0.000		0.000		intercept = 0.0016		
0.1	0.01	0.009		0.009	0.01	slope = 0.8016		
0.5	0.05	0.041		0.041	0.05	r = 1.000		
1.0	0.10	0.082		0.082	0.10	Comment: Calibration OK!		
5.0	0.50	0.406		0.406	0.50	maxabs = 0.804		
10.0	1.00	0.804		0.804	1.00			
Calibration Verification Standard								
Source	ERA # 160412/ B001620		Stock Conc	1.000 mg/L Cr+6				
DQL Int. =	0.10	ml stock to	10	mL pH2 =	10.00 mg/L Cr+6			
DQL =	0.20	ml DQL Int. to	50	mL pH2 =	0.04 mg/L Cr+6			
CVS =	0.025	ml stock to	100	mL pH2 =	0.25 mg/L Cr+6			
Prep Check Standard								
Dilution	0.50	ml stock to	40.00	mL DI =	0.63 mg/L Cr+6			
SAMPLE DATA								
Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL								
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)								
SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data				Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm	(mg/L)		
ICB		1.000	1		0.000	-0.002	< 0.01	Blk OK
ICV		1.000	1		0.219	0.271	0.271	108.49%
Prep Blk		1.250	1		0.001	-0.001	< 0.01	Blk OK
Prep Chk		1.250	1		0.414	0.643	0.643	102.63%
DQL		1.250	1		0.028	0.041	0.041	
YE36 A1		1.250	1	0.005	0.014	0.012	0.012	
YE36 A1 dup		1.250	1	0.005	0.015	0.013	0.013	RPD = 12.6
YE36 A1 ms		1.250	1	0.005	0.055	0.075	0.075	% Rec= 102
Spike at	0.050	mL stock to	40	mL sample =	0.063	mg/L		Validated
YE36 B1		1.250	1	0.015	0.016	-0.001	-0.001	
YE36 C1		1.250	1	0.009	0.010	-0.001	-0.001	
CCB		1.000	1		0.000	-0.002	< 0.01	Blk OK
CCV		1.000	1		0.219	0.271	0.271	108.49%

HEXAVALENT CHROMIUM BENCHSHEET

Diphenyl carbazide colorimetric (SW-846 7196A)

Date / Time: 3-26-14 12:13

Analyst: CAC

REAGENTS

Sulfuric Acid: 10317C
 Acetone: _____
 Diphenylcarbazide: C00179

pH METER

Meter ID: ACCUMET AR60
 Electrode ID: 1320016P 16

CALIBRATION

Cr+6 Curve Standard

		ARI ID: <u>C000892</u>	Date Prepared: <u>3-26-14</u>
Stock	<u>0.0709</u>	g K2Cr2O7 to	<u>500</u> mL = <u>50.1</u> mg/L Cr+6
Intermediate	<u>5</u>	mL Stock to	<u>50</u> mL = <u>5.01</u> mg/L Cr+6

Standard Curve Data

final volume of prepared standards = 50 mL

TIME: 16:25

Instrument Used: SPEC 1

ml	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk Corr Abs
		1	2	
0.0	0.00	<u>0.000</u>		= blank abs
0.1	0.01	<u>0.021</u>		
0.5	0.05	<u>0.041</u>		
1.0	0.10	<u>0.082</u>		
5.0	0.50	<u>0.406</u>		
10.0	1.00	<u>0.804</u>		

Regression Data

Conc = (abs-intercept)/slope

intercept =

slope =

r =

Comment:

maxabs =

Calibration Verification Standard

Source	<u>ERA # 160412/ B001620</u>	Stock Conc	<u>1,000</u> mg/L Cr+6
DQL Int. =	<u>0.10</u> ml stock to	mL pH2 =	<u>10.00</u> mg/L Cr+6
DQL =	<u>0.20</u> ml DQL Int. to	mL pH2 =	<u>0.04</u> mg/L Cr+6
CVS =	<u>0.025</u> ml stock to	mL pH2 =	<u>0.25</u> mg/L Cr+6

Prep Check Standard

Dilution 0.50 ml stock to 40.00 mL DI = 0.63 mg/L Cr+6

SAMPLE DATA

Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL

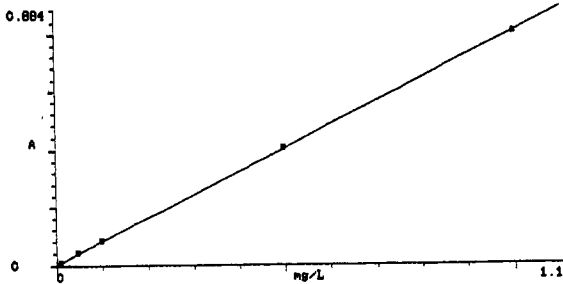
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

NOTE: enter dilution factor as mL_{final}/mL_{sample} (e.g. 1mL diluted to 5mL = 5/1 = 2.0)

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data			Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm (mg/L)		
ICB		1.000	1		<u>0.000</u>		
ICV		1.000	1		<u>0.219</u>		
Prep Blk		1.250	1		<u>0.001</u>		
Prep Chk		1.250	1		<u>0.414</u>		
DQL		1.250	1		<u>0.028</u>		
YE36 A1		1.250	1	<u>0.005</u>	<u>0.014</u>		
A'd		1.250	1		<u>0.015</u>		
A'm		1.250	1	<u>↓</u>	<u>0.055</u>		<u>0.05ml site to 40ml sample</u>
B'		1.250	1	<u>0.015</u>	<u>0.016</u>		
C'		1.250	1	<u>0.009</u>	<u>0.010</u>		
CCB		1.250	1		<u>0.000</u>		
CCV		1.250	1		<u>0.219</u>		
GEB		1.000	1				
CCV		1.000	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
CCB		1.000	1				
CCV		1.000	1				

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 16:25 26Mar14
 Test Name CHROME 6
 Date Standards Measured 26Mar14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.804
 Intercept 0.00117
 Std Dev 0.002
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.009
0.050	0.041
0.100	0.082
0.500	0.406
1.000	0.804

*5-26-14
 JN*

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C 16:26 26Mar14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On

ID#	Abs 540nm
1	0.000

- 3 0.001
- 4 0.414
- 5 0.028
- 6 0.014
- 7 0.015
- 8 0.055
- 9 0.016
- 10 0.010
- 11 0.005 A'
- 12 0.015 B'
- 13 0.009 c'
- 14 0.000
- 15 0.219

Backgrounds.
 ↓

2 0.219



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 11, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YE49

Dear Ian:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro", written over a horizontal line.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YE49

Enclosures

Chain of Custody Documentation

ARI Job ID: YE49

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: AE44
 Date: 3/26/2014
 Turn-around Requested:
 Page: 1 of 1
 No. of Coolers: 1
 Cooler Temps: 47

ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young

Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No. Containers	EPA 200.7/6010C Total Metals ¹	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Analysis Requested	Notes/Comments
S818-05262014	3/26/14	1150	G.W.	3	X	X	X		
S1519-03262014		1315			X	X	X		
S820-03262014		1555			X	X	X		

Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered	Relinquished by: (Signature) <u>[Signature]</u> Printed Name: <u>BRIAN B. HAWKINS</u> Company: <u>GEI</u>	Received by: (Signature) <u>[Signature]</u> Printed Name: <u>TIM STEMM</u> Company: <u>THUNSEBROS</u>
	Date & Time: <u>3/26/14 8:06 AM</u>	Date & Time: <u>3-27-14 8:50 AM</u>

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSD/DAP/SEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: Geo Eng
 COC No(s): _____ (NA)
 Assigned ARI Job No: YE49

Project Name: Aladdin Planting
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 4.2
 Time: _____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 92877952

Cooler Accepted by: TS Date: 3-27-14 Time: 950

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: NA _____
 Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: TS Date: 3-27-14 Time: 915

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

	Small → "sm" (< 2 mm)
	Peabubbles → "pb" (2 to < 4 mm)
	Large → "lg" (4 to < 6 mm)
	Headspace → "hs" (> 6 mm)



Inquiry Number: NONE
 Analysis Requested: 03/27/14
 Contact: Young, Ian
 Client: GeoEngineers
 Logged by: TS
 Sample Set Used: Yes-481
 Validatable Package: No
 Deliverables:

Project #: 0504-095-00
 Project: Aladden Plating
 Sample Site:
 SDG No:
 Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET DOC FLT FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
14-5667 YE49A	SB18-03262014						DIS Pass									N		<2	me.502	4ml	(B3/27/14)
14-5668 YE49B	SB19-03262014						DIS Pass									N					
14-5669 YE49C	SB20-03262014						DIS Pass									N					
14-5670 YE49D	SB18-03262014						DIS Pass									Y					
14-5671 YE49E	SB19-03262014						DIS Pass									Y					
14-5672 YE49F	SB20-03262014						DIS Pass									Y					
14-5673 YE49G	SB18-03262014						TOT Pass														
14-5674 YE49H	SB19-03262014						TOT Pass														
14-5675 YE49I	SB20-03262014						TOT Pass														

Filter
 A-C
 in
 lab
 (B3/27/14)

YE49: 00005

Checked By TS Date 3-27-14

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YE49



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YE49

Sample Receipt

Three water samples were received on March 27, 2014 under ARI job YE49. The cooler temperature measured by IR thermometer following ARI SOP was 4.2°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total and Dissolved Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries were within control limits.

The duplicate RPD of total chromium was outside the control limit for sample **SB18-03262014**. All relevant data have been flagged with a "*" qualifier on the appropriate Form VI. No further corrective action was taken.

General Chemistry Parameters (Hexavalent Chromium)

The samples and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blank was clean at the reporting limit. The SRM percent recovery was within control limits.

The matrix spike percent recovery and replicate RPD were within control limits.

Sample ID Cross Reference Report



ARI Job No: YE49
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. SB18-03262014	YE49A	14-5667	Water	03/26/14 11:50	03/27/14 08:50
2. SB19-03262014	YE49B	14-5668	Water	03/26/14 13:45	03/27/14 08:50
3. SB20-03262014	YE49C	14-5669	Water	03/26/14 15:55	03/27/14 08:50
4. SB18-03262014	YE49D	14-5670	Water	03/26/14 11:50	03/27/14 08:50
5. SB19-03262014	YE49E	14-5671	Water	03/26/14 13:45	03/27/14 08:50
6. SB20-03262014	YE49F	14-5672	Water	03/26/14 15:55	03/27/14 08:50
7. SB18-03262014	YE49G	14-5673	Water	03/26/14 11:50	03/27/14 08:50
8. SB19-03262014	YE49H	14-5674	Water	03/26/14 13:45	03/27/14 08:50
9. SB20-03262014	YE49I	14-5675	Water	03/26/14 15:55	03/27/14 08:50



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	RPD
Met 6010C (EPA 6010C) in Water							
Preservation: pH<2; HNO ₃ , Cool <6°C							
Container: HDPE NM, 500 mL							
Minimum Sample Volume: 500 mL				Hold Time: 180 days			
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120 20
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120 20
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120 20
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120 20
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120 20
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120 20
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120 20
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120 20
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120 20
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120 20
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120 20



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	RPD	Blank Spike / LCS %R	RPD
Met Diss 6010C (EPA 6010C) in Water								
Preservation: pH<2; HNO ₃ , Cool <6°C								
Container: HDPE NM, 500 mL								
Minimum Sample Weight: 500 mL								
Hold Time: 180 days								
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120	20
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120	20
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120	20
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120	20
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120	20
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120	20
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120	20
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120	20
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120	20
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120	20
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120	20
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120	20



Spike Recovery Control Limits for Conventional Wet Chemistry		
Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
Sample Matrix:	ARI's Control Limits	
	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YE49

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
SB18-03262014	YE49A	14-5667	
SB18-03262014D	YE49ADUP	14-5667	
SB18-03262014S	YE49ASPK	14-5667	
SB19-03262014	YE49B	14-5668	
PBW	YE49MB1	14-5668	
LCSW	YE49MB1SPK	14-5668	
SB20-03262014	YE49C	14-5669	
SB18-03262014	YE49D	14-5670	
SB18-03262014D	YE49DDUP	14-5670	
SB18-03262014S	YE49DSPK	14-5670	
SB19-03262014	YE49E	14-5671	
PBW	YE49MB2	14-5671	
LCSW	YE49MB2SPK	14-5671	
SB20-03262014	YE49F	14-5672	
SB18-03262014	YE49G	14-5673	
SB18-03262014D	YE49GDUP	14-5673	
SB18-03262014S	YE49GSPK	14-5673	
SB19-03262014	YE49H	14-5674	
PBW	YE49MB3	14-5674	
LCSW	YE49MB3SPK	14-5674	
SB20-03262014	YE49I	14-5675	

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn

Date: 4/9/14 Title: Inorganics Director

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Page 1 of 1

Sample ID: SB18-03262014
SAMPLE

Lab Sample ID: YE49A
LIMS ID: 14-5667
Matrix: Water
Data Release Authorized:
Reported: 04/08/14



QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

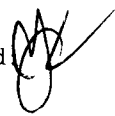
Page 1 of 1

Sample ID: SB19-03262014
SAMPLE

Lab Sample ID: YE49B

LIMS ID: 14-5668

Matrix: Water

Data Release Authorized 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/04/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: SB20-03262014
SAMPLE

Lab Sample ID: YE49C

LIMS ID: 14-5669

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/04/14	7440-02-0	Nickel	0.0039	0.01	0.02	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: SB18-03262014
SAMPLE

Lab Sample ID: YE49D

LIMS ID: 14-5670

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB19-03262014

SAMPLE

Lab Sample ID: YE49E

LIMS ID: 14-5671

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: SB20-03262014
SAMPLE

Lab Sample ID: YE49F

LIMS ID: 14-5672

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

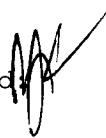
LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: SB18-03262014
MATRIX SPIKE

Lab Sample ID: YE49A
LIMS ID: 14-5667
Matrix: Water
Data Release Authorized: 
Reported: 04/08/14

QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Nickel	6010C	0.01 U	0.53	0.500	106%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: SB18-03262014
DUPLICATE

Lab Sample ID: YE49A
LIMS ID: 14-5667
Matrix: Water
Data Release Authorized
Reported: 04/08/14



QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: SB18-03262014

MATRIX SPIKE

Lab Sample ID: YE49D

LIMS ID: 14-5670

Matrix: Water

Data Release Authorized

Reported: 04/08/14


QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14



MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.530	0.500	106%	
Lead	6010C	0.02 U	2.12	2.00	106%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked


Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: SB18-03262014
DUPLICATE

Lab Sample ID: YE49D
LIMS ID: 14-5670
Matrix: Water
Data Release Authorized: 
Reported: 04/08/14

QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE49LCS

LIMS ID: 14-5668

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Nickel	6010C	0.55	0.50	110%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE49MB

LIMS ID: 14-5668

Matrix: Water

Data Release Authorized 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/04/14	7440-02-0	Nickel	0.0100	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE49LCS

LIMS ID: 14-5671

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.536	0.500	107%	
Lead	6010C	2.12	2.00	106%	

Reported in mg/L

N-Control limit not met

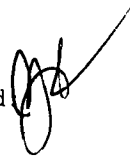
Control Limits: 80-120%

**INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS**

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE49MB
LIMS ID: 14-5671
Matrix: Water
Data Release Authorized
Reported: 04/08/14



QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00500	0.005	0.005	U
6010C	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0200	0.02	0.02	U

Reported in mg/L (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: SB18-03262014
SAMPLE

Lab Sample ID: YE49G

LIMS ID: 14-5673

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00124	0.005	0.019	
3010A	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/28/14	6010C	04/04/14	7440-02-0	Nickel	0.0039	0.01	0.02	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ


LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: SB19-03262014
SAMPLE

Lab Sample ID: YE49H
LIMS ID: 14-5674
Matrix: Water
Data Release Authorized: 
Reported: 04/08/14

QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00124	0.005	0.086	
3010A	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/28/14	6010C	04/04/14	7440-02-0	Nickel	0.0039	0.01	0.10	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

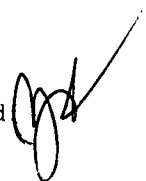
TOTAL METALS

Page 1 of 1

Sample ID: SB20-03262014

SAMPLE

Lab Sample ID: YE49I
LIMS ID: 14-5675
Matrix: Water
Data Release Authorized
Reported: 04/08/14



QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00124	0.005	0.042	
3010A	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/28/14	6010C	04/04/14	7440-02-0	Nickel	0.0039	0.01	0.07	

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: SB18-03262014
MATRIX SPIKE**

Lab Sample ID: YE49G

LIMS ID: 14-5673

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.019	0.584	0.500	113%	
Lead	6010C	0.02 U	2.16	2.00	108%	
Nickel	6010C	0.02	0.58	0.50	112%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: SB18-03262014
DUPLICATE

Lab Sample ID: YE49G

LIMS ID: 14-5673

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/26/14

Date Received: 03/27/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.019	0.032	51.0%	+/- 0.005	L*
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L
Nickel	6010C	0.02	0.03	40.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE49LCS

LIMS ID: 14-5674

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.540	0.500	108%	
Lead	6010C	2.12	2.00	106%	
Nickel	6010C	0.53	0.50	106%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: YE49MB

LIMS ID: 14-5674

Matrix: Water

Data Release Authorized: 

Reported: 04/08/14

QC Report No: YE49-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/28/14	6010C	04/04/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
3010A	03/28/14	6010C	04/04/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/28/14	6010C	04/04/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040471	1000.0	1032.45	103.2	1000.0	1029.19	102.9	1028.90	102.9	1044.35	104.4	1032.00	103.2	1037.14	103.7
Lead	PB	ICP	IP040471	2000.0	2003.84	100.2	2000.0	1989.43	99.5	1991.31	99.6	2007.59	100.4	1996.91	99.8	2023.89	101.2
Nickel	NI	ICP	IP040471	1000.0	1022.26	102.2	1000.0	1017.90	101.8	1023.84	102.4	1037.03	103.7	1026.21	102.6	1033.11	103.3

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49



UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP040471	1000.0	1052.53	105.3	1064.85	106.5	1069.74	107.0	1062.24	106.2				
Lead	PB	ICP	IP040471	2000.0	2039.13	102.0	2091.02	104.6	2071.83	103.6	2040.78	102.0				
Nickel	NI	ICP	IP040471	1000.0	1048.16	104.8	1056.81	105.7	1061.72	106.2	1053.84	105.4				

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE49

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Nickel	NI	ICP	IP040771	1000.0	1015.83	101.6	1000.0	1017.32	101.7	1029.84	103.0	1039.66	104.0				

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP040471		5.0	4.56	91.2										
Lead	PB	ICP	IP040471		20.0	19.92	99.6										
Nickel	NI	ICP	IP040471		10.0	10.04	100.4										
Nickel	NI	ICP	IP040771		10.0	9.33	93.3										

YE49 : 00038

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

UNITS:ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	ICB C	CCB1	CCB1 C	CCB2	CCB2 C	CCB3	CCB3 C	CCB4	CCB4 C	CCB5	CCB5 C
Chromium	CR ICP	IP040471	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead	PB ICP	IP040471	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Nickel	NI ICP	IP040471	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

YE49 : 00039

Calibration Blanks

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP040471	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP040471	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP040471	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

YE49 : 00040

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	ICB	CCB1	CCB2	CCB3	CCB4	CCB5	C
Nickel	NI	ICP	IP040771	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

YE49 : 00041

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040471

SDG: YE49

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	201011.6	201587.0	100.8						
Antimony		1000	19.2	1021.9	102.2						
Arsenic		1000	21.9	1031.8	103.2						
Barium		1000	-2.2	999.4	99.9						
Beryllium		1000	0.0	987.5	98.8						
Boron			-6.3	-8.2							
Cadmium		1000	-0.6	1024.6	102.5						
Calcium	100000	100000	101222.0	101250.3	101.3						
Chromium		1000	-0.3	1002.9	100.3						
Cobalt		1000	1.9	947.3	94.7						
Copper		1000	-0.7	1064.5	106.5						
Iron	200000	200000	199185.2	201252.2	100.6						
Lead		1000	-5.6	980.6	98.1						
Magnesium	100000	100000	101771.3	98753.4	98.8						
Manganese		1000	-1.6	951.5	95.2						
Molybdenum			2.5	2.4							
Nickel		1000	1.4	961.8	96.2						
Potassium			16.9	18.0							
Selenium		1000	36.3	1037.8	103.8						
Silicon			-9.5	-16.3							
Silver		1000	-0.4	1087.5	108.8						
Sodium			9.7	7.3							
Strontium			5.5	5.4							
Thallium		1000	2.0	947.7	94.8						
Tin			-17.6	-18.3							
Titanium			2.7	2.5							
Vanadium		1000	-3.0	983.0	98.3						
Zinc		1000	2.1	948.0	94.8						

YE49 : 00042

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040771

SDG: YE49

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	198345.2	197942.3	99.0						
Antimony		1000	21.8	1028.9	102.9						
Arsenic		1000	23.2	1033.7	103.4						
Barium		1000	-1.7	997.9	99.8						
Beryllium		1000	0.0	1001.7	100.2						
Boron			-5.9		-8.0						
Cadmium		1000	-0.6	1015.1	101.5						
Calcium	100000	100000	100501.5	100170.6	100.2						
Chromium		1000	-1.9	1007.8	100.8						
Cobalt		1000	1.8	938.3	93.8						
Copper		1000	-1.1	1048.1	104.8						
Iron	200000	200000	198477.7	197978.8	99.0						
Lead		1000	-4.6	976.1	97.6						
Magnesium	100000	100000	101427.2	97407.4	97.4						
Manganese		1000	-1.4	952.9	95.3						
Molybdenum			2.4	2.2							
Nickel		1000	-0.5	962.7	96.3						
Potassium			9.1	16.9							
Selenium		1000	28.9	1036.7	103.7						
Silicon			-6.4	-17.6							
Silver		1000	-0.5	1062.7	106.3						
Sodium			12.2	10.4							
Strontium			5.6	5.5							
Thallium		1000	2.9	953.0	95.3						
Tin			-16.4	-14.0							
Titanium			2.3	1.6							
Vanadium		1000	-1.2	977.1	97.7						
Zinc		1000	1.5	956.6	95.7						

YE49 : 00043

FORM IV

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1504760	0.000000	-1.1418810	1.4701580	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1186830
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0105370	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	0.0956050	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.0428390
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.0031370	0.000000	-0.1731660	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572230	0.000000	0.000000
Lead	220.35	-0.3197610	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	-0.0574840
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.6154620	-1.2018020	0.000000	0.9787120
Manganese	257.61	0.0085510	0.000000	0.000000	0.000000	0.0051490	0.000000	0.000000	0.000000	0.000000	-0.0059760
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0154460	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.8483140	0.000000	-0.6009380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0065610	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.0801700	0.000000	5.8939530	0.4135750	0.000000	-0.1258020
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1855780	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.1006900	0.000000	0.000000	0.000000	0.1910190	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0674860
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.0126620	0.000000	0.000000	-0.2680380	0.000000	0.000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	15.7116050	0.0000000	0.0000000	0.0000000	2.0154950	0.0000000	14.6504130	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7865220	0.0000000	-3.6308690	0.0000000
Arsenic	188.98	0.0000000	0.0000000	3.3640920	0.0000000	0.0000000	0.0000000	-35.7069030	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1263190	0.0000000	0.0000000	0.0000000	0.0000000	0.2049710	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0109650	0.0000000	0.2471980	0.0000000
Boron	249.67	0.0000000	0.0000000	-1.1300970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.9924980	0.0000000	0.0000000	0.0000000	0.0000000	0.0519140	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0714330	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3711990	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1573840	0.1604620	0.0000000	0.0000000	1.7865010	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0084138	0.0000000	0.3207980	0.0000000	0.0000000	0.0000000	0.1968290	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.0715790	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.1183620	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-5.0356720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0068080	0.0000000	0.0000000	0.0000000	-0.2132560	0.0000000	0.0000000	0.0000000	-0.0238460	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.5233870	0.0000000	0.4243640	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6221340	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2593400	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	-1.6229180	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0356520	-0.5555490	-0.1890930	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.9536400	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1515920	-0.5364060	0.0000000	0.0000000	0.0000000	0.5783020	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2492000	0.0000000	-0.0717780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

FORM XI

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: DMN

SDG: YE49

PREPDATE: 3/28/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
SB18-03262014	YE49A	0.000	50.0	50.0
SB18-03262014D	YE49ADUP	0.000	50.0	50.0
SB18-03262014S	YE49ASPK	0.000	50.0	50.0
SB19-03262014	YE49B	0.000	50.0	50.0
SB20-03262014	YE49C	0.000	50.0	50.0
PBW	YE49MB1	0.000	50.0	50.0
LCSW	YE49MB1SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: TWC

SDG: YE49

PREPDATE: 3/28/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
SB18-03262014	YE49G	0.000	50.0	50.0
SB18-03262014D	YE49GDUP	0.000	50.0	50.0
SB18-03262014S	YE49GSPK	0.000	50.0	50.0
SB19-03262014	YE49H	0.000	50.0	50.0
SB20-03262014	YE49I	0.000	50.0	50.0
PBW	YE49MB3	0.000	50.0	50.0
LCSW	YE49MB3SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE49

ANALYSIS METHOD: ICP
ARI PREP CODE: WMN
PREPDATE: 3/28/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
SB18-03262014	YE49D	0.000	50.0	50.0
SB18-03262014D	YE49DDUP	0.000	50.0	50.0
SB18-03262014S	YE49DSPK	0.000	50.0	50.0
SB19-03262014	YE49E	0.000	50.0	50.0
SB20-03262014	YE49F	0.000	50.0	50.0
PBW	YE49MB2	0.000	50.0	50.0
LCSW	YE49MB2SPK	0.000	50.0	50.0

Analysis Run Log



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040471 METHOD: ICP

START DATE: 4/4/2014

END DATE: 4/4/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN	
S0			1.00	09274																				X									X	
S2			1.00	09314										X																			X	
S3			1.00	09332										X																			X	
S4			1.00	09354																														
S5			1.00	09375																														
ICV			1.00	09424										X																			X	
ICB			1.00	09465										X																			X	
CRI			1.00	09505										X																			X	
ICSA			1.00	09545										X																			X	
ICSAB			1.00	09590										X																			X	
CCV			1.00	10041										X																			X	
CCB			1.00	10081										X																			X	
ZZZZZZ			2.00	10202																														
ZZZZZZ			2.00	10242																														
ZZZZZZ			2.00	10282																														
ZZZZZZ			2.00	10322																														
ZZZZZZ			2.00	10362																														
ZZZZZZ			2.00	10402																														
ZZZZZZ			2.00	10442																														
ZZZZZZ			2.00	10482																														
ZZZZZZ			2.00	10522																														
ZZZZZZ			2.00	10562																														
CCV			1.00	11002																					X									X
CCB			1.00	11043																				X										X
ZZZZZZ			1.00	11083																														
ZZZZZZ			1.00	11124																														
ZZZZZZ			1.00	11170																														
ZZZZZZ			1.00	11211																														
ZZZZZZ			1.00	11253																														
ZZZZZZ			1.00	11295																														
ZZZZZZ			1.00	11340																														
ZZZZZZ			1.00	11380																														
ZZZZZZ			1.00	11420																														
ZZZZZZ			1.00	11460																														
CCV			1.00	11500										X																			X	

Analysis Run Log



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040471 METHOD: ICP

START DATE: 4/4/2014

END DATE: 4/4/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	Tl	U	V	Zn		
CCB	CCB3	1.00	11541											X										X										X	
ZZZZZZ	YE51G	2.00	11581																																
ZZZZZZ	YE51H	2.00	12021																																
ZZZZZZ	YE51I	2.00	12061																																
ZZZZZZ	YE51J	2.00	12101																																
ZZZZZZ	YE51K	2.00	12141																																
ZZZZZZ	YE51L	2.00	12181																																
ZZZZZZ	YE51M	2.00	12221																																
ZZZZZZ	YE51ADUP	2.00	12261																																
ZZZZZZ	YE51A	2.00	12301																																
ZZZZZZ	YE51ASPK	2.00	12341																																
CCV	CCV4	1.00	12381										X											X										X	
CCB	CCB4	1.00	12422										X											X											
ZZZZZZ	YE52B	2.00	12462																																
ZZZZZZ	YE52C	2.00	12502																																
ZZZZZZ	YE52D	2.00	12542																																
ZZZZZZ	YE52E	2.00	12582																																
ZZZZZZ	YE52F	2.00	13022																																
ZZZZZZ	YE52G	2.00	13062																																
ZZZZZZ	YE52H	2.00	13102																																
ZZZZZZ	YE52ADUP	2.00	13142																																
ZZZZZZ	YE52A	2.00	13182																																
ZZZZZZ	YE52ASPK	2.00	13222																																
CCV	CCV5	1.00	13262										X											X										X	
CCB	CCB5	1.00	13303										X											X										X	
PBW	YE49MB1	1.00	13343																																
PBW	YE49MB2	1.00	13383											X											X									X	
PBW	YE49MB3	1.00	13424											X											X									X	
SB19-03262014	YE49H	1.00	13464											X										X										X	
SB20-03262014	YE49I	1.00	13510											X										X										X	
ZZZZZZ	YE52I	2.00	13551											X										X										X	
ZZZZZZ	YE52J	2.00	13591																																
ZZZZZZ	YE51MB1SPK	2.00	14031																																
ZZZZZZ	YE52MB1SPK	2.00	14071																																X
LCSW	YE49MB3SPK	1.00	14111										X											X										X	

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040471 METHOD: ICP

START DATE: 4/4/2014

END DATE: 4/4/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
CCV	CCV6	1.00	14151											X										X									X		
CCB	CCB6	1.00	14192											X										X									X		
ZZZZZZ	YF34MB	1.00	14232											X																					
ZZZZZZ	YF35MB	1.00	14272																																
ZZZZZZ	YF36MB1	1.00	14312																																
ZZZZZZ	YF36A	1.00	14351																																
ZZZZZZ	YF36B	1.00	14391																																
ZZZZZZ	YF36C	1.00	14433																																
ZZZZZZ	YF35A	1.00	14474																																
ZZZZZZ	YF34MBSPK	1.00	14520																																
ZZZZZZ	YF35MBSPK	1.00	14560																																
ZZZZZZ	YF36MB1SPK	1.00	15000																																
CCV	CCV7	1.00	15040											X										X									X		
CCB	CCB7	1.00	15081											X										X									X		
SB19-03262014	YE49B	1.00	15121																					X										X	
SB20-03262014	YE49C	1.00	15162																					X										X	
SB19-03262014	YE49E	1.00	15204											X																				X	
ZZZZZZ	YF34ADUP	1.00	15245																																
ZZZZZZ	YF34A	1.00	15291																																
ZZZZZZ	YF34ASP	1.00	15333																																
SB18-03262014D	YE49GDUP	1.00	15374											X										X										X	
SB18-03262014	YE49G	1.00	15414											X										X										X	
SB18-03262014S	YE49GSPK	1.00	15454											X										X										X	
LCSW	YE49MB2SPK	1.00	15494											X										X										X	
CCV	CCV8	1.00	15534											X										X										X	
CCB	CCB8	1.00	15575											X										X										X	
ZZZZZZ	YF36MB2	1.00	16015																																
ZZZZZZ	YF36E	1.00	16060																																
ZZZZZZ	YF36F	1.00	16102																																
ZZZZZZ	YF36G	1.00	16144																																
SB20-03262014	YE49F	1.00	16185																																X
SB18-03262014D	YE49DDUP	1.00	16231											X																				X	
SB18-03262014	YE49D	1.00	16270											X																				X	
SB18-03262014S	YE49DSPK	1.00	16312											X																				X	
LCSW	YE49MB1SPK	1.00	16352																															X	

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE49
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040471
 METHOD: ICP
 START DATE: 4/4/2014
 END DATE: 4/4/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
ZZZZZZ	YF36MB2SPK	1.00	16392																																	
CCV	CCV9	1.00	16432											X																						
CCB	CCB9	1.00	16472											X																						

YE49 : 00053

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE49

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040771 METHOD: ICP

START DATE: 4/7/2014

END DATE: 4/7/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
S0		1.00	09374																															X		
S2		1.00	09414																															X		
S3		1.00	09432																															X		
S4		1.00	09454																																	
S5		1.00	09480																																	
ICV		1.00	09505																															X		
ICB		1.00	09545																																X	
CRI		1.00	09585																																X	
ICSA		1.00	10025																																X	
ICSAB		1.00	10071																																X	
CCV		1.00	10121																																X	
CCB		1.00	10162																																X	
CCV		1.00	10225																																X	
CCB		1.00	10270																																X	
ZZZZZZ	YE51MB2	1.00	10310																																X	
ZZZZZZ	YE52MB2	1.00	10350																																	
ZZZZZZ	YE58C	1.00	10390																																	
ZZZZZZ	YE51Ga	1.00	10431																																	
ZZZZZZ	YE51Ha	1.00	10471																																	
ZZZZZZ	YE51Ka	1.00	10511																																	
ZZZZZZ	YE51La	1.00	10551																																	
SB18-03262014D	YE49ADUP	1.00	10591																																X	
SB18-03262014	YE49A	1.00	11032																																X	
SB18-03262014S	YE49ASPK	1.00	11074																																X	
CCV	CCV3	1.00	11114																																X	
CCB	CCB3	1.00	11154																																X	


YE49 : 00054

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YE49

INORGANICS ANALYSIS DATA SHEET
Hexavalent Chromium by Method SW7196A



Data Release Authorized: 
Reported: 03/31/14
Date Received: 03/27/14
Page 1 of 1

QC Report No: YE49-GeoEngineers
Project: Aladden Plating
0504-095-00

Client/ ARI ID	Date Sampled	Matrix	Analysis Date & Batch	RL	Result
SB18-03262014 YE49A 14-5667	03/26/14	Water	03/27/14 032714#1	0.010	< 0.010 U
SB19-03262014 YE49B 14-5668	03/26/14	Water	03/27/14 032714#1	0.010	< 0.010 U
SB20-03262014 YE49C 14-5669	03/26/14	Water	03/27/14 032714#1	0.010	< 0.010 U

Reported in mg/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
YE49-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/31/14

A handwritten signature in black ink, appearing to be 'J. [unclear]', written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YE49A Client ID: SB18-03262014						
Hexavalent Chromium	03/27/14	mg/L	< 0.010	0.060	0.063	95.2%

REPLICATE RESULTS-CONVENTIONALS
YE49-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/31/14

A handwritten signature in black ink, appearing to be a stylized 'W' or similar character.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/26/14
Date Received: 03/27/14

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: YE49A Client ID: SB18-03262014					
Hexavalent Chromium	03/27/14	mg/L	< 0.010	< 0.010	NA

METHOD BLANK RESULTS-CONVENTIONALS
YE49-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 03/31/14


A handwritten signature in black ink, consisting of a large, stylized 'R' followed by a checkmark.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	Blank
Hexavalent Chromium	03/27/14 09:40	mg/L	< 0.010 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
YE49-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 03/31/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date/Time	Units	SRM	True Value	Recovery
Hexavalent Chromium ERA #160412	03/27/14 09:40	mg/L	0.631	0.630	100.2%

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YE49



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: B Date: 3-28-11 Time: 1005
Matrix: WATER Block ID: - Block Temp: - Thermometer: -

ARI Sample ID	Btl #	pH<2	Prep Code: <u>WAVE</u>		Prep Code: <u>DRIVE</u>		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YE54 G	1	✓	-	-			
" G200	1	✓	-	-			
" G500	1	✓	-	-			
" H	1	✓	-	-			
" I	1	✓	-	-			
" J	1	✓	-	-			
" K	1	✓	-	-			
YE47 F	1	✓	-	-		CB	
" F	1	✓	-	-		3-28-11	
" G	1	✓	-	-			
" H	1	✓	-	-			
YE49 D	1	✓	-	-			
" D200	1	✓	-	-			
" D500	1	✓	-	-			
" E	1	✓	-	-			
" F	1	✓	-	-			
" A	1	-	-	-			Filter in lab
" Adp	1	-	-	-			
" Aspx	1	-	-	-			
" B	1	-	-	-		CB	
" C	1	-	-	-		3-28-11	
" mB1	-	-	-	-			
" mB2	-	-	-	-			
			CB 3-28-11				

Chemical/Reagent ID: HNO3: mp2549

5061F

Time for H1
1309271



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: CB Date: 3-28-14 Time: 0854
Matrix: WATER Block ID: 123 Block Temp: 45°C Thermometer: mp64

ARI Sample ID	Btl #	pH<2	Prep Code: <u>TWC</u>		Prep Code:		Comments	
			Initial Wt(g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)		
YE49 G	1	↓	50.0	50.0				
" (50.0)	1	↓	↓	↓				
" (50.0)	1	↓	↓	↓				
" "	1	↓	↓	↓				
" 2	1	↓	↓	↓				
" 2-83	-	-	↓	↓				
" 2-83M	-	-	50.0					
7557 A	10	-	25.0				Preserved in lab	
" 28	-	-	50.0				X	
" 2-83M	-	-	↓	↓			X CB	
" 2-83C	-	-	50.0	50.0			X 3/25/14	
			CB	3-28-14				

Chemical/Reagent ID: HNO₃: 20082
5061F 2-83M

HCL: C1274

TWC or 41
120221



Corrective Actions Inorganic Analyses

Criteria Flagged:	ARI Job No.:	<u>YE 49</u>
Unacceptable Blank: <input type="checkbox"/>	Date of Event:	<u>4-4-14</u>
Unacceptable Duplicate: <input checked="" type="checkbox"/>	Client ID:	<u>GeoEnv</u>
Unacceptable Spike: <input type="checkbox"/>	Method/Element:	<u>ICP</u>
Unacceptable Reference: <input type="checkbox"/>	Prep Code:	<u>TWC</u>

Details of Problem/Recommended Corrective Action:

G/G Dup > 1 RL diff. for Cr, Ni

Samples Affected:

Corrective Action Taken:

Sub

Analyst Initials:	<u>AK</u>	Supervisor:	<u>[Signature]</u>
Date:	<u>4-7-14</u>	Date:	<u>4/7/14</u>

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YE49

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 4-4-14

<u>I2</u>	Analyst <u>BA 4-7-14</u>	Peer <u>BA 4-7-14</u>	Comment
Logbook:			
Analyst, Date, Method info	/	✓	
Sample ID's	/	✓	
Standard/QC solution ID's recorded	/	✓	
Prep codes	/	✓	
Dilution factors	/	✓	
Crossouts/Corrections/Deletions	/	✓	
Calibration:			
Blank & Standard intensities	/	✓	
Standard deviations	/	✓	
Curve fit	/	✓	
Calibration Verification:			
ICV/CCV	/	✓	<u>See log</u>
ICB/CCB	/	✓	<u>See log</u>
Samples:			
RSD's & SD's	/	✓	
Internal Standards	/	✓	
Carry-over	/	✓	
Method QC:			
CRI/CRA	/	✓	
ICSA/ICSAB	/	✓	
Post Spikes/Serial Dilutions	—	—	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	/	✓	
Matrix Spikes	/	✓	
Matrix Duplicates	/	✓	<u>YE49</u>
Method Blanks	/	✓	
Data Distribution:			
Requested elements/isotope identified	/	✓	
Correct samples identified for distribution	/	✓	
Raw data match distributed data	/	✓	
Data filename correct	/	✓	
Necessary Analysts Notes and CAF's	/	✓	<u>CAF YE49</u>



IEC Date: 3-26-14

Analysis Date: 4-4-14

Analyst: RL

LR Date: 1-3-14

Page: 1 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1355
		2			C1331
		3			C1332
		4			C1333
		↓ 5			C1334
		ICV			C1377
		ICB			
		CPI			
		ICSA			C532
		ICSA B			C533
		CCV1			
		CCB1			
		YF18 MB	SWC	2	
		YE51 MB1			
		YE52 MB1			
		YE51 B			
		C			
		D			
		E			
		↓ F			
		YF18 A			
		↓ MBSAC	↓	↓	✓
		CCV2			
		CCB2			



IEC Date: Analysis Date: 4-4-14 Analyst:
LR Date: Page: 2 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE60 G	DMN		
		H			
		I			
		J			
		FDup			✓
		F			
		↓ FSpk	↓		✓ Ca, Mg, Ni STL 0.28 ml ICP Spk B1845, 0.06 ml Sb B464
		B1			
		YE60B2Spk	DMN		✓ 0.08 ml ICP Spk B1845, 0.06 ml Sb B464
		B2			
		OCV3			
		ceB3			
		YE51 G	SXX	2	
		H			
		I			
		J			
		K			
		L			
		M			
		ADup			✓
		A			
		↓ ASpk	↓	↓	✓
		OCV4			
		ceB4			



IEC Date:

Analysis Date: 4-4-14

Analyst: EC

LR Date:

Page: 3 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE52 B	SWC	2	
		C			
		D			
		E			
		F			
		G			
		H			
		ADP			✓
		A			
		↓ A51K	↓	↓	✓
		CEV5			
		CEB5			
		YE49 MB1	DMN		
		MB2	WMN		
		MB3	TWC		
		H			
		↓ I	↓		
		YE52 I	SWC	2	
		↓ J			
		YE51 MB15DK			✓
		YE52 MB15DK	↓	↓	✓
		YE49 MB35DK	TWC		✓
		CCV6			
		CEB6			



IEC Date: _____

Analysis Date: 4-4-14

Analyst: GL

LR Date: _____

Page: 4 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YF34 MB	TWC		
		YF35 MB			
		YF36 MB			
		YF36 A			
		↓ B			
		↓ C			
	X	YF35A			CCV sample not fully
		YF34 MBSPK			
	X	YF35 MBSPK			
		YF36 MBSPK	✓		
		CCV 7	X		AGP
		CCB 7	X		
		YE49 B	DMW		
		↓ C	↓		
		↓ E	WMW		
		YF34 ADup	TWC		
		↓ A			
		↓ ASPK			✓
		YE49 GDup			✓
		↓ G			
		↓ GSPK	↓		✓
		↓ MBZSPK	WMW		✓
		CCV 8			
		CCB 8			



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Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7300
Serial No. - 077C8121202

IEC Date: _____ Analysis Date: 4-11-14 Analyst: EL
LR Date: _____ Page: 5 of 5

All corrections made by analyst unless otherwise noted. Ed 4-11-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments	
		YF36MB2	WMN			
		↓ E	↓			
		↓ F	↓			
		↓ G	↓			
		YE49 F				
		↓ DDup			✓	
		↓ D				
		↓ D5PK	↓		✓	
		↓ MB15PK	DMN		✓	
		YE36 YE21 MB25PK	WMN		✓	
		CCU9			Ag ↑	
		CCB9			Ag ↑	
		Rinse/DE				
		Ed 4-11-14				

Nebulizer Parameters: Hg_ReAlign

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

4/4/2014 9:05:30 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.000 Slit adjustment: 0

Analysis Begun

Start Time: 4/4/2014 9:06:15 AM Plasma On Time: 4/4/2014 8:19:14 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: FAST-Verify-Install
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists various elements like Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn, ScA, ScR with their respective calibration and processing details.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 4/4/2014 9:06:24 AM
Dilution: 1.000000X Data Type: Original

Nebulizer Parameters: B1
Analyte Back Pressure Flow
All 213.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/4/2014 9:27:40 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/4/2014 8:19:14 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0404.sif
 Batch ID:

Results Data Set: I2140404

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1
 Sample ID: Calib Blank 1

Autosampler Location: 1
 Date Collected: 4/4/2014 9:27:41 AM
 Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2862109.8	15694.00	0.55%	100.0 %
ScR 361.383	241134.5	923.33	0.38%	100.0 %
Ag 328.068†	48.9	41.93	85.68%	[0.00] mg/L
Al 308.215†	112.4	2.95	2.62%	[0.00] mg/L
As 188.979†	-8.2	2.10	25.67%	[0.00] mg/L
B 249.677†	33.8	4.34	12.85%	[0.00] mg/L
Ba 233.527†	14.2	2.44	17.22%	[0.00] mg/L
Be 313.042†	705.9	3.77	0.53%	[0.00] mg/L
Ca 317.933†	-146.4	2.57	1.76%	[0.00] mg/L
Cd 228.802†	300.8	3.73	1.24%	[0.00] mg/L
Co 228.616†	-78.3	7.56	9.65%	[0.00] mg/L
Cr 267.716†	-84.5	4.73	5.60%	[0.00] mg/L
Cu 324.752†	4510.9	19.20	0.43%	[0.00] mg/L
Fe 273.955†	46.7	1.36	2.91%	[0.00] mg/L
K 766.490†	562.7	8.73	1.55%	[0.00] mg/L
Mg 279.077†	53.5	2.56	4.79%	[0.00] mg/L
Mn 257.610†	140.3	1.88	1.34%	[0.00] mg/L
Mo 202.031†	54.6	3.45	6.31%	[0.00] mg/L
Na 589.592†	-321.8	52.10	16.19%	[0.00] mg/L
Na 330.237†	-148.6	6.50	4.37%	[0.00] mg/L
Ni 231.604†	-15.0	1.41	9.42%	[0.00] mg/L
Pb 220.353†	49.0	0.62	1.26%	[0.00] mg/L
Sb 206.836†	70.4	3.33	4.73%	[0.00] mg/L
Se 196.026†	-28.6	4.70	16.42%	[0.00] mg/L
Si 288.158†	81.7	11.59	14.17%	[0.00] mg/L
Sn 189.927†	-2.5	1.77	69.92%	[0.00] mg/L
Sr 421.552†	183.6	18.25	9.94%	[0.00] mg/L
Ti 334.903†	-36.8	12.58	34.16%	[0.00] mg/L
Tl 190.801†	-34.0	4.74	13.94%	[0.00] mg/L
V 292.402†	110.4	12.64	11.45%	[0.00] mg/L
Zn 206.200†	12.7	1.84	14.54%	[0.00] mg/L

Sequence No.: 2
 Sample ID: STD2

Autosampler Location: 2
 Date Collected: 4/4/2014 9:31:41 AM
 Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected

Calib

YE49:00074

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2888317.8	10340.70	0.36%	100.9	%
ScR 361.383	241280.6	974.86	0.40%	100.1	%
Ba 233.527†	38907.5	23.60	0.06%	[10]	mg/L
Cd 228.802†	308223.2	1787.62	0.58%	[10]	mg/L
Co 228.616†	389993.9	3065.76	0.79%	[10]	mg/L
Cr 267.716†	48997.9	124.06	0.25%	[10]	mg/L
Cu 324.752†	2788982.2	15961.68	0.57%	[10]	mg/L
Mn 257.610†	303209.7	610.22	0.20%	[10]	mg/L
V 292.402†	1479049.3	9693.04	0.66%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/4/2014 9:33:28 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2901724.2	22960.00	0.79%	101.4	%
ScR 361.383	245411.3	1380.61	0.56%	101.8	%
Ag 328.068†	194872.3	341.73	0.18%	[1.0]	mg/L
As 188.979†	16227.1	138.89	0.86%	[10]	mg/L
B 249.677†	55166.7	586.26	1.06%	[10]	mg/L
Be 313.042†	2400277.2	32643.35	1.36%	[5.0]	mg/L
Na 589.592†	650990.4	5722.95	0.88%	[50]	mg/L
Ni 231.604†	33820.3	361.26	1.07%	[10]	mg/L
Pb 220.353†	80379.8	222.03	0.28%	[10]	mg/L
Se 196.026†	12983.8	139.21	1.07%	[10]	mg/L
Sr 421.552†	4000314.7	37818.99	0.95%	[5]	mg/L
Tl 190.801†	20460.8	186.78	0.91%	[10]	mg/L
Zn 206.200†	33978.1	369.87	1.09%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/4/2014 9:35:45 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2880091.3	16892.17	0.59%	100.6	%
ScR 361.383	241740.7	140.10	0.06%	100.3	%
Mo 202.031†	177124.4	2499.07	1.41%	[10]	mg/L
Sb 206.836†	30005.2	424.20	1.41%	[10]	mg/L
Si 288.158†	17146.1	248.98	1.45%	[10]	mg/L
Sn 189.927†	32258.7	562.68	1.74%	[10]	mg/L
Ti 334.903†	162138.4	523.91	0.32%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/4/2014 9:37:59 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	213.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
ScA 357.253	2725372.8	3394.87	0.12%	95.22	%
ScR 361.383	238594.3	1706.14	0.72%	98.95	%
Al 308.215†	37584.3	180.51	0.48%	[30]	mg/L
Ca 317.933†	286460.9	679.23	0.24%	[30]	mg/L
Fe 273.955†	111545.4	681.63	0.61%	[100]	mg/L
K 766.490†	220001.3	710.94	0.32%	[100]	mg/L
Mg 279.077†	33016.2	158.06	0.48%	[30]	mg/L
Na 330.237†	2079.2	16.85	0.81%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	194900	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1253	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1623	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5517	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3891	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	480100	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9549	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	30820	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	39000	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4900	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	278900	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1115	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2200	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1101	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	30320	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	17710	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13020	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	20.79	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3382	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8038	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3001	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1298	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1715	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3226	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	800100	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16210	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2046	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	147900	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3398	0.00000	1.000000	

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Analysis Begun

Start Time: 4/4/2014 9:42:47 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/4/2014 8:19:14 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0404.sif

Batch ID:

Results Data Set: I2140404

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: YCV

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/4/2014 9:42:48 AM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2879201.6	100.6 %	0.71			0.70%
ScR 361.383	238390.7	98.86 %	0.726			0.73%
Ag 328.068†	208736.3	1.071 mg/L	0.0070	1.071 mg/L	0.0070	0.65%
Al 308.215†	2588.8	2.034 mg/L	0.0176	2.034 mg/L	0.0176	0.86%
As 188.979†	3227.8	2.021 mg/L	0.0083	2.021 mg/L	0.0083	0.41%
B 249.677†	5629.0	1.019 mg/L	0.0066	1.019 mg/L	0.0066	0.64%
Ba 233.527†	3971.7	1.020 mg/L	0.0047	1.020 mg/L	0.0047	0.46%
Be 313.042†	468114.0	0.9749 mg/L	0.01043	0.9749 mg/L	0.01043	1.07%
Ca 317.933†	20029.6	2.098 mg/L	0.0135	2.098 mg/L	0.0135	0.64%
Cd 228.802†	32113.4	1.032 mg/L	0.0060	1.032 mg/L	0.0060	0.58%
Co 228.616†	38776.8	0.9924 mg/L	0.00537	0.9924 mg/L	0.00537	0.54%
Cr 267.716†	5061.3	1.032 mg/L	0.0070	1.032 mg/L	0.0070	0.67%
Cu 324.752†	276323.6	0.9905 mg/L	0.00697	0.9905 mg/L	0.00697	0.70%
Fe 273.955†	2314.0	2.068 mg/L	0.0134	2.068 mg/L	0.0134	0.65%
K 766.490†	44454.5	20.21 mg/L	0.065	20.21 mg/L	0.065	0.32%
Mg 279.077†	2206.6	2.011 mg/L	0.0151	2.011 mg/L	0.0151	0.75%
Mn 257.610†	29618.7	0.9773 mg/L	0.00411	0.9773 mg/L	0.00411	0.42%
Mo 202.031†	17087.2	0.9647 mg/L	0.00498	0.9647 mg/L	0.00498	0.52%
Na 589.592†	667099.7	51.24 mg/L	0.145	51.24 mg/L	0.145	0.28%
Na 330.237†	1077.8	51.80 mg/L	0.351	51.80 mg/L	0.351	0.68%
Ni 231.604†	3456.5	1.022 mg/L	0.0086	1.022 mg/L	0.0086	0.84%
Pb 220.353†	16097.6	2.004 mg/L	0.0114	2.004 mg/L	0.0114	0.57%
Sb 206.836†	6233.8	2.076 mg/L	0.0110	2.076 mg/L	0.0110	0.53%
Se 196.026†	2604.1	2.005 mg/L	0.0046	2.005 mg/L	0.0046	0.23%
Si 288.158†	3411.1	1.994 mg/L	0.0388	1.994 mg/L	0.0388	1.95%
Sn 189.927†	3182.0	0.9881 mg/L	0.00407	0.9881 mg/L	0.00407	0.41%
Sr 421.552†	810012.2	1.012 mg/L	0.0039	1.012 mg/L	0.0039	0.38%
Ti 334.903†	16215.3	0.9988 mg/L	0.00121	0.9988 mg/L	0.00121	0.12%
Tl 190.801†	4040.9	1.967 mg/L	0.0169	1.967 mg/L	0.0169	0.86%
V 292.402†	149979.6	1.018 mg/L	0.0052	1.018 mg/L	0.0052	0.51%
Zn 206.200†	3440.1	1.013 mg/L	0.0074	1.013 mg/L	0.0074	0.73%

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Sequence No.: 2

Sample ID: ICB

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 1

Date Collected: 4/4/2014 9:46:51 AM

Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2922447.3	102.1	%	0.10				0.09%
ScR 361.383	243679.4	101.1	%	0.92				0.91%
Ag 328.068†	8.4	0.00004	mg/L	0.000073	0.00004	mg/L	0.000073	168.89%
Al 308.215†	0.5	0.00040	mg/L	0.008262	0.00040	mg/L	0.008262	>999.9%
As 188.979†	1.7	0.00110	mg/L	0.001597	0.00110	mg/L	0.001597	145.67%
B 249.677†	7.7	0.00140	mg/L	0.001036	0.00140	mg/L	0.001036	73.85%
Ba 233.527†	0.4	0.00010	mg/L	0.000433	0.00010	mg/L	0.000433	434.46%
Be 313.042†	14.1	0.00003	mg/L	0.000030	0.00003	mg/L	0.000030	103.33%
Ca 317.933†	4.9	0.00052	mg/L	0.001510	0.00052	mg/L	0.001510	293.14%
Cd 228.802†	-3.5	-0.00012	mg/L	0.000151	-0.00012	mg/L	0.000151	126.33%
Co 228.616†	-1.8	-0.00005	mg/L	0.000067	-0.00005	mg/L	0.000067	141.63%
Cr 267.716†	-3.5	-0.00072	mg/L	0.000539	-0.00072	mg/L	0.000539	75.02%
Cu 324.752†	1.9	0.00001	mg/L	0.000304	0.00001	mg/L	0.000304	>999.9%
Fe 273.955†	-0.1	-0.00013	mg/L	0.001285	-0.00013	mg/L	0.001285	>999.9%
K 766.490†	17.5	0.00796	mg/L	0.019281	0.00796	mg/L	0.019281	242.13%
Mg 279.077†	2.5	0.00225	mg/L	0.005502	0.00225	mg/L	0.005502	244.49%
Mn 257.610†	-0.0	-0.00000	mg/L	0.000009	-0.00000	mg/L	0.000009	>999.9%
Mo 202.031†	21.7	0.00122	mg/L	0.000221	0.00122	mg/L	0.000221	18.07%
Na 589.592†	46.6	0.00358	mg/L	0.003284	0.00358	mg/L	0.003284	91.76%
Na 330.237†	1.9	0.09366	mg/L	0.096509	0.09366	mg/L	0.096509	103.04%
Ni 231.604†	-0.9	-0.00027	mg/L	0.000452	-0.00027	mg/L	0.000452	168.27%
Pb 220.353†	-3.7	-0.00046	mg/L	0.000383	-0.00046	mg/L	0.000383	83.34%
Sb 206.836†	26.4	0.00881	mg/L	0.002079	0.00881	mg/L	0.002079	23.60%
Se 196.026†	-0.5	-0.00037	mg/L	0.003543	-0.00037	mg/L	0.003543	970.39%
Si 288.158†	-11.0	-0.00641	mg/L	0.005755	-0.00641	mg/L	0.005755	89.85%
Sn 189.927†	2.1	0.00067	mg/L	0.000744	0.00067	mg/L	0.000744	111.29%
Sr 421.552†	16.7	0.00002	mg/L	0.000016	0.00002	mg/L	0.000016	75.40%
Ti 334.903†	17.4	0.00107	mg/L	0.000608	0.00107	mg/L	0.000608	56.75%
Tl 190.801†	-6.1	-0.00296	mg/L	0.001591	-0.00296	mg/L	0.001591	53.81%
V 292.402†	-39.1	-0.00027	mg/L	0.000164	-0.00027	mg/L	0.000164	61.23%
Zn 206.200†	-1.5	-0.00046	mg/L	0.000706	-0.00046	mg/L	0.000706	154.57%

Sequence No.: 3
 Sample ID: CRI
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 301
 Date Collected: 4/4/2014 9:50:51 AM
 Data Type: Original

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2904034.1	101.5	%	0.43				0.43%
ScR 361.383	246234.5	102.1	%	0.86				0.84%
Ag 328.068†	640.9	0.00329	mg/L	0.000135	0.00329	mg/L	0.000135	4.09%
Al 308.215†	61.9	0.04927	mg/L	0.004802	0.04927	mg/L	0.004802	9.75%
As 188.979†	85.1	0.05260	mg/L	0.001951	0.05260	mg/L	0.001951	3.71%
B 249.677†	114.1	0.02069	mg/L	0.001288	0.02069	mg/L	0.001288	6.22%
Ba 233.527†	12.5	0.00321	mg/L	0.000597	0.00321	mg/L	0.000597	18.63%
Be 313.042†	428.4	0.00089	mg/L	0.000028	0.00089	mg/L	0.000028	3.13%
Ca 317.933†	463.7	0.04856	mg/L	0.000727	0.04856	mg/L	0.000727	1.50%
Cd 228.802†	70.7	0.00203	mg/L	0.000253	0.00203	mg/L	0.000253	12.43%
Co 228.616†	117.0	0.00299	mg/L	0.000125	0.00299	mg/L	0.000125	4.17%
Cr 267.716†	22.3	0.00456	mg/L	0.001287	0.00456	mg/L	0.001287	28.25%
Cu 324.752†	542.4	0.00194	mg/L	0.000262	0.00194	mg/L	0.000262	13.45%
Fe 273.955†	57.7	0.05175	mg/L	0.001905	0.05175	mg/L	0.001905	3.68%
K 766.490†	1064.1	0.4837	mg/L	0.01425	0.4837	mg/L	0.01425	2.95%
Mg 279.077†	58.9	0.05353	mg/L	0.004695	0.05353	mg/L	0.004695	8.77%
Mn 257.610†	28.5	0.00094	mg/L	0.000019	0.00094	mg/L	0.000019	1.99%
Mo 202.031†	89.3	0.00504	mg/L	0.000188	0.00504	mg/L	0.000188	3.73%
Na 589.592†	6573.8	0.5049	mg/L	0.00368	0.5049	mg/L	0.00368	0.73%
Na 330.237†	14.1	0.6746	mg/L	0.11632	0.6746	mg/L	0.11632	17.24%
Ni 231.604†	33.9	0.01004	mg/L	0.000148	0.01004	mg/L	0.000148	1.48%
Pb 220.353†	160.0	0.01992	mg/L	0.000486	0.01992	mg/L	0.000486	2.44%

Sb 206.836†	162.7	0.05426 mg/L	0.001747	0.05426 mg/L	0.001747	3.22%
Se 196.026†	66.7	0.05140 mg/L	0.001501	0.05140 mg/L	0.001501	2.92%
Si 288.158†	85.6	0.04992 mg/L	0.001449	0.04992 mg/L	0.001449	2.90%
Sn 189.927†	30.4	0.00946 mg/L	0.000785	0.00946 mg/L	0.000785	8.30%
Sr 421.552†	777.8	0.00097 mg/L	0.000036	0.00097 mg/L	0.000036	3.73%
Ti 334.903†	89.5	0.00551 mg/L	0.000259	0.00551 mg/L	0.000259	4.70%
Tl 190.801†	102.5	0.05010 mg/L	0.002057	0.05010 mg/L	0.002057	4.11%
V 292.402†	395.8	0.00269 mg/L	0.000121	0.00269 mg/L	0.000121	4.50%
Zn 206.200†	32.3	0.00950 mg/L	0.000275	0.00950 mg/L	0.000275	2.90%

Sequence No.: 4
 Sample ID: ICSA
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 4/4/2014 9:54:52 AM
 Data Type: Original

Nebulizer Parameters: ICSA
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2827854.9	98.80 %		0.387			0.39%
ScR 361.383	241290.2	100.1 %		0.61			0.61%
Ag 328.068†	-195.4	-0.00039 mg/L		0.000412	-0.00039 mg/L	0.000412	105.84%
Al 308.215†	251829.2	201.0 mg/L		0.29	201.0 mg/L	0.29	0.15%
As 188.979†	49.4	0.02188 mg/L		0.002249	0.02188 mg/L	0.002249	10.28%
B 249.677†	-35.0	-0.00635 mg/L		0.002159	-0.00635 mg/L	0.002159	34.02%
Ba 233.527†	111.0	-0.00224 mg/L		0.000692	-0.00224 mg/L	0.000692	30.83%
Be 313.042†	6.7	0.00001 mg/L		0.000013	0.00001 mg/L	0.000013	106.50%
Ca 317.933†	966538.4	101.2 mg/L		0.29	101.2 mg/L	0.29	0.29%
Cd 228.802†	39.7	-0.00060 mg/L		0.000234	-0.00060 mg/L	0.000234	38.95%
Co 228.616†	76.1	0.00193 mg/L		0.000184	0.00193 mg/L	0.000184	9.50%
Cr 267.716†	16.1	-0.00029 mg/L		0.000409	-0.00029 mg/L	0.000409	138.99%
Cu 324.752†	-2504.1	-0.00073 mg/L		0.000105	-0.00073 mg/L	0.000105	14.46%
Fe 273.955†	222182.0	199.2 mg/L		0.25	199.2 mg/L	0.25	0.13%
K 766.490†	37.1	0.01686 mg/L		0.006064	0.01686 mg/L	0.006064	35.97%
Mg 279.077†	112155.4	101.8 mg/L		1.03	101.8 mg/L	1.03	1.01%
Mn 257.610†	26.9	-0.00159 mg/L		0.000080	-0.00159 mg/L	0.000080	5.01%
Mo 202.031†	71.3	0.00246 mg/L		0.000275	0.00246 mg/L	0.000275	11.21%
Na 589.592†	126.0	0.00968 mg/L		0.003376	0.00968 mg/L	0.003376	34.88%
Na 330.237†	14.2	0.06762 mg/L		0.097636	0.06762 mg/L	0.097636	144.39%
Ni 231.604†	4.5	0.00136 mg/L		0.000552	0.00136 mg/L	0.000552	40.61%
Pb 220.353†	-372.9	-0.00558 mg/L		0.000352	-0.00558 mg/L	0.000352	6.32%
Sb 206.836†	58.3	0.01920 mg/L		0.002036	0.01920 mg/L	0.002036	10.60%
Se 196.026†	47.2	0.03632 mg/L		0.005442	0.03632 mg/L	0.005442	14.98%
Si 288.158†	-37.0	-0.00947 mg/L		0.004057	-0.00947 mg/L	0.004057	42.84%
Sn 189.927†	-96.3	-0.01760 mg/L		0.002333	-0.01760 mg/L	0.002333	13.26%
Sr 421.552†	4408.9	0.00551 mg/L cont.		0.000085	0.00551 mg/L	0.000085	1.54%
Ti 334.903†	159.6	0.00269 mg/L		0.000258	0.00269 mg/L	0.000258	9.59%
Tl 190.801†	-42.7	0.00205 mg/L		0.000851	0.00205 mg/L	0.000851	41.58%
V 292.402†	1210.0	-0.00305 mg/L		0.000545	-0.00305 mg/L	0.000545	17.91%
Zn 206.200†	7.0	0.00205 mg/L		0.000274	0.00205 mg/L	0.000274	13.34%

Sequence No.: 5
 Sample ID: ICSAB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 4/4/2014 9:59:07 AM
 Data Type: Original

Nebulizer Parameters: ICSAB
 Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
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ScA 357.253	2795095.5	97.66 %	0.191			0.20%
ScR 361.383	237210.6	98.37 %	0.455			0.46%
Ag 328.068†	211762.6	1.088 mg/L	0.0062	1.088 mg/L	0.0062	0.57%
Al 308.215†	252568.2	201.6 mg/L	0.58	201.6 mg/L	0.58	0.29%
As 188.979†	1688.9	1.032 mg/L	0.0055	1.032 mg/L	0.0055	0.53%
B 249.677†	-34.0	-0.00817 mg/L	0.000949	-0.00817 mg/L	0.000949	11.62%
Ba 233.527†	4010.1	0.9994 mg/L	0.00924	0.9994 mg/L	0.00924	0.92%
Be 313.042†	474165.2	0.9875 mg/L	0.00683	0.9875 mg/L	0.00683	0.69%
Ca 317.933†	966808.4	101.3 mg/L	0.37	101.3 mg/L	0.37	0.36%
Cd 228.802†	31775.5	1.025 mg/L	0.0082	1.025 mg/L	0.0082	0.80%
Co 228.616†	36953.0	0.9473 mg/L	0.00800	0.9473 mg/L	0.00800	0.84%
Cr 267.716†	4931.6	1.003 mg/L	0.0052	1.003 mg/L	0.0052	0.52%
Cu 324.752†	294505.1	1.064 mg/L	0.0091	1.064 mg/L	0.0091	0.85%
Fe 273.955†	224495.0	201.3 mg/L	1.10	201.3 mg/L	1.10	0.54%
K 766.490†	39.7	0.01804 mg/L	0.004982	0.01804 mg/L	0.004982	27.62%
Mg 279.077†	108832.5	98.75 mg/L	0.169	98.75 mg/L	0.169	0.17%
Mn 257.610†	28916.9	0.9515 mg/L	0.00544	0.9515 mg/L	0.00544	0.57%
Mo 202.031†	71.0	0.00244 mg/L	0.000419	0.00244 mg/L	0.000419	17.20%
Na 589.592†	94.5	0.00726 mg/L	0.001692	0.00726 mg/L	0.001692	23.30%
Na 330.237†	19.6	0.05191 mg/L	0.096832	0.05191 mg/L	0.096832	186.52%
Ni 231.604†	3252.5	0.9618 mg/L	0.00484	0.9618 mg/L	0.00484	0.50%
Pb 220.353†	7549.2	0.9806 mg/L	0.00417	0.9806 mg/L	0.00417	0.43%
Sb 206.836†	3095.4	1.022 mg/L	0.0062	1.022 mg/L	0.0062	0.61%
Se 196.026†	1348.8	1.038 mg/L	0.0069	1.038 mg/L	0.0069	0.66%
Si 288.158†	-55.9	-0.01629 mg/L	0.004318	-0.01629 mg/L	0.004318	26.51%
Sn 189.927†	-100.4	-0.01826 mg/L	0.003608	-0.01826 mg/L	0.003608	19.76%
Sr 421.552†	4352.6	0.00544 mg/L	0.000047	0.00544 mg/L	0.000047	0.87%
Ti 334.903†	159.7	0.00250 mg/L	0.000026	0.00250 mg/L	0.000026	1.02%
Tl 190.801†	1911.2	0.9477 mg/L	0.00852	0.9477 mg/L	0.00852	0.90%
V 292.402†	146428.5	0.9830 mg/L	0.00631	0.9830 mg/L	0.00631	0.64%
Zn 206.200†	3219.9	0.9480 mg/L	0.00434	0.9480 mg/L	0.00434	0.46%

Sequence No.: 6
 Sample ID: CV \ |
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/4/2014 10:04:11 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2892026.3	101.0 %	%	0.68			0.67%
ScR 361.383	239607.8	99.37 %	%	0.440			0.44%
Ag 328.068†	206860.9	1.062 mg/L	mg/L	0.0132	1.062 mg/L	0.0132	1.25%
Al 308.215†	2578.7	2.027 mg/L	mg/L	0.0077	2.027 mg/L	0.0077	0.38%
As 188.979†	3216.0	2.014 mg/L	mg/L	0.0134	2.014 mg/L	0.0134	0.67%
B 249.677†	5612.6	1.016 mg/L	mg/L	0.0063	1.016 mg/L	0.0063	0.62%
Ba 233.527†	3939.5	1.012 mg/L	mg/L	0.0056	1.012 mg/L	0.0056	0.55%
Be 313.042†	468532.7	0.9757 mg/L	mg/L	0.00093	0.9757 mg/L	0.00093	0.10%
Ca 317.933†	19969.8	2.091 mg/L	mg/L	0.0112	2.091 mg/L	0.0112	0.53%
Cd 228.802†	31989.5	1.028 mg/L	mg/L	0.0174	1.028 mg/L	0.0174	1.69%
Co 228.616†	38456.5	0.9842 mg/L	mg/L	0.01498	0.9842 mg/L	0.01498	1.52%
Cr 267.716†	5045.3	1.029 mg/L	mg/L	0.0066	1.029 mg/L	0.0066	0.64%
Cu 324.752†	275592.2	0.9879 mg/L	mg/L	0.00304	0.9879 mg/L	0.00304	0.31%
Fe 273.955†	2324.4	2.077 mg/L	mg/L	0.0131	2.077 mg/L	0.0131	0.63%
K 766.490†	44369.1	20.17 mg/L	mg/L	0.018	20.17 mg/L	0.018	0.09%
Mg 279.077†	2212.9	2.017 mg/L	mg/L	0.0202	2.017 mg/L	0.0202	1.00%
Mn 257.610†	29615.2	0.9771 mg/L	mg/L	0.00168	0.9771 mg/L	0.00168	0.17%
Mo 202.031†	16988.6	0.9591 mg/L	mg/L	0.01630	0.9591 mg/L	0.01630	1.70%
Na 589.592†	668136.3	51.32 mg/L	mg/L	0.115	51.32 mg/L	0.115	0.22%
Na 330.237†	1072.1	51.52 mg/L	mg/L	0.177	51.52 mg/L	0.177	0.34%
Ni 231.604†	3441.7	1.018 mg/L	mg/L	0.0058	1.018 mg/L	0.0058	0.57%
Pb 220.353†	15981.9	1.989 mg/L	mg/L	0.0377	1.989 mg/L	0.0377	1.89%
Sb 206.836†	6244.0	2.079 mg/L	mg/L	0.0119	2.079 mg/L	0.0119	0.57%
Se 196.026†	2606.1	2.006 mg/L	mg/L	0.0089	2.006 mg/L	0.0089	0.44%
Si 288.158†	3368.9	1.970 mg/L	mg/L	0.0165	1.970 mg/L	0.0165	0.84%

Sn 189.927†	3181.0	0.9878 mg/L	0.00207	0.9878 mg/L	0.00207	0.21%
Sr 421.552†	808819.6	1.011 mg/L	0.0010	1.011 mg/L	0.0010	0.10%
Ti 334.903†	16150.5	0.9948 mg/L	0.00224	0.9948 mg/L	0.00224	0.23%
Tl 190.801†	4038.4	1.966 mg/L	0.0142	1.966 mg/L	0.0142	0.72%
V 292.402†	148775.4	1.010 mg/L	0.0147	1.010 mg/L	0.0147	1.46%
Zn 206.200†	3442.8	1.014 mg/L	0.0053	1.014 mg/L	0.0053	0.53%

Sequence No.: 7

Sample ID: CB

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 1

Date Collected: 4/4/2014 10:08:16 AM

Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2932996.7	102.5	%	0.44			0.43%
ScR 361.383	245382.4	101.8	%	0.53			0.52%
Ag 328.068†	-4.5	-0.00002	mg/L	0.000095	-0.00002	mg/L	0.000095 414.68%
Al 308.215†	0.7	0.00055	mg/L	0.003205	0.00055	mg/L	0.003205 581.60%
As 188.979†	4.2	0.00259	mg/L	0.001521	0.00259	mg/L	0.001521 58.79%
B 249.677†	8.6	0.00156	mg/L	0.000200	0.00156	mg/L	0.000200 12.82%
Ba 233.527†	3.6	0.00093	mg/L	0.000410	0.00093	mg/L	0.000410 43.99%
Be 313.042†	16.9	0.00004	mg/L	0.000013	0.00004	mg/L	0.000013 38.12%
Ca 317.933†	17.4	0.00182	mg/L	0.000715	0.00182	mg/L	0.000715 39.20%
Cd 228.802†	-4.5	-0.00016	mg/L	0.000035	-0.00016	mg/L	0.000035 22.04%
Co 228.616†	1.8	0.00004	mg/L	0.000074	0.00004	mg/L	0.000074 169.91%
Cr 267.716†	2.8	0.00058	mg/L	0.000066	0.00058	mg/L	0.000066 11.36%
Cu 324.752†	-41.2	-0.00015	mg/L	0.000026	-0.00015	mg/L	0.000026 17.44%
Fe 273.955†	0.1	0.00010	mg/L	0.002272	0.00010	mg/L	0.002272 >999.9%
K 766.490†	-27.8	-0.01266	mg/L	0.012660	-0.01266	mg/L	0.012660 100.01%
Mg 279.077†	-3.3	-0.00296	mg/L	0.001810	-0.00296	mg/L	0.001810 61.15%
Mn 257.610†	3.1	0.00010	mg/L	0.000132	0.00010	mg/L	0.000132 128.19%
Mo 202.031†	19.3	0.00109	mg/L	0.000149	0.00109	mg/L	0.000149 13.71%
Na 589.592†	74.9	0.00575	mg/L	0.000307	0.00575	mg/L	0.000307 5.34%
Na 330.237†	1.0	0.04777	mg/L	0.069236	0.04777	mg/L	0.069236 144.93%
Ni 231.604†	2.2	0.00066	mg/L	0.001570	0.00066	mg/L	0.001570 238.29%
Pb 220.353†	-6.1	-0.00076	mg/L	0.000849	-0.00076	mg/L	0.000849 112.29%
Sb 206.836†	31.0	0.01032	mg/L	0.001182	0.01032	mg/L	0.001182 11.46%
Se 196.026†	0.8	0.00065	mg/L	0.002155	0.00065	mg/L	0.002155 329.62%
Si 288.158†	-13.7	-0.00798	mg/L	0.002439	-0.00798	mg/L	0.002439 30.56%
Sn 189.927†	2.5	0.00078	mg/L	0.000508	0.00078	mg/L	0.000508 64.79%
Sr 421.552†	24.4	0.00003	mg/L	0.000041	0.00003	mg/L	0.000041 135.34%
Ti 334.903†	14.8	0.00091	mg/L	0.000236	0.00091	mg/L	0.000236 26.02%
Tl 190.801†	-1.6	-0.00076	mg/L	0.001022	-0.00076	mg/L	0.001022 135.08%
V 292.402†	-11.4	-0.00007	mg/L	0.000066	-0.00007	mg/L	0.000066 88.92%
Zn 206.200†	-2.2	-0.00064	mg/L	0.000520	-0.00064	mg/L	0.000520 81.35%

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Analysis Begun

Start Time: 4/4/2014 10:20:26 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/4/2014 8:19:14 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0404.sif

Batch ID:

Results Data Set: I2140404

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Sample ID: YF18 MB SWC

Analyst: EL

Dilution: 2.000000X

Autosampler Location: 304

Date Collected: 4/4/2014 10:20:27 AM

Data Type: Original

Nebulizer Parameters: YF18 MB SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YF18 MB SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2944030.0	102.9	%	0.71			0.69%
ScR 361.383	246037.2	102.0	%	1.10			1.08%
Ag 328.068†	-0.2	-0.00000	mg/L	0.000133	-0.00000	0.000267	>999.9%
Al 308.215†	2.0	0.00161	mg/L	0.005524	0.00322	0.011048	343.16%
As 188.979†	0.6	0.00036	mg/L	0.000798	0.00073	0.001597	219.97%
B 249.677†	-0.2	-0.00004	mg/L	0.000526	-0.00008	0.001051	>999.9%
Ba 233.527†	5.0	0.00128	mg/L	0.000811	0.00257	0.001621	63.13%
Be 313.042†	1.7	0.00000	mg/L	0.000012	0.00001	0.000024	333.40%
Ca 317.933†	66.6	0.00697	mg/L	0.000625	0.01395	0.001250	8.96%
Cd 228.802†	-5.0	-0.00016	mg/L	0.000154	-0.00033	0.000307	93.76%
Co 228.616†	6.5	0.00017	mg/L	0.000066	0.00033	0.000133	40.11%
Cr 267.716†	-0.3	-0.00006	mg/L	0.000625	-0.00012	0.001251	>999.9%
Cu 324.752†	-59.1	-0.00021	mg/L	0.000161	-0.00042	0.000322	75.95%
Fe 273.955†	3.0	0.00273	mg/L	0.002766	0.00545	0.005532	101.47%
K 766.490†	-10.1	-0.00458	mg/L	0.007951	-0.00915	0.015903	173.78%
Mg 279.077†	2.9	0.00268	mg/L	0.005514	0.00536	0.011027	205.92%
Mn 257.610†	-1.7	-0.00006	mg/L	0.000032	-0.00011	0.000064	57.87%
Mo 202.031†	-1.4	-0.00008	mg/L	0.000319	-0.00015	0.000638	413.48%
Na 589.592†	106.6	0.00819	mg/L	0.001514	0.01638	0.003028	18.49%
Na 330.237†	0.7	0.03154	mg/L	0.136098	0.06307	0.272196	431.58%
Ni 231.604†	1.9	0.00055	mg/L	0.001081	0.00110	0.002162	197.26%
Pb 220.353†	-5.5	-0.00068	mg/L	0.000721	-0.00136	0.001441	105.75%
Sb 206.836†	4.0	0.00133	mg/L	0.001469	0.00266	0.002938	110.54%
Se 196.026†	1.5	0.00117	mg/L	0.003967	0.00234	0.007934	338.39%
Si 288.158†	-16.3	-0.00949	mg/L	0.005467	-0.01897	0.010935	57.64%
Sn 189.927†	0.6	0.00019	mg/L	0.001215	0.00038	0.002430	633.08%
Sr 421.552†	13.0	0.00002	mg/L	0.000045	0.00003	0.000090	275.87%
Ti 334.903†	4.2	0.00026	mg/L	0.000989	0.00051	0.001978	385.20%
Tl 190.801†	-0.6	-0.00030	mg/L	0.001687	-0.00061	0.003373	556.46%
V 292.402†	-25.1	-0.00017	mg/L	0.000094	-0.00034	0.000188	55.07%
Zn 206.200†	3.2	0.00094	mg/L	0.000100	0.00187	0.000200	10.69%

Sequence No.: 2
Sample ID: YE51 MB1 SWC
Analyst: EL
Dilution: 2.000000X

Autosampler Location: 305
Date Collected: 4/4/2014 10:24:29 AM
Data Type: Original

Nebulizer Parameters: YE51 MB1 SWC

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: YE51 MB1 SWC

Table with 9 columns: Analyte, Mean Corrected Intensity, Calib. Conc. Units, Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective intensity and concentration values.

Sequence No.: 3
 Sample ID: YE52 MB1 SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 306
 Date Collected: 4/4/2014 10:28:28 AM
 Data Type: Original

Nebulizer Parameters: YE52 MB1 SWC

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: YE52 MB1 SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2920564.8	102.0 %	0.20			0.20%
ScR 361.383	244494.4	101.4 %	0.26			0.26%
Ag 328.068†	31.3	0.00016 mg/L	0.000313	0.00032 mg/L	0.000626	195.07%
Al 308.215†	5.6	0.00447 mg/L	0.004026	0.00894 mg/L	0.008052	90.11%
As 188.979†	-0.6	-0.00033 mg/L	0.000677	-0.00066 mg/L	0.001353	206.19%
B 249.677†	-2.9	-0.00053 mg/L	0.000800	-0.00106 mg/L	0.001600	150.32%
Ba 233.527†	1.7	0.00045 mg/L	0.000447	0.00089 mg/L	0.000894	100.41%
Be 313.042†	2.4	0.00000 mg/L	0.000014	0.00001 mg/L	0.000028	284.72%
Ca 317.933†	67.8	0.00710 mg/L	0.000564	0.01420 mg/L	0.001128	7.94%
Cd 228.802†	-3.2	-0.00010 mg/L	0.000166	-0.00021 mg/L	0.000332	161.89%
Co 228.616†	2.7	0.00007 mg/L	0.000062	0.00013 mg/L	0.000125	92.55%
Cr 267.716†	-1.4	-0.00029 mg/L	0.001062	-0.00059 mg/L	0.002123	360.86%
Cu 324.752†	-6.0	-0.00002 mg/L	0.000080	-0.00004 mg/L	0.000160	371.26%
Fe 273.955†	2.4	0.00215 mg/L	0.003470	0.00431 mg/L	0.006940	161.05%
K 766.490†	-0.6	-0.00026 mg/L	0.001534	-0.00053 mg/L	0.003068	579.35%
Mg 279.077†	4.1	0.00375 mg/L	0.006189	0.00750 mg/L	0.012378	165.10%
Mn 257.610†	-1.6	-0.00005 mg/L	0.000011	-0.00011 mg/L	0.000022	20.76%
Mo 202.031†	1.1	0.00006 mg/L	0.000227	0.00012 mg/L	0.000455	365.17%
Na 589.592†	55.3	0.00425 mg/L	0.001746	0.00849 mg/L	0.003492	41.11%
Na 330.237†	0.7	0.03230 mg/L	0.215538	0.06461 mg/L	0.431077	667.21%
Ni 231.604†	1.6	0.00048 mg/L	0.000634	0.00096 mg/L	0.001268	131.62%
Pb 220.353†	-2.7	-0.00033 mg/L	0.000670	-0.00067 mg/L	0.001341	201.00%
Sb 206.836†	1.4	0.00047 mg/L	0.001338	0.00094 mg/L	0.002676	284.38%
Se 196.026†	-2.9	-0.00221 mg/L	0.000583	-0.00442 mg/L	0.001166	26.40%
Si 288.158†	-18.4	-0.01075 mg/L	0.001781	-0.02150 mg/L	0.003562	16.56%
Sn 189.927†	-1.9	-0.00059 mg/L	0.000550	-0.00119 mg/L	0.001100	92.69%
Sr 421.552†	17.6	0.00002 mg/L	0.000025	0.00004 mg/L	0.000050	114.60%
Ti 334.903†	5.7	0.00035 mg/L	0.000212	0.00070 mg/L	0.000424	60.88%
Tl 190.801†	-3.7	-0.00183 mg/L	0.001307	-0.00366 mg/L	0.002613	71.38%
V 292.402†	-30.2	-0.00021 mg/L	0.000201	-0.00041 mg/L	0.000402	97.74%
Zn 206.200†	2.5	0.00074 mg/L	0.000491	0.00149 mg/L	0.000981	65.96%

Sequence No.: 4
 Sample ID: YE51 B SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 307
 Date Collected: 4/4/2014 10:32:27 AM
 Data Type: Original

Nebulizer Parameters: YE51 B SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2906270.7	101.5 %	0.58			0.57%
ScR 361.383	249396.1	103.4 %	0.38			0.36%
Ag 328.068†	-358.3	-0.00149 mg/L	0.000212	-0.00297 mg/L	0.000423	14.23%
Al 308.215†	135368.2	108.0 mg/L	0.24	216.1 mg/L	0.48	0.22%
As 188.979†	-169.0	0.06465 mg/L	0.002827	0.1293 mg/L	0.00565	4.37%
B 249.677†	77.7	0.01392 mg/L	0.002181	0.02784 mg/L	0.004361	15.67%
Ba 233.527†	1741.7	0.4266 mg/L	0.00355	0.8532 mg/L	0.00709	0.83%
Be 313.042†	996.3	0.00192 mg/L	0.000020	0.00384 mg/L	0.000040	1.05%
Ca 317.933†	385787.7	40.40 mg/L	0.043	80.80 mg/L	0.086	0.11%
Cd 228.802†	60.6	0.00141 mg/L	0.000094	0.00282 mg/L	0.000188	6.66%
Co 228.616†	3302.2	0.07598 mg/L	0.000039	0.1520 mg/L	0.00008	0.05%
Cr 267.716†	706.5	0.1454 mg/L	0.00088	0.2908 mg/L	0.00176	0.61%
Cu 324.752†	51830.3	0.1909 mg/L	0.00035	0.3817 mg/L	0.00071	0.19%
Fe 273.955†	151345.7	135.7 mg/L	0.30	271.4 mg/L	0.60	0.22%
K 766.490†	15326.2	6.966 mg/L	0.0301	13.93 mg/L	0.060	0.43%
Mg 279.077†	32230.3	29.20 mg/L	0.025	58.39 mg/L	0.049	0.08%
Mn 257.610†	25995.6	0.8563 mg/L	0.00015	1.713 mg/L	0.0003	0.02%
Mo 202.031†	92.0	0.00456 mg/L	0.000124	0.00913 mg/L	0.000248	2.72%
Na 589.592†	115482.4	8.870 mg/L	0.0082	17.74 mg/L	0.016	0.09%
Na 330.237†	168.1	8.990 mg/L	0.3035	17.98 mg/L	0.607	3.38%
Ni 231.604†	402.8	0.1191 mg/L	0.00090	0.2382 mg/L	0.00180	0.75%
Pb 220.353†	583.6	0.09326 mg/L	0.000776	0.1865 mg/L	0.00155	0.83%
Sb 206.836†	26.1	0.01202 mg/L	0.001233	0.02404 mg/L	0.002466	10.26%
Se 196.026†	27.8	0.02110 mg/L	0.002035	0.04220 mg/L	0.004071	9.65%
Si 288.158†	3996.6	2.334 mg/L	0.0055	4.669 mg/L	0.0110	0.24%
Sn 189.927†	-48.7	-0.00929 mg/L	0.000835	-0.01858 mg/L	0.001670	8.99%
Sr 421.552†	347565.8	0.4344 mg/L	0.00056	0.8688 mg/L	0.00113	0.13%
Ti 334.903†	78316.2	4.827 mg/L	0.0100	9.655 mg/L	0.0200	0.21%
Tl 190.801†	-19.2	0.00420 mg/L	0.002331	0.00840 mg/L	0.004662	55.48%
V 292.402†	61375.3	0.4052 mg/L	0.00140	0.8105 mg/L	0.00281	0.35%
Zn 206.200†	1529.7	0.4507 mg/L	0.00176	0.9013 mg/L	0.00353	0.39%

Sequence No.: 5

Sample ID: YE51 C SWC

Analyst: EL

Dilution: 2.000000X

Autosampler Location: 308

Date Collected: 4/4/2014 10:36:27 AM

Data Type: Original

Nebulizer Parameters: YE51 C SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YE51 C SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2951838.4	103.1 %	0.60			0.58%
ScR 361.383	249169.0	103.3 %	0.15			0.15%
Ag 328.068†	-368.1	-0.00155 mg/L	0.000082	-0.00311 mg/L	0.000163	5.25%
Al 308.215†	122180.7	97.51 mg/L	0.146	195.0 mg/L	0.29	0.15%
As 188.979†	-179.9	0.07889 mg/L	0.002343	0.1578 mg/L	0.00469	2.97%
B 249.677†	64.3	0.01157 mg/L	0.000142	0.02314 mg/L	0.000283	1.22%
Ba 233.527†	601.3	0.1382 mg/L	0.00030	0.2765 mg/L	0.00061	0.22%
Be 313.042†	522.1	0.00093 mg/L	0.000011	0.00187 mg/L	0.000021	1.14%
Ca 317.933†	372346.6	38.99 mg/L	0.088	77.99 mg/L	0.176	0.23%
Cd 228.802†	28.8	0.00064 mg/L	0.000115	0.00128 mg/L	0.000229	17.96%
Co 228.616†	1968.7	0.04078 mg/L	0.000579	0.08156 mg/L	0.001158	1.42%
Cr 267.716†	650.6	0.1335 mg/L	0.00076	0.2670 mg/L	0.00152	0.57%
Cu 324.752†	56073.3	0.2046 mg/L	0.00285	0.4092 mg/L	0.00571	1.40%
Fe 273.955†	117281.2	105.1 mg/L	0.54	210.3 mg/L	1.08	0.51%
K 766.490†	11780.6	5.355 mg/L	0.0242	10.71 mg/L	0.048	0.45%
Mg 279.077†	26988.7	24.45 mg/L	0.026	48.90 mg/L	0.053	0.11%
Mn 257.610†	18922.3	0.6231 mg/L	0.00242	1.246 mg/L	0.0048	0.39%
Mo 202.031†	319.1	0.01741 mg/L	0.000039	0.03483 mg/L	0.000079	0.23%
Na 589.592†	130374.2	10.01 mg/L	0.020	20.03 mg/L	0.040	0.20%
Na 330.237†	189.2	10.19 mg/L	0.233	20.39 mg/L	0.465	2.28%
Ni 231.604†	260.7	0.07709 mg/L	0.000334	0.1542 mg/L	0.00067	0.43%
Pb 220.353†	91.5	0.03077 mg/L	0.001622	0.06154 mg/L	0.003243	5.27%
Sb 206.836†	19.9	0.01043 mg/L	0.003182	0.02086 mg/L	0.006365	30.51%
Se 196.026†	20.3	0.01537 mg/L	0.003177	0.03075 mg/L	0.006354	20.66%
Si 288.158†	3254.9	1.901 mg/L	0.0153	3.803 mg/L	0.0305	0.80%
Sn 189.927†	-54.5	-0.01115 mg/L	0.000527	-0.02230 mg/L	0.001055	4.73%
Sr 421.552†	352973.7	0.4412 mg/L	0.00032	0.8824 mg/L	0.00064	0.07%
Ti 334.903†	87798.0	5.412 mg/L	0.0073	10.82 mg/L	0.015	0.14%
Tl 190.801†	-6.8	0.00708 mg/L	0.002065	0.01417 mg/L	0.004130	29.15%
V 292.402†	57026.1	0.3771 mg/L	0.00478	0.7543 mg/L	0.00957	1.27%
Zn 206.200†	1221.4	0.3598 mg/L	0.00126	0.7197 mg/L	0.00252	0.35%

YE49:00086

Sequence No.: 6
 Sample ID: YE51 D SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 309
 Date Collected: 4/4/2014 10:40:27 AM
 Data Type: Original

Nebulizer Parameters: YE51 D SWC

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: YE51 D SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2926137.1	102.2 %	0.49			0.48%
ScR 361.383	250942.6	104.1 %	0.69			0.66%
Ag 328.068†	-326.7	-0.00137 mg/L	0.000247	-0.00274 mg/L	0.000494	18.07%
Al 308.215†	93332.8	74.48 mg/L	0.264	149.0 mg/L	0.53	0.35%
As 188.979†	-109.0	0.1017 mg/L	0.00136	0.2034 mg/L	0.00272	1.34%
B 249.677†	30.7	0.00549 mg/L	0.000734	0.01097 mg/L	0.001467	13.37%
Ba 233.527†	774.7	0.1848 mg/L	0.00177	0.3695 mg/L	0.00354	0.96%
Be 313.042†	534.7	0.00097 mg/L	0.000024	0.00195 mg/L	0.000049	2.51%
Ca 317.933†	343972.4	36.02 mg/L	0.106	72.05 mg/L	0.211	0.29%
Cd 228.802†	40.0	0.00089 mg/L	0.000111	0.00177 mg/L	0.000222	12.56%
Co 228.616†	1724.8	0.03558 mg/L	0.000303	0.07116 mg/L	0.000606	0.85%
Cr 267.716†	575.0	0.1183 mg/L	0.00084	0.2366 mg/L	0.00167	0.71%
Cu 324.752†	74008.2	0.2685 mg/L	0.00192	0.5369 mg/L	0.00384	0.71%
Fe 273.955†	103206.3	92.52 mg/L	0.375	185.0 mg/L	0.75	0.41%
K 766.490†	8047.3	3.658 mg/L	0.0251	7.316 mg/L	0.0503	0.69%
Mg 279.077†	19149.9	17.34 mg/L	0.057	34.68 mg/L	0.115	0.33%
Mn 257.610†	16182.3	0.5329 mg/L	0.00064	1.066 mg/L	0.0013	0.12%
Mo 202.031†	148.8	0.00784 mg/L	0.000371	0.01568 mg/L	0.000742	4.73%
Na 589.592†	106002.1	8.142 mg/L	0.0349	16.28 mg/L	0.070	0.43%
Na 330.237†	152.5	8.235 mg/L	0.0474	16.47 mg/L	0.095	0.58%
Ni 231.604†	240.4	0.07109 mg/L	0.001430	0.1422 mg/L	0.00286	2.01%
Pb 220.353†	198.9	0.03888 mg/L	0.000312	0.07776 mg/L	0.000624	0.80%
Sb 206.836†	17.7	0.00933 mg/L	0.001403	0.01865 mg/L	0.002806	15.05%
Se 196.026†	16.6	0.01253 mg/L	0.003423	0.02505 mg/L	0.006846	27.33%
Si 288.158†	2288.6	1.337 mg/L	0.0161	2.674 mg/L	0.0322	1.20%
Sn 189.927†	-50.3	-0.01033 mg/L	0.001148	-0.02066 mg/L	0.002296	11.12%
Sr 421.552†	313199.8	0.3915 mg/L	0.00070	0.7829 mg/L	0.00140	0.18%
Ti 334.903†	78192.6	4.820 mg/L	0.0022	9.640 mg/L	0.0044	0.05%
Tl 190.801†	-4.5	0.00689 mg/L	0.001394	0.01378 mg/L	0.002789	20.24%
V 292.402†	51808.7	0.3428 mg/L	0.00217	0.6857 mg/L	0.00434	0.63%
Zn 206.200†	1860.9	0.5479 mg/L	0.00486	1.096 mg/L	0.0097	0.89%

Sequence No.: 7
 Sample ID: YE51 E SWC
 Analyst: JEL
 Dilution: 2.000000X

Autosampler Location: 310
 Date Collected: 4/4/2014 10:44:27 AM
 Data Type: Original

Nebulizer Parameters: YE51 E SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 E SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2963252.6	103.5 %		0.70			0.67%
ScR 361.383	250863.9	104.0 %		0.23			0.22%
Ag 328.068†	-376.7	-0.00158 mg/L		0.000153	-0.00316 mg/L	0.000306	9.71%
Al 308.215†	113424.9	90.52 mg/L		0.074	181.0 mg/L	0.15	0.08%
As 188.979†	-190.0	0.06409 mg/L		0.000930	0.1282 mg/L	0.00186	1.45%
B 249.677†	46.0	0.00825 mg/L		0.000659	0.01650 mg/L	0.001319	7.99%
Ba 233.527†	668.2	0.1537 mg/L		0.00208	0.3075 mg/L	0.00415	1.35%
Be 313.042†	496.1	0.00087 mg/L		0.000028	0.00175 mg/L	0.000056	3.21%
Ca 317.933†	393240.6	41.18 mg/L		0.014	82.37 mg/L	0.028	0.03%
Cd 228.802†	25.8	0.00047 mg/L		0.000056	0.00094 mg/L	0.000111	11.85%
Co 228.616†	1638.1	0.03272 mg/L		0.000365	0.06544 mg/L	0.000731	1.12%
Cr 267.716†	680.5	0.1402 mg/L		0.00022	0.2804 mg/L	0.00045	0.16%
Cu 324.752†	50701.0	0.1859 mg/L		0.00174	0.3718 mg/L	0.00349	0.94%
Fe 273.955†	129477.5	116.1 mg/L		0.70	232.1 mg/L	1.41	0.61%
K 766.490†	14145.1	6.430 mg/L		0.0463	12.86 mg/L	0.093	0.72%
Mg 279.077†	23197.1	21.00 mg/L		0.065	42.00 mg/L	0.130	0.31%
Mn 257.610†	16271.8	0.5357 mg/L		0.00100	1.071 mg/L	0.0020	0.19%
Mo 202.031†	144.7	0.00753 mg/L		0.000464	0.01506 mg/L	0.000929	6.17%
Na 589.592†	135589.0	10.41 mg/L		0.012	20.83 mg/L	0.024	0.12%
Na 330.237†	197.6	10.56 mg/L		0.299	21.12 mg/L	0.598	2.83%
Ni 231.604†	233.9	0.06915 mg/L		0.000585	0.1383 mg/L	0.00117	0.85%
Pb 220.353†	20.3	0.01971 mg/L		0.000941	0.03943 mg/L	0.001881	4.77%
Sb 206.836†	14.1	0.00835 mg/L		0.001586	0.01671 mg/L	0.003172	18.99%
Se 196.026†	23.2	0.01760 mg/L		0.006579	0.03519 mg/L	0.013158	37.39%
Si 288.158†	2058.1	1.203 mg/L		0.0131	2.406 mg/L	0.0262	1.09%
Sn 189.927†	-53.2	-0.01054 mg/L		0.002085	-0.02108 mg/L	0.004170	19.78%
Sr 421.552†	370649.6	0.4633 mg/L		0.00051	0.9266 mg/L	0.00103	0.11%
Ti 334.903†	84012.7	5.179 mg/L		0.0074	10.36 mg/L	0.015	0.14%
Tl 190.801†	-18.4	0.00262 mg/L		0.000597	0.00525 mg/L	0.001194	22.76%
V 292.402†	60944.6	0.4032 mg/L		0.00293	0.8063 mg/L	0.00586	0.73%
Zn 206.200†	786.6	0.2318 mg/L		0.00245	0.4635 mg/L	0.00491	1.06%

Sequence No.: 8
 Sample ID: YE51 F SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 311
 Date Collected: 4/4/2014 10:48:27 AM
 Data Type: Original

Nebulizer Parameters: YE51 F SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 F SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2940461.6	102.7	%	0.35				0.34%
ScR 361.383	250587.5	103.9	%	1.02				0.98%
Ag 328.068†	-294.4	-0.00118	mg/L	0.000061	-0.00236	mg/L	0.000122	5.17%
Al 308.215†	114672.5	91.52	mg/L	0.254	183.0	mg/L	0.51	0.28%
As 188.979†	333.0	0.3811	mg/L	0.00339	0.7623	mg/L	0.00677	0.89%
B 249.677†	46.0	0.00827	mg/L	0.000181	0.01654	mg/L	0.000362	2.19%
Ba 233.527†	642.9	0.1473	mg/L	0.00193	0.2947	mg/L	0.00387	1.31%
Be 313.042†	522.9	0.00094	mg/L	0.000040	0.00188	mg/L	0.000080	4.25%
Ca 317.933†	369348.3	38.68	mg/L	0.132	77.36	mg/L	0.265	0.34%
Cd 228.802†	90.4	0.00093	mg/L	0.000015	0.00186	mg/L	0.000029	1.57%
Co 228.616†	1648.1	0.03325	mg/L	0.000379	0.06650	mg/L	0.000758	1.14%
Cr 267.716†	650.8	0.1340	mg/L	0.00176	0.2680	mg/L	0.00353	1.32%
Cu 324.752†	140790.6	0.5089	mg/L	0.00304	1.018	mg/L	0.0061	0.60%
Fe 273.955†	128687.0	115.4	mg/L	0.59	230.7	mg/L	1.19	0.51%
K 766.490†	18736.4	8.517	mg/L	0.0401	17.03	mg/L	0.080	0.47%
Mg 279.077†	24770.0	22.43	mg/L	0.100	44.86	mg/L	0.199	0.44%
Mn 257.610†	18413.2	0.6064	mg/L	0.00175	1.213	mg/L	0.0035	0.29%
Mo 202.031†	442.9	0.02441	mg/L	0.000268	0.04881	mg/L	0.000536	1.10%
Na 589.592†	126721.8	9.733	mg/L	0.0211	19.47	mg/L	0.042	0.22%
Na 330.237†	184.8	9.862	mg/L	0.2471	19.72	mg/L	0.494	2.51%
Ni 231.604†	280.7	0.08302	mg/L	0.001312	0.1660	mg/L	0.00262	1.58%
Pb 220.353†	681.4	0.1018	mg/L	0.00061	0.2036	mg/L	0.00122	0.60%
Sb 206.836†	47.9	0.01947	mg/L	0.001505	0.03895	mg/L	0.003009	7.73%
Se 196.026†	16.8	0.01270	mg/L	0.001197	0.02540	mg/L	0.002394	9.43%
Si 288.158†	2545.3	1.487	mg/L	0.0165	2.974	mg/L	0.0329	1.11%
Sn 189.927†	-42.6	-0.00756	mg/L	0.000360	-0.01512	mg/L	0.000719	4.76%
Sr 421.552†	387170.8	0.4839	mg/L	0.00107	0.9679	mg/L	0.00214	0.22%
Ti 334.903†	81531.9	5.026	mg/L	0.0075	10.05	mg/L	0.015	0.15%
Tl 190.801†	-15.0	0.00433	mg/L	0.000200	0.00866	mg/L	0.000400	4.61%
V 292.402†	56822.4	0.3754	mg/L	0.00090	0.7508	mg/L	0.00180	0.24%
Zn 206.200†	1422.3	0.4189	mg/L	0.00411	0.8378	mg/L	0.00821	0.98%

Sequence No.: 9
 Sample ID: YF18 A SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 312
 Date Collected: 4/4/2014 10:52:27 AM
 Data Type: Original

Nebulizer Parameters: YF18 A SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF18 A SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2979703.9	104.1 %	0.64			0.62%
ScR 361.383	253847.5	105.3 %	0.24			0.23%
Ag 328.068†	-283.1	-0.00107 mg/L	0.000365	-0.00214 mg/L	0.000730	34.08%
Al 308.215†	186350.3	148.7 mg/L	4.31	297.4 mg/L	8.62	2.90%
As 188.979†	-327.3	0.1033 mg/L	0.00450	0.2066 mg/L	0.00899	4.35%
B 249.677†	17.5	0.00297 mg/L	0.001326	0.00593 mg/L	0.002651	44.68%
Ba 233.527†	2364.9	0.5738 mg/L	0.01451	1.148 mg/L	0.0290	2.53%
Be 313.042†	1035.5	0.00195 mg/L	0.000037	0.00389 mg/L	0.000075	1.92%
Ca 317.933†	410757.9	43.02 mg/L	1.210	86.03 mg/L	2.421	2.81%
Cd 228.802†	46.0	0.00082 mg/L	0.000137	0.00165 mg/L	0.000273	16.61%
Co 228.616†	3721.9	0.07988 mg/L	0.002014	0.1598 mg/L	0.00403	2.52%
Cr 267.716†	1252.4	0.2571 mg/L	0.00657	0.5143 mg/L	0.01315	2.56%
Cu 324.752†	50380.3	0.1886 mg/L	0.00606	0.3772 mg/L	0.01211	3.21%
Fe 273.955†	245197.2	219.8 mg/L	7.01	439.6 mg/L	14.01	3.19%
K 766.490†	10943.4	4.974 mg/L	0.1667	9.949 mg/L	0.3334	3.35%
Mg 279.077†	60852.1	55.15 mg/L	1.552	110.3 mg/L	3.10	2.81%
Mn 257.610†	73238.0	2.414 mg/L	0.0767	4.828 mg/L	0.1534	3.18%
Mo 202.031†	52.0	0.00227 mg/L	0.000230	0.00454 mg/L	0.000459	10.12%
Na 589.592†	35066.4	2.693 mg/L	0.0831	5.387 mg/L	0.1663	3.09%
Na 330.237†	20.1	2.881 mg/L	0.3423	5.762 mg/L	0.6847	11.88%
Ni 231.604†	819.1	0.2422 mg/L	0.00665	0.4844 mg/L	0.01331	2.75%
Pb 220.353†	-39.8	0.02219 mg/L	0.001581	0.04438 mg/L	0.003162	7.12%
Sb 206.836†	42.1	0.01909 mg/L	0.005687	0.03818 mg/L	0.011374	29.79%
Se 196.026†	32.7	0.02482 mg/L	0.003214	0.04965 mg/L	0.006429	12.95%
Si 288.158†	4263.0	2.493 mg/L	0.0400	4.986 mg/L	0.0801	1.61%
Sn 189.927†	-63.8	-0.01291 mg/L	0.002431	-0.02583 mg/L	0.004861	18.82%
Sr 421.552†	296086.8	0.3701 mg/L	0.01114	0.7402 mg/L	0.02229	3.01%
Ti 334.903†	140341.0	8.653 mg/L	0.2602	17.31 mg/L	0.520	3.01%
Tl 190.801†	-32.8	0.00692 mg/L	0.001369	0.01385 mg/L	0.002737	19.77%
V 292.402†	69580.3	0.4545 mg/L	0.01300	0.9089 mg/L	0.02599	2.86%
Zn 206.200†	1396.9	0.4117 mg/L	0.01102	0.8233 mg/L	0.02204	2.68%

Sequence No.: 10
 Sample ID: YF18 MBSPK SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 313
 Date Collected: 4/4/2014 10:56:27 AM
 Data Type: Original

Nebulizer Parameters: YF18 MBSPK SWC

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

Mean Data: YF18 MBSPK SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2940259.1	102.7 %	0.22			0.22%
ScR 361.383	247926.8	102.8 %	0.19			0.18%
Ag 328.068†	110801.9	0.5688 mg/L	0.00635	1.138 mg/L	0.0127	1.12%
Al 308.215†	2800.2	2.219 mg/L	0.0188	4.438 mg/L	0.0376	0.85%
As 188.979†	3563.5	2.193 mg/L	0.0354	4.387 mg/L	0.0708	1.61%
B 249.677†	4.0	0.00020 mg/L	0.000773	0.00040 mg/L	0.001546	381.98%
Ba 233.527†	8663.3	2.226 mg/L	0.0182	4.452 mg/L	0.0363	0.82%
Be 313.042†	257801.3	0.5369 mg/L	0.00276	1.074 mg/L	0.0055	0.51%
Ca 317.933†	104787.9	10.97 mg/L	0.054	21.95 mg/L	0.109	0.50%
Cd 228.802†	17223.6	0.5479 mg/L	0.00637	1.096 mg/L	0.0127	1.16%
Co 228.616†	20624.8	0.5286 mg/L	0.00676	1.057 mg/L	0.0135	1.28%
Cr 267.716†	2761.8	0.5624 mg/L	0.00468	1.125 mg/L	0.0094	0.83%
Cu 324.752†	146465.2	0.5251 mg/L	0.00759	1.050 mg/L	0.0152	1.45%
Fe 273.955†	2538.6	2.272 mg/L	0.0242	4.545 mg/L	0.0485	1.07%
K 766.490†	24212.2	11.01 mg/L	0.115	22.01 mg/L	0.229	1.04%
Mg 279.077†	12402.5	11.27 mg/L	0.092	22.54 mg/L	0.184	0.82%
Mn 257.610†	15973.8	0.5272 mg/L	0.00233	1.054 mg/L	0.0047	0.44%
Mo 202.031†	9282.4	0.5239 mg/L	0.00774	1.048 mg/L	0.0155	1.48%
Na 589.592†	145657.1	11.19 mg/L	0.062	22.37 mg/L	0.123	0.55%
Na 330.237†	243.0	11.46 mg/L	0.381	22.93 mg/L	0.762	3.32%
Ni 231.604†	1885.4	0.5566 mg/L	0.00535	1.113 mg/L	0.0107	0.96%
Pb 220.353†	17198.7	2.141 mg/L	0.0273	4.281 mg/L	0.0547	1.28%
Sb 206.836†	16.4	0.00001 mg/L	0.001156	0.00002 mg/L	0.002312	>999.9%
Se 196.026†	2859.7	2.202 mg/L	0.0290	4.404 mg/L	0.0581	1.32%
Si 288.158†	-21.5	-0.00873 mg/L	0.003432	-0.01745 mg/L	0.006864	39.33%
Sn 189.927†	-23.7	-0.00594 mg/L	0.001051	-0.01188 mg/L	0.002103	17.69%
Sr 421.552†	434400.4	0.5430 mg/L	0.00346	1.086 mg/L	0.0069	0.64%
Ti 334.903†	134.5	0.00691 mg/L	0.000157	0.01383 mg/L	0.000314	2.27%
Tl 190.801†	4371.7	2.132 mg/L	0.0260	4.265 mg/L	0.0520	1.22%
V 292.402†	78677.0	0.5345 mg/L	0.00621	1.069 mg/L	0.0124	1.16%
Zn 206.200†	1852.8	0.5455 mg/L	0.00374	1.091 mg/L	0.0075	0.69%

Sequence No.: 11
 Sample ID: CV 2
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/4/2014 11:00:27 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2930143.0	102.4 %	0.21			0.20%
ScR 361.383	244109.1	101.2 %	0.78			0.77%
Ag 328.068†	206701.9	1.061 mg/L	0.0053	1.061 mg/L	0.0053	0.50%
Al 308.215†	2549.9	2.004 mg/L	0.0193	2.004 mg/L	0.0193	0.97%
As 188.979†	3216.6	2.014 mg/L	0.0040	2.014 mg/L	0.0040	0.20%
B 249.677†	5591.6	1.013 mg/L	0.0070	1.013 mg/L	0.0070	0.70%
Ba 233.527†	3967.3	1.019 mg/L	0.0117	1.019 mg/L	0.0117	1.15%
Be 313.042†	468134.0	0.9749 mg/L	0.00398	0.9749 mg/L	0.00398	0.41%
Ca 317.933†	19988.4	2.093 mg/L	0.0132	2.093 mg/L	0.0132	0.63%
Cd 228.802†	31825.0	1.023 mg/L	0.0036	1.023 mg/L	0.0036	0.36%
Co 228.616†	38553.2	0.9867 mg/L	0.00116	0.9867 mg/L	0.00116	0.12%
Cr 267.716†	5043.9	1.029 mg/L	0.0079	1.029 mg/L	0.0079	0.77%
Cu 324.752†	274305.2	0.9833 mg/L	0.00074	0.9833 mg/L	0.00074	0.08%
Fe 273.955†	2300.9	2.056 mg/L	0.0131	2.056 mg/L	0.0131	0.64%
K 766.490†	44176.0	20.08 mg/L	0.097	20.08 mg/L	0.097	0.48%
Mg 279.077†	2206.4	2.011 mg/L	0.0089	2.011 mg/L	0.0089	0.44%
Mn 257.610†	29475.1	0.9725 mg/L	0.00549	0.9725 mg/L	0.00549	0.56%
Mo 202.031†	16979.7	0.9586 mg/L	0.00323	0.9586 mg/L	0.00323	0.34%
Na 589.592†	661255.0	50.79 mg/L	0.120	50.79 mg/L	0.120	0.24%
Na 330.237†	1063.8	51.12 mg/L	0.358	51.12 mg/L	0.358	0.70%
Ni 231.604†	3461.8	1.024 mg/L	0.0073	1.024 mg/L	0.0073	0.71%
Pb 220.353†	15997.0	1.991 mg/L	0.0052	1.991 mg/L	0.0052	0.26%
Sb 206.836†	6179.2	2.058 mg/L	0.0076	2.058 mg/L	0.0076	0.37%
Se 196.026†	2583.2	1.988 mg/L	0.0007	1.988 mg/L	0.0007	0.04%
Si 288.158†	3345.9	1.956 mg/L	0.0385	1.956 mg/L	0.0385	1.97%
Sn 189.927†	3152.6	0.9789 mg/L	0.00237	0.9789 mg/L	0.00237	0.24%
Sr 421.552†	806056.5	1.007 mg/L	0.0016	1.007 mg/L	0.0016	0.16%
Ti 334.903†	16105.8	0.9921 mg/L	0.00104	0.9921 mg/L	0.00104	0.11%
Tl 190.801†	4041.5	1.967 mg/L	0.0078	1.967 mg/L	0.0078	0.40%
V 292.402†	148758.4	1.010 mg/L	0.0046	1.010 mg/L	0.0046	0.45%
Zn 206.200†	3448.0	1.015 mg/L	0.0055	1.015 mg/L	0.0055	0.54%

Sequence No.: 12
 Sample ID: CB 2
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/4/2014 11:04:31 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 214.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2962082.0	103.5	%	0.75			0.72%
ScR 361.383	248481.2	103.0	%	1.23			1.19%
Ag 328.068†	15.6	0.00008	mg/L	0.000146	0.00008	mg/L	0.000146 182.29%
Al 308.215†	1.2	0.00091	mg/L	0.003331	0.00091	mg/L	0.003331 367.41%
As 188.979†	-3.0	-0.00178	mg/L	0.002475	-0.00178	mg/L	0.002475 138.74%
B 249.677†	6.6	0.00120	mg/L	0.000847	0.00120	mg/L	0.000847 70.63%
Ba 233.527†	-0.6	-0.00017	mg/L	0.000519	-0.00017	mg/L	0.000519 311.92%
Be 313.042†	20.2	0.00004	mg/L	0.000032	0.00004	mg/L	0.000032 74.98%
Ca 317.933†	10.7	0.00112	mg/L	0.000151	0.00112	mg/L	0.000151 13.46%
Cd 228.802†	-4.3	-0.00013	mg/L	0.000130	-0.00013	mg/L	0.000130 100.30%
Co 228.616†	1.3	0.00003	mg/L	0.000065	0.00003	mg/L	0.000065 207.16%
Cr 267.716†	5.1	0.00103	mg/L	0.000713	0.00103	mg/L	0.000713 69.11%
Cu 324.752†	35.7	0.00013	mg/L	0.000253	0.00013	mg/L	0.000253 198.86%
Fe 273.955†	2.2	0.00199	mg/L	0.001842	0.00199	mg/L	0.001842 92.56%
K 766.490†	-2.5	-0.00112	mg/L	0.021242	-0.00112	mg/L	0.021242 >999.9%
Mg 279.077†	1.0	0.00088	mg/L	0.004243	0.00088	mg/L	0.004243 479.80%
Mn 257.610†	1.5	0.00005	mg/L	0.000179	0.00005	mg/L	0.000179 361.80%
Mo 202.031†	15.0	0.00085	mg/L	0.000461	0.00085	mg/L	0.000461 54.53%
Na 589.592†	81.3	0.00624	mg/L	0.006677	0.00624	mg/L	0.006677 106.99%
Na 330.237†	2.9	0.1424	mg/L	0.27499	0.1424	mg/L	0.27499 193.13%
Ni 231.604†	0.7	0.00022	mg/L	0.001699	0.00022	mg/L	0.001699 758.86%
Pb 220.353†	-7.0	-0.00087	mg/L	0.000752	-0.00087	mg/L	0.000752 86.30%
Sb 206.836†	23.8	0.00792	mg/L	0.001036	0.00792	mg/L	0.001036 13.08%
Se 196.026†	3.3	0.00257	mg/L	0.001913	0.00257	mg/L	0.001913 74.51%
Si 288.158†	-13.7	-0.00801	mg/L	0.005100	-0.00801	mg/L	0.005100 63.65%
Sn 189.927†	-1.1	-0.00033	mg/L	0.000552	-0.00033	mg/L	0.000552 165.01%
Sr 421.552†	50.2	0.00006	mg/L	0.000033	0.00006	mg/L	0.000033 52.46%
Ti 334.903†	17.9	0.00110	mg/L	0.000210	0.00110	mg/L	0.000210 19.01%
Tl 190.801†	2.2	0.00107	mg/L	0.002349	0.00107	mg/L	0.002349 219.06%
V 292.402†	-34.4	-0.00023	mg/L	0.000115	-0.00023	mg/L	0.000115 50.57%
Zn 206.200†	-2.7	-0.00080	mg/L	0.000297	-0.00080	mg/L	0.000297 37.25%

Sequence No.: 13
 Sample ID: YE60 G DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 314
 Date Collected: 4/4/2014 11:08:31 AM
 Data Type: Original

Nebulizer Parameters: YE60 G DMN
 Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE60 G DMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2943617.2	102.8	%	0.64				0.62%
ScR 361.383	246572.1	102.3	%	1.04				1.02%
Ag 328.068†	-169.9	-0.00004	mg/L	0.000095	-0.00004	mg/L	0.000095	254.99%
Al 308.215†	6.3	0.00488	mg/L	0.003225	0.00488	mg/L	0.003225	66.08%
As 188.979†	61.1	0.02591	mg/L	0.001861	0.02591	mg/L	0.001861	7.18%
B 249.677†	75.9	0.01376	mg/L	0.000033	0.01376	mg/L	0.000033	0.24%
Ba 233.527†	330.8	0.08501	mg/L	0.000745	0.08501	mg/L	0.000745	0.88%
Be 313.042†	-4.1	-0.00001	mg/L	0.000018	-0.00001	mg/L	0.000018	187.48%
Ca 317.933†	1319163.7	138.2	mg/L	0.90	138.2	mg/L	0.90	0.65%
Cd 228.802†	-18.2	-0.00078	mg/L	0.000081	-0.00078	mg/L	0.000081	10.40%
Co 228.616†	40.2	0.00100	mg/L	0.000094	0.00100	mg/L	0.000094	9.39%
Cr 267.716†	42.1	0.00127	mg/L	0.000628	0.00127	mg/L	0.000628	49.62%
Cu 324.752†	429.0	0.00070	mg/L	0.000209	0.00070	mg/L	0.000209	29.89%
Fe 273.955†	12.3	0.01102	mg/L	0.001171	0.01102	mg/L	0.001171	10.63%
K 766.490†	24063.8	10.94	mg/L	0.097	10.94	mg/L	0.097	0.89%
Mg 279.077†	75746.9	68.81	mg/L	0.909	68.81	mg/L	0.909	1.32%
Mn 257.610†	143.6	0.00369	mg/L	0.000138	0.00369	mg/L	0.000138	3.74%
Mo 202.031†	114.1	0.00430	mg/L	0.000255	0.00430	mg/L	0.000255	5.93%
Na 589.592†	502545.4	38.60	mg/L	0.100	38.60	mg/L	0.100	0.26%
Na 330.237†	805.4	37.89	mg/L	0.340	37.89	mg/L	0.340	0.90%
Ni 231.604†	22.6	0.00668	mg/L	0.001258	0.00668	mg/L	0.001258	18.83%
Pb 220.353†	-34.7	-0.00430	mg/L	0.000927	-0.00430	mg/L	0.000927	21.54%
Sb 206.836†	-3.2	-0.00139	mg/L	0.002387	-0.00139	mg/L	0.002387	172.32%
Se 196.026†	19.1	0.01469	mg/L	0.003905	0.01469	mg/L	0.003905	26.58%
Si 288.158†	36312.2	21.19	mg/L	0.252	21.19	mg/L	0.252	1.19%
Sn 189.927†	-95.4	-0.01285	mg/L	0.000589	-0.01285	mg/L	0.000589	4.58%
Sr 421.552†	571762.5	0.7146	mg/L	0.00329	0.7146	mg/L	0.00329	0.46%
Ti 334.903†	196.2	0.00234	mg/L	0.000891	0.00234	mg/L	0.000891	38.09%
Tl 190.801†	16.5	0.00804	mg/L	0.001395	0.00804	mg/L	0.001395	17.36%
V 292.402†	474.1	0.00324	mg/L	0.000087	0.00324	mg/L	0.000087	2.69%
Zn 206.200†	-11.9	0.00044	mg/L	0.000942	0.00044	mg/L	0.000942	215.47%

Sequence No.: 14
 Sample ID: YE60 H DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 315
 Date Collected: 4/4/2014 11:12:48 AM
 Data Type: Original

Nebulizer Parameters: YE60 H DMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE60 H DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3001006.1	104.9 %	0.48	.		0.45%
ScR 361.383	253340.6	105.1 %	0.26	.		0.25%
Ag 328.068†	-50.5	0.00007 mg/L	0.000257	0.00007 mg/L	0.000257	362.05%
Al 308.215†	8.2	0.00645 mg/L	0.006367	0.00645 mg/L	0.006367	98.75%
As 188.979†	46.0	0.02374 mg/L	0.001101	0.02374 mg/L	0.001101	4.64%
B 249.677†	266.9	0.04838 mg/L	0.001414	0.04838 mg/L	0.001414	2.92%
Ba 233.527†	273.9	0.07039 mg/L	0.001054	0.07039 mg/L	0.001054	1.50%
Be 313.042†	10.6	0.00002 mg/L	0.000037	0.00002 mg/L	0.000037	175.96%
Ca 317.933†	521413.6	54.61 mg/L	0.236	54.61 mg/L	0.236	0.43%
Cd 228.802†	-14.6	-0.00061 mg/L	0.000094	-0.00061 mg/L	0.000094	15.35%
Co 228.616†	119.9	0.00306 mg/L	0.000058	0.00306 mg/L	0.000058	1.89%
Cr 267.716†	20.7	0.00080 mg/L	0.000593	0.00080 mg/L	0.000593	73.62%
Cu 324.752†	292.8	0.00068 mg/L	0.000144	0.00068 mg/L	0.000144	21.09%
Fe 273.955†	22.8	0.02043 mg/L	0.001204	0.02043 mg/L	0.001204	5.89%
K 766.490†	13978.6	6.354 mg/L	0.0343	6.354 mg/L	0.0343	0.54%
Mg 279.077†	36319.8	32.99 mg/L	0.300	32.99 mg/L	0.300	0.91%
Mn 257.610†	153.5	0.00461 mg/L	0.000054	0.00461 mg/L	0.000054	1.18%
Mo 202.031†	89.3	0.00420 mg/L	0.000414	0.00420 mg/L	0.000414	9.86%
Na 589.592†	529822.7	40.69 mg/L	0.118	40.69 mg/L	0.118	0.29%
Na 330.237†	856.3	40.85 mg/L	0.616	40.85 mg/L	0.616	1.51%
Ni 231.604†	27.0	0.00797 mg/L	0.000105	0.00797 mg/L	0.000105	1.32%
Pb 220.353†	-23.8	-0.00296 mg/L	0.001098	-0.00296 mg/L	0.001098	37.14%
Sb 206.836†	-8.0	-0.00286 mg/L	0.001710	-0.00286 mg/L	0.001710	59.85%
Se 196.026†	13.0	0.00998 mg/L	0.004138	0.00998 mg/L	0.004138	41.46%
Si 288.158†	30811.6	17.97 mg/L	0.106	17.97 mg/L	0.106	0.59%
Sn 189.927†	-67.0	-0.01418 mg/L	0.001127	-0.01418 mg/L	0.001127	7.95%
Sr 421.552†	240206.6	0.3002 mg/L	0.00046	0.3002 mg/L	0.00046	0.15%
Ti 334.903†	90.7	0.00173 mg/L	0.000373	0.00173 mg/L	0.000373	21.53%
Tl 190.801†	14.5	0.00708 mg/L	0.001398	0.00708 mg/L	0.001398	19.74%
V 292.402†	448.6	0.00305 mg/L	0.000146	0.00305 mg/L	0.000146	4.80%
Zn 206.200†	-10.9	0.00015 mg/L	0.000845	0.00015 mg/L	0.000845	577.21%

Sequence No.: 15
 Sample ID: YE60 I DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 316
 Date Collected: 4/4/2014 11:17:03 AM
 Data Type: Original

Nebulizer Parameters: YE60 I DMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE60 I DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2945725.4	102.9 %	0.36			0.35%
ScR 361.383	247097.9	102.5 %	0.53			0.51%
Ag 328.068†	-190.2	-0.00001 mg/L	0.000174	-0.00001 mg/L	0.000174	>999.9%
Al 308.215†	1.9	0.00132 mg/L	0.004163	0.00132 mg/L	0.004163	315.95%
As 188.979†	69.1	0.02905 mg/L	0.002993	0.02905 mg/L	0.002993	10.30%
B 249.677†	80.7	0.01464 mg/L	0.000477	0.01464 mg/L	0.000477	3.25%
Ba 233.527†	455.9	0.1172 mg/L	0.00103	0.1172 mg/L	0.00103	0.88%
Be 313.042†	-5.2	-0.00001 mg/L	0.000035	-0.00001 mg/L	0.000035	294.39%
Ca 317.933†	1519251.0	159.1 mg/L	0.41	159.1 mg/L	0.41	0.26%
Cd 228.802†	-19.1	-0.00084 mg/L	0.000104	-0.00084 mg/L	0.000104	12.45%
Co 228.616†	26.6	0.00065 mg/L	0.000162	0.00065 mg/L	0.000162	24.90%
Cr 267.716†	47.5	0.00018 mg/L	0.000512	0.00018 mg/L	0.000512	280.63%
Cu 324.752†	361.1	0.00025 mg/L	0.000328	0.00025 mg/L	0.000328	129.99%
Fe 273.955†	6.1	0.00547 mg/L	0.000715	0.00547 mg/L	0.000715	13.08%
K 766.490†	28404.3	12.91 mg/L	0.052	12.91 mg/L	0.052	0.40%
Mg 279.077†	100620.7	91.41 mg/L	0.520	91.41 mg/L	0.520	0.57%
Mn 257.610†	356.1	0.01046 mg/L	0.000158	0.01046 mg/L	0.000158	1.51%
Mo 202.031†	121.2	0.00438 mg/L	0.000255	0.00438 mg/L	0.000255	5.83%
Na 589.592†	587851.9	45.15 mg/L	0.097	45.15 mg/L	0.097	0.21%
Na 330.237†	949.6	44.70 mg/L	0.225	44.70 mg/L	0.225	0.50%
Ni 231.604†	7.4	0.00219 mg/L	0.000540	0.00219 mg/L	0.000540	24.67%
Pb 220.353†	-37.8	-0.00469 mg/L	0.001008	-0.00469 mg/L	0.001008	21.51%
Sb 206.836†	-10.6	-0.00386 mg/L	0.000940	-0.00386 mg/L	0.000940	24.38%
Se 196.026†	21.2	0.01635 mg/L	0.006276	0.01635 mg/L	0.006276	38.40%
Si 288.158†	37190.6	21.70 mg/L	0.055	21.70 mg/L	0.055	0.26%
Sn 189.927†	-95.8	-0.01043 mg/L	0.001537	-0.01043 mg/L	0.001537	14.74%
Sr 421.552†	627392.7	0.7842 mg/L	0.00059	0.7842 mg/L	0.00059	0.08%
Ti 334.903†	216.1	0.00209 mg/L	0.000497	0.00209 mg/L	0.000497	23.82%
Tl 190.801†	15.0	0.00730 mg/L	0.003458	0.00730 mg/L	0.003458	47.36%
V 292.402†	592.1	0.00404 mg/L	0.000088	0.00404 mg/L	0.000088	2.18%
Zn 206.200†	-13.3	0.00012 mg/L	0.000657	0.00012 mg/L	0.000657	560.18%

Sequence No.: 16
 Sample ID: YE60 J DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 317
 Date Collected: 4/4/2014 11:21:19 AM
 Data Type: Original

Nebulizer Parameters: YE60 J DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE60 J DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2987762.0	104.4 %	0.39			0.37%
ScR 361.383	254665.8	105.6 %	1.11			1.05%
Ag 328.068†	-91.0	0.00005 mg/L	0.000155	0.00005 mg/L	0.000155	291.97%
Al 308.215†	1.3	0.00089 mg/L	0.004165	0.00089 mg/L	0.004165	470.44%
As 188.979†	56.9	0.02776 mg/L	0.001553	0.02776 mg/L	0.001553	5.60%
B 249.677†	100.4	0.01821 mg/L	0.000255	0.01821 mg/L	0.000255	1.40%
Ba 233.527†	273.3	0.07025 mg/L	0.001796	0.07025 mg/L	0.001796	2.56%
Be 313.042†	-0.2	-0.00000 mg/L	0.000026	-0.00000 mg/L	0.000026	>999.9%
Ca 317.933†	821835.1	86.07 mg/L	0.175	86.07 mg/L	0.175	0.20%
Cd 228.802†	-14.5	-0.00065 mg/L	0.000152	-0.00065 mg/L	0.000152	23.40%
Co 228.616†	26.0	0.00065 mg/L	0.000147	0.00065 mg/L	0.000147	22.71%
Cr 267.716†	33.2	0.00155 mg/L	0.000713	0.00155 mg/L	0.000713	46.04%
Cu 324.752†	350.2	0.00069 mg/L	0.000131	0.00069 mg/L	0.000131	19.09%
Fe 273.955†	4.2	0.00372 mg/L	0.001057	0.00372 mg/L	0.001057	28.42%
K 766.490†	17096.2	7.771 mg/L	0.0295	7.771 mg/L	0.0295	0.38%
Mg 279.077†	55269.2	50.21 mg/L	0.398	50.21 mg/L	0.398	0.79%
Mn 257.610†	28.7	0.00025 mg/L	0.000069	0.00025 mg/L	0.000069	28.12%
Mo 202.031†	87.4	0.00360 mg/L	0.000152	0.00360 mg/L	0.000152	4.23%
Na 589.592†	330384.3	25.38 mg/L	0.020	25.38 mg/L	0.020	0.08%
Na 330.237†	534.8	25.20 mg/L	0.260	25.20 mg/L	0.260	1.03%
Ni 231.604†	9.4	0.00277 mg/L	0.000055	0.00277 mg/L	0.000055	1.99%
Pb 220.353†	-39.2	-0.00487 mg/L	0.001220	-0.00487 mg/L	0.001220	25.07%
Sb 206.836†	-4.8	-0.00187 mg/L	0.002389	-0.00187 mg/L	0.002389	127.96%
Se 196.026†	16.0	0.01229 mg/L	0.003464	0.01229 mg/L	0.003464	28.19%
Si 288.158†	37112.7	21.65 mg/L	0.173	21.65 mg/L	0.173	0.80%
Sn 189.927†	-80.2	-0.01446 mg/L	0.001147	-0.01446 mg/L	0.001147	7.93%
Sr 421.552†	338034.6	0.4225 mg/L	0.00007	0.4225 mg/L	0.00007	0.02%
Ti 334.903†	121.6	0.00142 mg/L	0.000427	0.00142 mg/L	0.000427	30.12%
Tl 190.801†	14.5	0.00710 mg/L	0.000714	0.00710 mg/L	0.000714	10.05%
V 292.402†	245.2	0.00168 mg/L	0.000061	0.00168 mg/L	0.000061	3.64%
Zn 206.200†	-13.1	0.00018 mg/L	0.000922	0.00018 mg/L	0.000922	520.84%

Sequence No.: 17
 Sample ID: YE60 FDUP DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 318
 Date Collected: 4/4/2014 11:25:34 AM
 Data Type: Original

Nebulizer Parameters: YE60 FDUP DMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE60 FDUP DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2943776.0	102.9	%	0.78			0.76%
ScR 361.383	246674.7	102.3	%	1.15			1.12%
Ag 328.068†	-168.0	0.00007	mg/L	0.000140	0.00007 mg/L	0.000140	189.49%
Al 308.215†	7.5	0.00578	mg/L	0.007391	0.00578 mg/L	0.007391	127.77%
As 188.979†	66.0	0.02747	mg/L	0.002898	0.02747 mg/L	0.002898	10.55%
B 249.677†	73.0	0.01324	mg/L	0.001508	0.01324 mg/L	0.001508	11.39%
Ba 233.527†	337.6	0.08676	mg/L	0.001807	0.08676 mg/L	0.001807	2.08%
Be 313.042†	23.1	0.00005	mg/L	0.000033	0.00005 mg/L	0.000033	69.28%
Ca 317.933†	1479953.9	155.0	mg/L	0.38	155.0 mg/L	0.38	0.25%
Cd 228.802†	-17.9	-0.00078	mg/L	0.000112	-0.00078 mg/L	0.000112	14.25%
Co 228.616†	39.7	0.00098	mg/L	0.000049	0.00098 mg/L	0.000049	4.95%
Cr 267.716†	46.0	0.00069	mg/L	0.000826	0.00069 mg/L	0.000826	120.58%
Cu 324.752†	285.6	0.00005	mg/L	0.000229	0.00005 mg/L	0.000229	451.98%
Fe 273.955†	29.5	0.02645	mg/L	0.000257	0.02645 mg/L	0.000257	0.97%
K 766.490†	26135.5	11.88	mg/L	0.058	11.88 mg/L	0.058	0.49%
Mg 279.077†	90928.4	82.60	mg/L	0.735	82.60 mg/L	0.735	0.89%
Mn 257.610†	3699.9	0.1208	mg/L	0.00089	0.1208 mg/L	0.00089	0.73%
Mo 202.031†	112.1	0.00392	mg/L	0.000217	0.00392 mg/L	0.000217	5.52%
Na 589.592†	568591.4	43.67	mg/L	0.101	43.67 mg/L	0.101	0.23%
Na 330.237†	910.0	42.82	mg/L	0.533	42.82 mg/L	0.533	1.24%
Ni 231.604†	14.9	0.00441	mg/L	0.001460	0.00441 mg/L	0.001460	33.07%
Pb 220.353†	-40.2	-0.00498	mg/L	0.000700	-0.00498 mg/L	0.000700	14.04%
Sb 206.836†	-9.1	-0.00335	mg/L	0.000699	-0.00335 mg/L	0.000699	20.89%
Se 196.026†	19.0	0.01464	mg/L	0.004483	0.01464 mg/L	0.004483	30.63%
Si 288.158†	36289.2	21.17	mg/L	0.177	21.17 mg/L	0.177	0.84%
Sn 189.927†	-95.0	-0.01068	mg/L	0.000448	-0.01068 mg/L	0.000448	4.19%
Sr 421.552†	623550.2	0.7794	mg/L	0.00198	0.7794 mg/L	0.00198	0.25%
Ti 334.903†	223.7	0.00285	mg/L	0.000843	0.00285 mg/L	0.000843	29.57%
Tl 190.801†	18.5	0.00903	mg/L	0.001093	0.00903 mg/L	0.001093	12.11%
V 292.402†	398.3	0.00274	mg/L	0.000106	0.00274 mg/L	0.000106	3.87%
Zn 206.200†	-11.7	0.00049	mg/L	0.000545	0.00049 mg/L	0.000545	110.78%

Sequence No.: 18
 Sample ID: YE60 F DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 319
 Date Collected: 4/4/2014 11:29:50 AM
 Data Type: Original

Nebulizer Parameters: YE60 F DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE60 F DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2902271.7	101.4 %		0.34			0.34%
ScR 361.383	248147.6	102.9 %		1.71			1.66%
Ag 328.068†	-175.5	0.00005 mg/L		0.000110	0.00005 mg/L	0.000110	215.95%
Al 308.215†	6.0	0.00464 mg/L		0.003365	0.00464 mg/L	0.003365	72.48%
As 188.979†	67.9	0.02844 mg/L		0.002116	0.02844 mg/L	0.002116	7.44%
B 249.677†	72.4	0.01312 mg/L		0.000915	0.01312 mg/L	0.000915	6.97%
Ba 233.527†	336.9	0.08657 mg/L		0.001397	0.08657 mg/L	0.001397	1.61%
Be 313.042†	-13.3	-0.00003 mg/L		0.000029	-0.00003 mg/L	0.000029	102.14%
Ca 317.933†	1504734.1	157.6 mg/L		1.42	157.6 mg/L	1.42	0.90%
Cd 228.802†	-17.5	-0.00078 mg/L		0.000190	-0.00078 mg/L	0.000190	24.33%
Co 228.616†	41.7	0.00104 mg/L		0.000141	0.00104 mg/L	0.000141	13.55%
Cr 267.716†	44.9	0.00035 mg/L		0.000464	0.00035 mg/L	0.000464	133.60%
Cu 324.752†	432.4	0.00056 mg/L		0.000254	0.00056 mg/L	0.000254	45.08%
Fe 273.955†	32.0	0.02864 mg/L		0.000736	0.02864 mg/L	0.000736	2.57%
K 766.490†	26218.5	11.92 mg/L		0.153	11.92 mg/L	0.153	1.28%
Mg 279.077†	91920.6	83.50 mg/L		1.722	83.50 mg/L	1.722	2.06%
Mn 257.610†	3735.8	0.1220 mg/L		0.00295	0.1220 mg/L	0.00295	2.42%
Mo 202.031†	114.5	0.00402 mg/L		0.000252	0.00402 mg/L	0.000252	6.28%
Na 589.592†	570626.1	43.83 mg/L		0.220	43.83 mg/L	0.220	0.50%
Na 330.237†	916.4	43.11 mg/L		0.955	43.11 mg/L	0.955	2.21%
Ni 231.604†	13.3	0.00392 mg/L		0.001467	0.00392 mg/L	0.001467	37.45%
Pb 220.353†	-34.6	-0.00429 mg/L		0.000518	-0.00429 mg/L	0.000518	12.08%
Sb 206.836†	-5.0	-0.00200 mg/L		0.002203	-0.00200 mg/L	0.002203	110.03%
Se 196.026†	22.2	0.01713 mg/L		0.003658	0.01713 mg/L	0.003658	21.36%
Si 288.158†	36452.5	21.27 mg/L		0.383	21.27 mg/L	0.383	1.80%
Sn 189.927†	-99.2	-0.01169 mg/L		0.002878	-0.01169 mg/L	0.002878	24.63%
Sr 421.552†	628962.2	0.7861 mg/L		0.00536	0.7861 mg/L	0.00536	0.68%
Ti 334.903†	213.5	0.00204 mg/L		0.000759	0.00204 mg/L	0.000759	37.29%
Tl 190.801†	15.6	0.00762 mg/L		0.002634	0.00762 mg/L	0.002634	34.58%
V 292.402†	416.2	0.00286 mg/L		0.000062	0.00286 mg/L	0.000062	2.17%
Zn 206.200†	-12.2	0.00037 mg/L		0.000629	0.00037 mg/L	0.000629	170.22%

Sequence No.: 19
 Sample ID: YE60 FSPK DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 320
 Date Collected: 4/4/2014 11:34:06 AM
 Data Type: Original

Nebulizer Parameters: YE60 FSPK DMN

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE60 FSPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2897748.1	101.2	%	0.68			0.67%
ScR 361.383	244289.5	101.3	%	0.26			0.26%
Ag 328.068†	89454.1	0.4602	mg/L	0.00712	0.4602 mg/L	0.00712	1.55%
Al 308.215†	2425.2	1.928	mg/L	0.0285	1.928 mg/L	0.0285	1.48%
As 188.979†	3615.6	2.214	mg/L	0.0335	2.214 mg/L	0.0335	1.51%
B 249.677†	79.1	0.01330	mg/L	0.000687	0.01330 mg/L	0.000687	5.16%
Ba 233.527†	7812.6	2.008	mg/L	0.0349	2.008 mg/L	0.0349	1.74%
Be 313.042†	208785.9	0.4348	mg/L	0.00652	0.4348 mg/L	0.00652	1.50%
Ca 317.933†	1581331.4	165.6	mg/L	0.51	165.6 mg/L	0.51	0.31%
Cd 228.802†	17257.5	0.5488	mg/L	0.00920	0.5488 mg/L	0.00920	1.68%
Co 228.616†	19327.7	0.4953	mg/L	0.00752	0.4953 mg/L	0.00752	1.52%
Cr 267.716†	2415.9	0.4835	mg/L	0.00779	0.4835 mg/L	0.00779	1.61%
Cu 324.752†	141976.0	0.5082	mg/L	0.00956	0.5082 mg/L	0.00956	1.88%
Fe 273.955†	2148.6	1.923	mg/L	0.0312	1.923 mg/L	0.0312	1.62%
K 766.490†	47761.2	21.71	mg/L	0.091	21.71 mg/L	0.091	0.42%
Mg 279.077†	98546.7	89.52	mg/L	0.435	89.52 mg/L	0.435	0.49%
Mn 257.610†	17949.3	0.5911	mg/L	0.00829	0.5911 mg/L	0.00829	1.40%
Mo 202.031†	127.4	0.00462	mg/L	0.000342	0.00462 mg/L	0.000342	7.39%
Na 589.592†	700705.4	53.82	mg/L	0.092	53.82 mg/L	0.092	0.17%
Na 330.237†	1125.6	52.99	mg/L	0.218	52.99 mg/L	0.218	0.41%
Ni 231.604†	1580.0	0.4673	mg/L	0.00969	0.4673 mg/L	0.00969	2.07%
Pb 220.353†	16449.4	2.047	mg/L	0.0360	2.047 mg/L	0.0360	1.76%
Sb 206.836†	5401.3	1.795	mg/L	0.1303	1.795 mg/L	0.1303	7.26%
Se 196.026†	3080.5	2.372	mg/L	0.0432	2.372 mg/L	0.0432	1.82%
Si 288.158†	36635.2	21.38	mg/L	0.043	21.38 mg/L	0.043	0.20%
Sn 189.927†	-104.0	-0.01113	mg/L	0.001336	-0.01113 mg/L	0.001336	12.00%
Sr 421.552†	1007737.2	1.260	mg/L	0.0082	1.260 mg/L	0.0082	0.65%
Ti 334.903†	239.9	0.00301	mg/L	0.000522	0.00301 mg/L	0.000522	17.37%
Tl 190.801†	4121.8	2.010	mg/L	0.0277	2.010 mg/L	0.0277	1.38%
V 292.402†	73673.7	0.5001	mg/L	0.00997	0.5001 mg/L	0.00997	1.99%
Zn 206.200†	1589.8	0.4721	mg/L	0.00860	0.4721 mg/L	0.00860	1.82%

Sequence No.: 20
 Sample ID: B1
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 321
 Date Collected: 4/4/2014 11:38:08 AM
 Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: B1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2935694.2	102.6	%	0.47			0.46%
ScR 361.383	247013.5	102.4	%	0.41			0.40%
Ag 328.068†	618.8	0.00318	mg/L	0.002369	0.00318	mg/L	0.002369 74.59%
Al 308.215†	9.1	0.00729	mg/L	0.003563	0.00729	mg/L	0.003563 48.89%
As 188.979†	0.5	0.00030	mg/L	0.001028	0.00030	mg/L	0.001028 340.28%
B 249.677†	-3.9	-0.00070	mg/L	0.000358	-0.00070	mg/L	0.000358 51.04%
Ba 233.527†	2.8	0.00072	mg/L	0.000504	0.00072	mg/L	0.000504 70.40%
Be 313.042†	14.8	0.00003	mg/L	0.000018	0.00003	mg/L	0.000018 57.75%
Ca 317.933†	157.6	0.01651	mg/L	0.004270	0.01651	mg/L	0.004270 25.86%
Cd 228.802†	-3.1	-0.00010	mg/L	0.000138	-0.00010	mg/L	0.000138 136.70%
Co 228.616†	0.7	0.00002	mg/L	0.000076	0.00002	mg/L	0.000076 479.16%
Cr 267.716†	5.9	0.00120	mg/L	0.000338	0.00120	mg/L	0.000338 28.11%
Cu 324.752†	112.6	0.00040	mg/L	0.000166	0.00040	mg/L	0.000166 41.17%
Fe 273.955†	3.2	0.00288	mg/L	0.002395	0.00288	mg/L	0.002395 83.01%
K 766.490†	-37.0	-0.01682	mg/L	0.011134	-0.01682	mg/L	0.011134 66.20%
Mg 279.077†	9.7	0.00885	mg/L	0.002813	0.00885	mg/L	0.002813 31.79%
Mn 257.610†	5.5	0.00018	mg/L	0.000028	0.00018	mg/L	0.000028 15.43%
Mo 202.031†	0.6	0.00004	mg/L	0.000308	0.00004	mg/L	0.000308 868.48%
Na 589.592†	220.5	0.01694	mg/L	0.005192	0.01694	mg/L	0.005192 30.66%
Na 330.237†	1.9	0.08962	mg/L	0.117483	0.08962	mg/L	0.117483 131.10%
Ni 231.604†	0.2	0.00009	mg/L	0.000334	0.00009	mg/L	0.000334 366.55%
Pb 220.353†	-7.3	-0.00090	mg/L	0.000344	-0.00090	mg/L	0.000344 38.15%
Sb 206.836†	131.5	0.04379	mg/L	0.005216	0.04379	mg/L	0.005216 11.91%
Se 196.026†	-2.1	-0.00159	mg/L	0.001343	-0.00159	mg/L	0.001343 84.28%
Si 288.158†	25.2	0.01470	mg/L	0.002420	0.01470	mg/L	0.002420 16.46%
Sn 189.927†	-3.3	-0.00099	mg/L	0.001870	-0.00099	mg/L	0.001870 189.59%
Sr 421.552†	71.1	0.00009	mg/L	0.000047	0.00009	mg/L	0.000047 53.01%
Ti 334.903†	7.3	0.00045	mg/L	0.000306	0.00045	mg/L	0.000306 68.07%
Tl 190.801†	0.1	0.00004	mg/L	0.001767	0.00004	mg/L	0.001767 >999.9%
V 292.402†	4.2	0.00003	mg/L	0.000198	0.00003	mg/L	0.000198 600.27%
Zn 206.200†	-0.0	-0.00000	mg/L	0.000041	-0.00000	mg/L	0.000041 >999.9%

Sequence No.: 21
 Sample ID: YE60 MB2SPK DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 322
 Date Collected: 4/4/2014 11:42:07 AM
 Data Type: Original

Nebulizer Parameters: YE60 MB2SPK DMN

Analyte Back Pressure Flow
 A11 215.0 kPa 0.75 L/min

Mean Data: YE60 MB2SPK DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3022973.9	105.6 %	0.45			0.42%
ScR 361.383	254155.1	105.4 %	0.59			0.56%
Ag 328.068†	88576.7	0.4547 mg/L	0.01488	0.4547 mg/L	0.01488	3.27%
Al 308.215†	2331.7	1.854 mg/L	0.0336	1.854 mg/L	0.0336	1.81%
As 188.979†	3330.6	2.052 mg/L	0.0450	2.052 mg/L	0.0450	2.19%
B 249.677†	38.7	0.00600 mg/L	0.000642	0.00600 mg/L	0.000642	10.70%
Ba 233.527†	7245.4	1.862 mg/L	0.0271	1.862 mg/L	0.0271	1.45%
Be 313.042†	205393.7	0.4277 mg/L	0.00403	0.4277 mg/L	0.00403	0.94%
Ca 317.933†	88972.1	9.318 mg/L	0.1031	9.318 mg/L	0.1031	1.11%
Cd 228.802†	15836.7	0.5036 mg/L	0.00702	0.5036 mg/L	0.00702	1.39%
Co 228.616†	18661.8	0.4783 mg/L	0.00986	0.4783 mg/L	0.00986	2.06%
Cr 267.716†	2313.9	0.4712 mg/L	0.00618	0.4712 mg/L	0.00618	1.31%
Cu 324.752†	130103.8	0.4666 mg/L	0.00817	0.4666 mg/L	0.00817	1.75%
Fe 273.955†	2068.3	1.851 mg/L	0.0328	1.851 mg/L	0.0328	1.77%
K 766.490†	20496.3	9.316 mg/L	0.0429	9.316 mg/L	0.0429	0.46%
Mg 279.077†	10521.1	9.559 mg/L	0.1590	9.559 mg/L	0.1590	1.66%
Mn 257.610†	13192.7	0.4354 mg/L	0.00478	0.4354 mg/L	0.00478	1.10%
Mo 202.031†	23.0	0.00116 mg/L	0.000161	0.00116 mg/L	0.000161	13.92%
Na 589.592†	123081.4	9.453 mg/L	0.0367	9.453 mg/L	0.0367	0.39%
Na 330.237†	205.2	9.677 mg/L	0.0725	9.677 mg/L	0.0725	0.75%
Ni 231.604†	1580.3	0.4674 mg/L	0.00846	0.4674 mg/L	0.00846	1.81%
Pb 220.353†	15585.5	1.940 mg/L	0.0281	1.940 mg/L	0.0281	1.45%
Sb 206.836†	5657.6	1.881 mg/L	0.1238	1.881 mg/L	0.1238	6.58%
Se 196.026†	2887.9	2.224 mg/L	0.0509	2.224 mg/L	0.0509	2.29%
Si 288.158†	-13.0	-0.00418 mg/L	0.001022	-0.00418 mg/L	0.001022	24.45%
Sn 189.927†	-22.3	-0.00466 mg/L	0.000979	-0.00466 mg/L	0.000979	21.00%
Sr 421.552†	362754.6	0.4534 mg/L	0.00258	0.4534 mg/L	0.00258	0.57%
Ti 334.903†	17.1	0.00031 mg/L	0.000445	0.00031 mg/L	0.000445	144.67%
Tl 190.801†	3994.8	1.948 mg/L	0.0381	1.948 mg/L	0.0381	1.96%
V 292.402†	70947.2	0.4816 mg/L	0.00604	0.4816 mg/L	0.00604	1.25%
Zn 206.200†	1590.6	0.4684 mg/L	0.00763	0.4684 mg/L	0.00763	1.63%

Sequence No.: 22
Sample ID: B2
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 323
Date Collected: 4/4/2014 11:46:07 AM
Data Type: Original

Nebulizer Parameters: B2

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: B2

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2923017.0	102.1	%	0.05			0.04%
ScR 361.383	247899.2	102.8	%	0.51			0.49%
Ag 328.068†	16108.1	0.08266	mg/L	0.033231	0.08266 mg/L	0.033231	40.20%
Al 308.215†	11.5	0.00918	mg/L	0.002026	0.00918 mg/L	0.002026	22.08%
As 188.979†	2.2	0.00136	mg/L	0.002396	0.00136 mg/L	0.002396	176.38%
B 249.677†	-3.8	-0.00069	mg/L	0.000129	-0.00069 mg/L	0.000129	18.83%
Ba 233.527†	4.4	0.00113	mg/L	0.001123	0.00113 mg/L	0.001123	99.05%
Be 313.042†	13.8	0.00003	mg/L	0.000015	0.00003 mg/L	0.000015	51.45%
Ca 317.933†	71.4	0.00748	mg/L	0.000950	0.00748 mg/L	0.000950	12.69%
Cd 228.802†	-1.6	-0.00006	mg/L	0.000080	-0.00006 mg/L	0.000080	132.13%
Co 228.616†	-1.8	-0.00005	mg/L	0.000081	-0.00005 mg/L	0.000081	173.44%
Cr 267.716†	-0.3	-0.00007	mg/L	0.000427	-0.00007 mg/L	0.000427	613.81%
Cu 324.752†	175.0	0.00063	mg/L	0.000056	0.00063 mg/L	0.000056	8.93%
Fe 273.955†	2.1	0.00187	mg/L	0.000868	0.00187 mg/L	0.000868	46.51%
K 766.490†	-22.1	-0.01006	mg/L	0.018793	-0.01006 mg/L	0.018793	186.87%
Mg 279.077†	2.0	0.00178	mg/L	0.005640	0.00178 mg/L	0.005640	317.51%
Mn 257.610†	1.3	0.00004	mg/L	0.000071	0.00004 mg/L	0.000071	165.03%
Mo 202.031†	1.9	0.00011	mg/L	0.000236	0.00011 mg/L	0.000236	218.52%
Na 589.592†	134.1	0.01030	mg/L	0.001745	0.01030 mg/L	0.001745	16.94%
Na 330.237†	1.8	0.08479	mg/L	0.043090	0.08479 mg/L	0.043090	50.82%
Ni 231.604†	0.0	0.00004	mg/L	0.000526	0.00004 mg/L	0.000526	>999.9%
Pb 220.353†	-5.4	-0.00067	mg/L	0.000594	-0.00067 mg/L	0.000594	89.19%
Sb 206.836†	146.3	0.04875	mg/L	0.005699	0.04875 mg/L	0.005699	11.69%
Se 196.026†	4.2	0.00327	mg/L	0.003326	0.00327 mg/L	0.003326	101.60%
Si 288.158†	-8.9	-0.00518	mg/L	0.001634	-0.00518 mg/L	0.001634	31.57%
Sn 189.927†	-0.3	-0.00006	mg/L	0.000131	-0.00006 mg/L	0.000131	208.29%
Sr 421.552†	36.3	0.00005	mg/L	0.000013	0.00005 mg/L	0.000013	29.39%
Ti 334.903†	3.6	0.00022	mg/L	0.000360	0.00022 mg/L	0.000360	162.31%
Tl 190.801†	-1.0	-0.00048	mg/L	0.001546	-0.00048 mg/L	0.001546	323.38%
V 292.402†	-25.0	-0.00017	mg/L	0.000171	-0.00017 mg/L	0.000171	100.98%
Zn 206.200†	-1.5	-0.00044	mg/L	0.000417	-0.00044 mg/L	0.000417	93.89%

Sequence No.: 23
 Sample ID: CV 3
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/4/2014 11:50:06 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921617.7	102.1 %	1.03			1.01%
ScR 361.383	241493.6	100.1 %	0.66			0.66%
Ag 328.068†	208232.3	1.069 mg/L	0.0046	1.069 mg/L	0.0046	0.43%
Al 308.215†	2595.5	2.040 mg/L	0.0139	2.040 mg/L	0.0139	0.68%
As 188.979†	3245.3	2.032 mg/L	0.0197	2.032 mg/L	0.0197	0.97%
B 249.677†	5665.6	1.026 mg/L	0.0076	1.026 mg/L	0.0076	0.74%
Ba 233.527†	4041.9	1.038 mg/L	0.0042	1.038 mg/L	0.0042	0.41%
Be 313.042†	468804.0	0.9763 mg/L	0.00167	0.9763 mg/L	0.00167	0.17%
Ca 317.933†	20232.1	2.119 mg/L	0.0132	2.119 mg/L	0.0132	0.62%
Cd 228.802†	31822.0	1.023 mg/L	0.0050	1.023 mg/L	0.0050	0.49%
Co 228.616†	38979.7	0.9976 mg/L	0.00719	0.9976 mg/L	0.00719	0.72%
Cr 267.716†	5119.6	1.044 mg/L	0.0073	1.044 mg/L	0.0073	0.70%
Cu 324.752†	276606.0	0.9915 mg/L	0.00397	0.9915 mg/L	0.00397	0.40%
Fe 273.955†	2313.3	2.067 mg/L	0.0194	2.067 mg/L	0.0194	0.94%
K 766.490†	44586.4	20.27 mg/L	0.029	20.27 mg/L	0.029	0.14%
Mg 279.077†	2239.1	2.041 mg/L	0.0217	2.041 mg/L	0.0217	1.06%
Mn 257.610†	29468.0	0.9723 mg/L	0.00208	0.9723 mg/L	0.00208	0.21%
Mo 202.031†	17081.1	0.9643 mg/L	0.00319	0.9643 mg/L	0.00319	0.33%
Na 589.592†	671734.5	51.59 mg/L	0.134	51.59 mg/L	0.134	0.26%
Na 330.237†	1080.1	51.90 mg/L	0.725	51.90 mg/L	0.725	1.40%
Ni 231.604†	3506.5	1.037 mg/L	0.0057	1.037 mg/L	0.0057	0.55%
Pb 220.353†	16127.6	2.008 mg/L	0.0091	2.008 mg/L	0.0091	0.46%
Sb 206.836†	6235.6	2.076 mg/L	0.0217	2.076 mg/L	0.0217	1.04%
Se 196.026†	2604.5	2.005 mg/L	0.0202	2.005 mg/L	0.0202	1.01%
Si 288.158†	3434.3	2.008 mg/L	0.0165	2.008 mg/L	0.0165	0.82%
Sn 189.927†	3175.0	0.9859 mg/L	0.01292	0.9859 mg/L	0.01292	1.31%
Sr 421.552†	811573.9	1.014 mg/L	0.0013	1.014 mg/L	0.0013	0.12%
Ti 334.903†	16182.1	0.9968 mg/L	0.00090	0.9968 mg/L	0.00090	0.09%
Tl 190.801†	4106.6	1.999 mg/L	0.0180	1.999 mg/L	0.0180	0.90%
V 292.402†	149947.5	1.018 mg/L	0.0038	1.018 mg/L	0.0038	0.38%
Zn 206.200†	3486.1	1.027 mg/L	0.0071	1.027 mg/L	0.0071	0.69%

Sequence No.: 24
 Sample ID: CB 3
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/4/2014 11:54:10 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2944834.5	102.9	%	0.67			0.65%
ScR 361.383	248515.2	103.1	%	0.66			-0.64%
Ag 328.068†	47.5	0.00024	mg/L	0.000241	0.00024 mg/L	0.000241	99.01%
Al 308.215†	2.8	0.00222	mg/L	0.002602	0.00222 mg/L	0.002602	117.18%
As 188.979†	-0.2	-0.00012	mg/L	0.002359	-0.00012 mg/L	0.002359	>999.9%
B 249.677†	6.0	0.00108	mg/L	0.000231	0.00108 mg/L	0.000231	21.36%
Ba 233.527†	-1.9	-0.00049	mg/L	0.000276	-0.00049 mg/L	0.000276	56.44%
Be 313.042†	20.5	0.00004	mg/L	0.000034	0.00004 mg/L	0.000034	78.61%
Ca 317.933†	15.3	0.00161	mg/L	0.001331	0.00161 mg/L	0.001331	82.81%
Cd 228.802†	-1.0	-0.00003	mg/L	0.0000173	-0.00003 mg/L	0.0000173	549.76%
Co 228.616†	-2.9	-0.00007	mg/L	0.000140	-0.00007 mg/L	0.000140	187.43%
Cr 267.716†	-1.5	-0.00032	mg/L	0.000452	-0.00032 mg/L	0.000452	142.83%
Cu 324.752†	109.0	0.00039	mg/L	0.000110	0.00039 mg/L	0.000110	28.13%
Fe 273.955†	2.2	0.00199	mg/L	0.002168	0.00199 mg/L	0.002168	108.95%
K 766.490†	-27.6	-0.01255	mg/L	0.013597	-0.01255 mg/L	0.013597	108.36%
Mg 279.077†	5.9	0.00538	mg/L	0.004236	0.00538 mg/L	0.004236	78.68%
Mn 257.610†	1.3	0.00004	mg/L	0.000040	0.00004 mg/L	0.000040	96.28%
Mo 202.031†	13.2	0.00075	mg/L	0.000424	0.00075 mg/L	0.000424	56.73%
Na 589.592†	80.9	0.00622	mg/L	0.001381	0.00622 mg/L	0.001381	22.22%
Na 330.237†	-1.8	-0.08721	mg/L	0.224043	-0.08721 mg/L	0.224043	256.89%
Ni 231.604†	-0.1	-0.00002	mg/L	0.000925	-0.00002 mg/L	0.000925	>999.9%
Pb 220.353†	-0.9	-0.00011	mg/L	0.000938	-0.00011 mg/L	0.000938	876.15%
Sb 206.836†	35.2	0.01175	mg/L	0.003048	0.01175 mg/L	0.003048	25.95%
Se 196.026†	-1.2	-0.00096	mg/L	0.001654	-0.00096 mg/L	0.001654	172.26%
Si 288.158†	-8.7	-0.00510	mg/L	0.001660	-0.00510 mg/L	0.001660	32.54%
Sn 189.927†	0.7	0.00021	mg/L	0.000056	0.00021 mg/L	0.000056	26.27%
Sr 421.552†	59.3	0.00007	mg/L	0.000025	0.00007 mg/L	0.000025	34.30%
Ti 334.903†	12.9	0.00079	mg/L	0.000191	0.00079 mg/L	0.000191	24.09%
Tl 190.801†	2.9	0.00140	mg/L	0.001342	0.00140 mg/L	0.001342	95.94%
V 292.402†	-41.3	-0.00028	mg/L	0.000204	-0.00028 mg/L	0.000204	72.55%
Zn 206.200†	-2.0	-0.00059	mg/L	0.000445	-0.00059 mg/L	0.000445	75.13%

Sequence No.: 25
 Sample ID: YE51 G SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 324
 Date Collected: 4/4/2014 11:58:10 AM
 Data Type: Original

Nebulizer Parameters: YE51 G SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 G SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2950362.7	103.1 %	0.10			0.09%
ScR 361.383	251786.4	104.4 %	0.15			0.15%
Ag 328.068†	-303.5	-0.00126 mg/L	0.000170	-0.00251 mg/L	0.000341	13.57%
Al 308.215†	82078.7	65.50 mg/L	0.124	131.0 mg/L	0.25	0.19%
As 188.979†	-193.1	0.05691 mg/L	0.001089	0.1138 mg/L	0.00218	1.91%
B 249.677†	24.0	0.00428 mg/L	0.000224	0.00855 mg/L	0.000447	5.23%
Ba 233.527†	466.6	0.1038 mg/L	0.00112	0.2075 mg/L	0.00225	1.08%
Be 313.042†	319.2	0.00051 mg/L	0.000010	0.00103 mg/L	0.000020	1.99%
Ca 317.933†	317289.3	33.23 mg/L	0.074	66.46 mg/L	0.148	0.22%
Cd 228.802†	22.0	0.00045 mg/L	0.000153	0.00090 mg/L	0.000306	33.84%
Co 228.616†	1439.9	0.02795 mg/L	0.000067	0.05589 mg/L	0.000134	0.24%
Cr 267.716†	596.7	0.1232 mg/L	0.00067	0.2464 mg/L	0.00134	0.54%
Cu 324.752†	38183.2	0.1405 mg/L	0.00048	0.2811 mg/L	0.00096	0.34%
Fe 273.955†	116061.2	104.0 mg/L	0.15	208.1 mg/L	0.31	0.15%
K 766.490†	11898.3	5.408 mg/L	0.0175	10.82 mg/L	0.035	0.32%
Mg 279.077†	18276.4	16.54 mg/L	0.028	33.07 mg/L	0.056	0.17%
Mn 257.610†	14608.0	0.4811 mg/L	0.00071	0.9622 mg/L	0.00141	0.15%
Mo 202.031†	131.5	0.00691 mg/L	0.000260	0.01382 mg/L	0.000520	3.77%
Na 589.592†	100334.9	7.706 mg/L	0.0265	15.41 mg/L	0.053	0.34%
Na 330.237†	139.4	7.776 mg/L	0.1799	15.55 mg/L	0.360	2.31%
Ni 231.604†	191.2	0.05655 mg/L	0.000306	0.1131 mg/L	0.00061	0.54%
Pb 220.353†	29.4	0.01521 mg/L	0.001598	0.03042 mg/L	0.003196	10.50%
Sb 206.836†	21.0	0.01068 mg/L	0.001458	0.02135 mg/L	0.002916	13.66%
Se 196.026†	11.4	0.00849 mg/L	0.002349	0.01697 mg/L	0.004698	27.68%
Si 288.158†	4393.5	2.564 mg/L	0.0067	5.129 mg/L	0.0134	0.26%
Sn 189.927†	-46.0	-0.00930 mg/L	0.001508	-0.01860 mg/L	0.003016	16.21%
Sr 421.552†	281331.1	0.3516 mg/L	0.00060	0.7033 mg/L	0.00120	0.17%
Ti 334.903†	81267.4	5.010 mg/L	0.0063	10.02 mg/L	0.013	0.13%
Tl 190.801†	-16.2	0.00241 mg/L	0.001472	0.00481 mg/L	0.002945	61.20%
V 292.402†	57979.1	0.3838 mg/L	0.00247	0.7676 mg/L	0.00494	0.64%
Zn 206.200†	662.3	0.1954 mg/L	0.00067	0.3909 mg/L	0.00133	0.34%

Sequence No.: 26
 Sample ID: YE51 H SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 325
 Date Collected: 4/4/2014 12:02:11 PM
 Data Type: Original

 Nebulizer Parameters: YE51 H SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 H SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2906170.5	101.5 %	0.55			0.54%
ScR 361.383	246622.2	102.3 %	0.32			0.31%
Ag 328.068†	-317.9	-0.00128 mg/L	0.000388	-0.00256 mg/L	0.000776	30.29%
Al 308.215†	112248.0	89.58 mg/L	0.093	179.2 mg/L	0.19	0.10%
As 188.979†	-190.6	0.05132 mg/L	0.002117	0.1026 mg/L	0.00423	4.13%
B 249.677†	19.6	0.00340 mg/L	0.000825	0.00680 mg/L	0.001650	24.27%
Ba 233.527†	1132.6	0.2743 mg/L	0.00217	0.5486 mg/L	0.00434	0.79%
Be 313.042†	1214.8	0.00238 mg/L	0.000012	0.00476 mg/L	0.000023	0.49%
Ca 317.933†	395932.3	41.46 mg/L	0.127	82.93 mg/L	0.254	0.31%
Cd 228.802†	38.5	0.00098 mg/L	0.000057	0.00195 mg/L	0.000115	5.88%
Co 228.616†	3023.8	0.06886 mg/L	0.000362	0.1377 mg/L	0.00072	0.53%
Cr 267.716†	630.0	0.1296 mg/L	0.00053	0.2592 mg/L	0.00107	0.41%
Cu 324.752†	46231.3	0.1696 mg/L	0.00097	0.3392 mg/L	0.00194	0.57%
Fe 273.955†	120990.7	108.5 mg/L	0.09	216.9 mg/L	0.17	0.08%
K 766.490†	8554.6	3.888 mg/L	0.0053	7.777 mg/L	0.0105	0.14%
Mg 279.077†	23932.5	21.67 mg/L	0.037	43.35 mg/L	0.074	0.17%
Mn 257.610†	41740.5	1.376 mg/L	0.0033	2.751 mg/L	0.0066	0.24%
Mo 202.031†	91.7	0.00453 mg/L	0.000178	0.00906 mg/L	0.000357	3.94%
Na 589.592†	123643.1	9.497 mg/L	0.0142	18.99 mg/L	0.028	0.15%
Na 330.237†	186.0	9.883 mg/L	0.4280	19.77 mg/L	0.856	4.33%
Ni 231.604†	340.3	0.1006 mg/L	0.00083	0.2012 mg/L	0.00166	0.82%
Pb 220.353†	-40.9	0.01223 mg/L	0.002112	0.02445 mg/L	0.004224	17.27%
Sb 206.836†	24.0	0.01140 mg/L	0.001730	0.02280 mg/L	0.003460	15.17%
Se 196.026†	14.2	0.01068 mg/L	0.002452	0.02136 mg/L	0.004903	22.96%
Si 288.158†	4092.4	2.389 mg/L	0.0020	4.779 mg/L	0.0041	0.09%
Sn 189.927†	-61.8	-0.01324 mg/L	0.001233	-0.02647 mg/L	0.002465	9.31%
Sr 421.552†	341205.5	0.4265 mg/L	0.00069	0.8529 mg/L	0.00138	0.16%
Ti 334.903†	78346.2	4.829 mg/L	0.0056	9.658 mg/L	0.0112	0.12%
Tl 190.801†	-14.4	0.00356 mg/L	0.001881	0.00711 mg/L	0.003762	52.88%
V 292.402†	57132.4	0.3781 mg/L	0.00271	0.7562 mg/L	0.00541	0.72%
Zn 206.200†	1038.8	0.3062 mg/L	0.00152	0.6124 mg/L	0.00305	0.50%

Sequence No.: 27
 Sample ID: YE51 I SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 326
 Date Collected: 4/4/2014 12:06:11 PM
 Data Type: Original

Nebulizer Parameters: YE51 I SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE51 I SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932396.8	102.5 %	0.41			0.40%
ScR 361.383	251656.3	104.4 %	1.32			1.27%
Ag 328.068†	-340.7	-0.00139 mg/L	0.000120	-0.00277 mg/L	0.000239	8.64%
Al 308.215†	118237.7	94.36 mg/L	0.306	188.7 mg/L	0.61	0.32%
As 188.979†	-198.5	0.06370 mg/L	0.002654	0.1274 mg/L	0.00531	4.17%
B 249.677†	76.2	0.01374 mg/L	0.001177	0.02747 mg/L	0.002353	8.57%
Ba 233.527†	659.0	0.1514 mg/L	0.00411	0.3027 mg/L	0.00822	2.72%
Be 313.042†	550.7	0.00099 mg/L	0.000044	0.00198 mg/L	0.000087	4.42%
Ca 317.933†	408701.5	42.80 mg/L	0.035	85.60 mg/L	0.070	0.08%
Cd 228.802†	30.4	0.00065 mg/L	0.000160	0.00130 mg/L	0.000321	24.74%
Co 228.616†	1681.1	0.03357 mg/L	0.000266	0.06715 mg/L	0.000533	0.79%
Cr 267.716†	718.2	0.1477 mg/L	0.00203	0.2955 mg/L	0.00406	1.37%
Cu 324.752†	53171.0	0.1947 mg/L	0.00202	0.3894 mg/L	0.00404	1.04%
Fe 273.955†	129586.4	116.2 mg/L	0.70	232.3 mg/L	1.40	0.60%
K 766.490†	14512.2	6.596 mg/L	0.0130	13.19 mg/L	0.026	0.20%
Mg 279.077†	24853.6	22.50 mg/L	0.069	45.01 mg/L	0.138	0.31%
Mn 257.610†	15582.5	0.5130 mg/L	0.00238	1.026 mg/L	0.0048	0.46%
Mo 202.031†	153.2	0.00799 mg/L	0.000744	0.01598 mg/L	0.001488	9.31%
Na 589.592†	144043.7	11.06 mg/L	0.024	22.13 mg/L	0.047	0.21%
Na 330.237†	211.6	11.27 mg/L	0.161	22.53 mg/L	0.321	1.43%
Ni 231.604†	242.9	0.07182 mg/L	0.000610	0.1436 mg/L	0.00122	0.85%
Pb 220.353†	2.0	0.01839 mg/L	0.000406	0.03678 mg/L	0.000811	2.21%
Sb 206.836†	24.4	0.01174 mg/L	0.001828	0.02348 mg/L	0.003657	15.57%
Se 196.026†	18.3	0.01382 mg/L	0.004331	0.02763 mg/L	0.008662	31.35%
Si 288.158†	4288.5	2.504 mg/L	0.0111	5.008 mg/L	0.0221	0.44%
Sr 189.927†	-53.3	-0.01035 mg/L	0.000703	-0.02070 mg/L	0.001405	6.79%
Sr 421.552†	370725.4	0.4634 mg/L	0.00215	0.9267 mg/L	0.00431	0.46%
Ti 334.903†	86268.3	5.318 mg/L	0.0135	10.64 mg/L	0.027	0.25%
Tl 190.801†	-15.0	0.00431 mg/L	0.001569	0.00861 mg/L	0.003137	36.43%
V 292.402†	59461.0	0.3931 mg/L	0.00349	0.7862 mg/L	0.00697	0.89%
Zn 206.200†	708.1	0.2089 mg/L	0.00243	0.4178 mg/L	0.00487	1.16%

Sequence No.: 28
 Sample ID: YE51 J SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 327
 Date Collected: 4/4/2014 12:10:11 PM
 Data Type: Original

 Nebulizer Parameters: YE51 J SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

 Mean Data: YE51 J SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2946652.5	103.0	%	0.24				0.23%
ScR 361.383	248945.2	103.2	%	0.51				0.50%
Ag 328.068†	-371.2	-0.00151	mg/L	0.000036	-0.00302	mg/L	0.000072	2.38%
Al 308.215†	108038.8	86.22	mg/L	0.236	172.4	mg/L	0.47	0.27%
As 188.979†	-198.0	0.06753	mg/L	0.002435	0.1351	mg/L	0.00487	3.61%
B 249.677†	72.8	0.01311	mg/L	0.000169	0.02622	mg/L	0.000339	1.29%
Ba 233.527†	574.2	0.1291	mg/L	0.00229	0.2583	mg/L	0.00459	1.78%
Be 313.042†	502.1	0.00089	mg/L	0.000029	0.00177	mg/L	0.000059	3.31%
Ca 317.933†	462106.8	48.39	mg/L	0.170	96.79	mg/L	0.341	0.35%
Cd 228.802†	24.2	0.00042	mg/L	0.000099	0.00084	mg/L	0.000197	23.33%
Co 228.616†	1736.2	0.03479	mg/L	0.000190	0.06958	mg/L	0.000380	0.55%
Cr 267.716†	667.0	0.1375	mg/L	0.00222	0.2749	mg/L	0.00443	1.61%
Cu 324.752†	43865.3	0.1614	mg/L	0.00090	0.3229	mg/L	0.00180	0.56%
Fe 273.955†	132722.7	119.0	mg/L	0.62	238.0	mg/L	1.25	0.52%
K 766.490†	16569.1	7.531	mg/L	0.0690	15.06	mg/L	0.138	0.92%
Mg 279.077†	23150.5	20.95	mg/L	0.026	41.91	mg/L	0.052	0.12%
Mn 257.610†	16859.8	0.5551	mg/L	0.00239	1.110	mg/L	0.0048	0.43%
Mo 202.031†	147.8	0.00759	mg/L	0.000207	0.01519	mg/L	0.000415	2.73%
Na 589.592†	133010.5	10.22	mg/L	0.022	20.43	mg/L	0.045	0.22%
Na 330.237†	194.9	10.45	mg/L	0.123	20.91	mg/L	0.247	1.18%
Ni 231.604†	239.9	0.07094	mg/L	0.001430	0.1419	mg/L	0.00286	2.02%
Pb 220.353†	12.2	0.01754	mg/L	0.000536	0.03509	mg/L	0.001073	3.06%
Sb 206.836†	24.9	0.01211	mg/L	0.001854	0.02422	mg/L	0.003709	15.31%
Se 196.026†	20.8	0.01571	mg/L	0.003184	0.03143	mg/L	0.006368	20.26%
Si 288.158†	4289.0	2.504	mg/L	0.0150	5.008	mg/L	0.0300	0.60%
Sn 189.927†	-59.6	-0.01159	mg/L	0.001524	-0.02319	mg/L	0.003048	13.14%
Sr 421.552†	391269.1	0.4890	mg/L	0.00027	0.9781	mg/L	0.00055	0.06%
Ti 334.903†	88081.4	5.429	mg/L	0.0022	10.86	mg/L	0.004	0.04%
Tl 190.801†	-9.0	0.00754	mg/L	0.002794	0.01509	mg/L	0.005588	37.03%
V 292.402†	59333.3	0.3920	mg/L	0.00340	0.7839	mg/L	0.00680	0.87%
Zn 206.200†	724.7	0.2138	mg/L	0.00107	0.4276	mg/L	0.00214	0.50%

Sequence No.: 29
 Sample ID: YE51 K SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 328
 Date Collected: 4/4/2014 12:14:11 PM
 Data Type: Original

 Nebulizer Parameters: YE51 K SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 K SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2906908.9	101.6	%	0.33			0.33%
ScR 361.383	249729.2	103.6	%	0.80			0.77%
Ag 328.068†	-378.1	-0.00155	mg/L	0.000070	-0.00309 mg/L	0.000140	4.52%
Al 308.215†	126244.2	100.8	mg/L	0.13	201.5 mg/L	0.25	0.13%
As 188.979†	-187.4	0.07011	mg/L	0.002874	0.1402 mg/L	0.00575	4.10%
B 249.677†	67.5	0.01216	mg/L	0.000687	0.02432 mg/L	0.001374	5.65%
Ba 233.527†	686.6	0.1573	mg/L	0.00160	0.3146 mg/L	0.00320	1.02%
Be 313.042†	627.4	0.00114	mg/L	0.000016	0.00229 mg/L	0.000032	1.38%
Ca 317.933†	448888.2	47.01	mg/L	0.071	94.02 mg/L	0.142	0.15%
Cd 228.802†	34.3	0.00067	mg/L	0.000042	0.00135 mg/L	0.000084	6.24%
Co 228.616†	1672.3	0.03335	mg/L	0.000372	0.06670 mg/L	0.000745	1.12%
Cr 267.716†	708.5	0.1459	mg/L	0.00250	0.2919 mg/L	0.00500	1.71%
Cu 324.752†	57780.6	0.2116	mg/L	0.00084	0.4231 mg/L	0.00167	0.39%
Fe 273.955†	137936.5	123.7	mg/L	0.22	247.3 mg/L	0.43	0.17%
K 766.490†	17744.2	8.065	mg/L	0.0326	16.13 mg/L	0.065	0.40%
Mg 279.077†	25183.9	22.80	mg/L	0.054	45.60 mg/L	0.109	0.24%
Mn 257.610†	16776.5	0.5523	mg/L	0.00094	1.105 mg/L	0.0019	0.17%
Mo 202.031†	131.4	0.00669	mg/L	0.000522	0.01338 mg/L	0.001044	7.80%
Na 589.592†	163926.4	12.59	mg/L	0.030	25.18 mg/L	0.061	0.24%
Na 330.237†	246.8	12.92	mg/L	0.079	25.84 mg/L	0.157	0.61%
Ni 231.604†	240.1	0.07100	mg/L	0.001934	0.1420 mg/L	0.00387	2.72%
Pb 220.353†	2.5	0.01968	mg/L	0.000170	0.03936 mg/L	0.000340	0.86%
Sb 206.836†	20.3	0.01047	mg/L	0.000569	0.02093 mg/L	0.001137	5.43%
Se 196.026†	22.1	0.01673	mg/L	0.005358	0.03347 mg/L	0.010717	32.02%
Si 288.158†	2702.8	1.579	mg/L	0.0121	3.158 mg/L	0.0242	0.77%
Sn 189.927†	-59.6	-0.01178	mg/L	0.000755	-0.02356 mg/L	0.001511	6.41%
Sr 421.552†	420248.9	0.5253	mg/L	0.00068	1.051 mg/L	0.0014	0.13%
Ti 334.903†	86241.8	5.316	mg/L	0.0044	10.63 mg/L	0.009	0.08%
Tl 190.801†	-14.5	0.00532	mg/L	0.004723	0.01063 mg/L	0.009446	88.84%
V 292.402†	63140.7	0.4175	mg/L	0.00037	0.8351 mg/L	0.00074	0.09%
Zn 206.200†	840.2	0.2476	mg/L	0.00245	0.4952 mg/L	0.00490	0.99%

Sequence No.: 30
 Sample ID: YE51 L SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 329
 Date Collected: 4/4/2014 12:18:12 PM
 Data Type: Original

Nebulizer Parameters: YE51 L SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 L SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2944278.5	102.9	%	0.46			0.45%
ScR 361.383	251916.8	104.5	%	0.51			0.49%
Ag 328.068†	-331.7	-0.00137	mg/L	0.000165	-0.00274 mg/L	0.000331	12.08%
Al 308.215†	127587.4	101.8	mg/L	0.27	203.7 mg/L	0.53	0.26%
As 188.979†	-170.4	0.06120	mg/L	0.000700	0.1224 mg/L	0.00140	1.14%
B 249.677†	48.3	0.00855	mg/L	0.000742	0.01709 mg/L	0.001483	8.68%
Ba 233.527†	814.3	0.1947	mg/L	0.00187	0.3893 mg/L	0.00375	0.96%
Be 313.042†	902.1	0.00173	mg/L	0.000020	0.00347 mg/L	0.000041	1.17%
Ca 317.933†	372283.4	38.99	mg/L	0.157	77.98 mg/L	0.314	0.40%
Cd 228.802†	116.6	0.00363	mg/L	0.000168	0.00726 mg/L	0.000337	4.64%
Co 228.616†	4127.4	0.09729	mg/L	0.000497	0.1946 mg/L	0.00099	0.51%
Cr 267.716†	669.8	0.1374	mg/L	0.00094	0.2747 mg/L	0.00188	0.69%
Cu 324.752†	56970.4	0.2075	mg/L	0.00134	0.4149 mg/L	0.00268	0.65%
Fe 273.955†	105198.5	94.31	mg/L	0.767	188.6 mg/L	1.53	0.81%
K 766.490†	11071.4	5.032	mg/L	0.0283	10.06 mg/L	0.057	0.56%
Mg 279.077†	23072.2	20.90	mg/L	0.093	41.80 mg/L	0.185	0.44%
Mn 257.610†	14758.4	0.4858	mg/L	0.00312	0.9715 mg/L	0.00623	0.64%
Mo 202.031†	139.3	0.00726	mg/L	0.000135	0.01452 mg/L	0.000269	1.85%
Na 589.592†	133377.0	10.24	mg/L	0.034	20.49 mg/L	0.068	0.33%
Na 330.237†	201.5	10.45	mg/L	0.085	20.90 mg/L	0.169	0.81%
Ni 231.604†	558.5	0.1651	mg/L	0.00110	0.3303 mg/L	0.00219	0.66%
Pb 220.353†	-22.8	0.01814	mg/L	0.000867	0.03627 mg/L	0.001733	4.78%
Sb 206.836†	15.2	0.00825	mg/L	0.000649	0.01650 mg/L	0.001299	7.87%
Se 196.026†	23.1	0.01755	mg/L	0.002698	0.03509 mg/L	0.005395	15.37%
Si 288.158†	2725.0	1.592	mg/L	0.0070	3.184 mg/L	0.0139	0.44%
Sn 189.927†	-54.2	-0.01119	mg/L	0.000773	-0.02238 mg/L	0.001547	6.91%
Sr 421.552†	335072.8	0.4188	mg/L	0.00133	0.8376 mg/L	0.00265	0.32%
Ti 334.903†	77084.6	4.751	mg/L	0.0159	9.503 mg/L	0.0318	0.33%
Tl 190.801†	-8.4	0.00476	mg/L	0.001032	0.00951 mg/L	0.002065	21.70%
V 292.402†	55506.0	0.3679	mg/L	0.00272	0.7357 mg/L	0.00545	0.74%
Zn 206.200†	3091.5	0.9102	mg/L	0.00239	1.820 mg/L	0.0048	0.26%

Sequence No.: 31
 Sample ID: YE51 M SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 330
 Date Collected: 4/4/2014 12:22:12 PM
 Data Type: Original

Nebulizer Parameters: YE51 M SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 M SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2921658.8	102.1	%	0.53			0.52%
ScR 361.383	250205.0	103.8	%	0.67			0.64%
Ag 328.068†	-285.8	-0.00117	mg/L	0.000333	-0.00233 mg/L	0.000666	28.54%
Al 308.215†	84474.8	67.41	mg/L	0.206	134.8 mg/L	0.41	0.31%
As 188.979†	-94.3	0.1013	mg/L	0.00336	0.2027 mg/L	0.00671	3.31%
B 249.677†	23.9	0.00428	mg/L	0.000780	0.00855 mg/L	0.001560	18.24%
Ba 233.527†	493.7	0.1117	mg/L	0.00091	0.2234 mg/L	0.00183	0.82%
Be 313.042†	350.6	0.00059	mg/L	0.000021	0.00119 mg/L	0.000042	3.55%
Ca 317.933†	331202.0	34.69	mg/L	0.049	69.37 mg/L	0.099	0.14%
Cd 228.802†	30.2	0.00046	mg/L	0.000125	0.00092 mg/L	0.000250	27.07%
Co 228.616†	1423.5	0.02834	mg/L	0.000079	0.05668 mg/L	0.000159	0.28%
Cr 267.716†	573.4	0.1182	mg/L	0.00136	0.2365 mg/L	0.00273	1.15%
Cu 324.752†	51740.0	0.1889	mg/L	0.00142	0.3779 mg/L	0.00285	0.75%
Fe 273.955†	109329.4	98.01	mg/L	0.324	196.0 mg/L	0.65	0.33%
K 766.490†	11382.5	5.174	mg/L	0.0390	10.35 mg/L	0.078	0.75%
Mg 279.077†	18266.1	16.53	mg/L	0.036	33.06 mg/L	0.073	0.22%
Mn 257.610†	15016.9	0.4946	mg/L	0.00071	0.9891 mg/L	0.00141	0.14%
Mo 202.031†	184.3	0.00987	mg/L	0.000282	0.01974 mg/L	0.000565	2.86%
Na 589.592†	105407.7	8.096	mg/L	0.0282	16.19 mg/L	0.056	0.35%
Na 330.237†	155.5	8.417	mg/L	0.3065	16.83 mg/L	0.613	3.64%
Ni 231.604†	201.3	0.05952	mg/L	0.001007	0.1190 mg/L	0.00201	1.69%
Pb 220.353†	118.1	0.02692	mg/L	0.000530	0.05384 mg/L	0.001059	1.97%
Sb 206.836†	21.2	0.01029	mg/L	0.001308	0.02058 mg/L	0.002617	12.71%
Se 196.026†	14.2	0.01071	mg/L	0.001003	0.02141 mg/L	0.002007	9.37%
Si 288.158†	2563.0	1.497	mg/L	0.0153	2.994 mg/L	0.0306	1.02%
Sn 189.927†	-47.2	-0.00956	mg/L	0.001953	-0.01911 mg/L	0.003906	20.44%
Sr 421.552†	286083.8	0.3576	mg/L	0.00079	0.7152 mg/L	0.00158	0.22%
Ti 334.903†	73871.2	4.554	mg/L	0.0103	9.107 mg/L	0.0206	0.23%
Tl 190.801†	-12.2	0.00381	mg/L	0.003648	0.00763 mg/L	0.007296	95.63%
V 292.402†	51694.6	0.3419	mg/L	0.00250	0.6838 mg/L	0.00501	0.73%
Zn 206.200†	689.0	0.2031	mg/L	0.00223	0.4061 mg/L	0.00446	1.10%

Sequence No.: 32
 Sample ID: YE51 ADUP SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 331
 Date Collected: 4/4/2014 12:26:12 PM
 Data Type: Original

 Nebulizer Parameters: YE51 ADUP SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2947002.3	103.0	%	0.37			0.36%
ScR 361.383	251750.3	104.4	%	0.75			0.72%
Ag 328.068†	-319.5	-0.00126	mg/L	0.000061	-0.00251 mg/L	0.000123	4.89%
Al 308.215†	116427.1	92.91	mg/L	0.192	185.8 mg/L	0.38	0.21%
As 188.979†	-63.4	0.1549	mg/L	0.00239	0.3098 mg/L	0.00477	1.54%
B 249.677†	51.6	0.00927	mg/L	0.001853	0.01855 mg/L	0.003705	19.98%
Ba 233.527†	675.2	0.1538	mg/L	0.00206	0.3076 mg/L	0.00413	1.34%
Be 313.042†	551.1	0.00098	mg/L	0.000014	0.00195 mg/L	0.000028	1.42%
Ca 317.933†	422096.7	44.20	mg/L	0.033	88.41 mg/L	0.066	0.08%
Cd 228.802†	54.5	0.00092	mg/L	0.000168	0.00183 mg/L	0.000336	18.32%
Co 228.616†	1835.2	0.03712	mg/L	0.000145	0.07424 mg/L	0.000290	0.39%
Cr 267.716†	711.7	0.1466	mg/L	0.00166	0.2932 mg/L	0.00333	1.13%
Cu 324.752†	63029.0	0.2305	mg/L	0.00082	0.4610 mg/L	0.00163	0.35%
Fe 273.955†	142077.8	127.4	mg/L	0.91	254.7 mg/L	1.81	0.71%
K 766.490†	16835.6	7.653	mg/L	0.0199	15.31 mg/L	0.040	0.26%
Mg 279.077†	26530.3	24.02	mg/L	0.014	48.04 mg/L	0.027	0.06%
Mn 257.610†	19191.2	0.6320	mg/L	0.00243	1.264 mg/L	0.0049	0.38%
Mo 202.031†	193.1	0.01022	mg/L	0.000147	0.02044 mg/L	0.000295	1.44%
Na 589.592†	144322.0	11.08	mg/L	0.021	22.17 mg/L	0.042	0.19%
Na 330.237†	213.6	11.40	mg/L	0.074	22.80 mg/L	0.149	0.65%
Ni 231.604†	282.2	0.08345	mg/L	0.001646	0.1669 mg/L	0.00329	1.97%
Pb 220.353†	202.6	0.04243	mg/L	0.001114	0.08486 mg/L	0.002227	2.62%
Sb 206.836†	42.6	0.01817	mg/L	0.001735	0.03633 mg/L	0.003471	9.55%
Se 196.026†	22.2	0.01679	mg/L	0.003876	0.03358 mg/L	0.007752	23.08%
Si 288.158†	4309.8	2.517	mg/L	0.0180	5.033 mg/L	0.0359	0.71%
Sn 189.927†	-57.7	-0.01149	mg/L	0.001019	-0.02299 mg/L	0.002039	8.87%
Sr 421.552†	392092.1	0.4901	mg/L	0.00072	0.9802 mg/L	0.00145	0.15%
Ti 334.903†	89950.6	5.545	mg/L	0.0071	11.09 mg/L	0.014	0.13%
Tl 190.801†	-16.2	0.00484	mg/L	0.001293	0.00968 mg/L	0.002586	26.71%
V 292.402†	66522.2	0.4401	mg/L	0.00122	0.8801 mg/L	0.00243	0.28%
Zn 206.200†	869.9	0.2565	mg/L	0.00118	0.5130 mg/L	0.00235	0.46%

Sequence No.: 33
 Sample ID: YE51 A SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 332
 Date Collected: 4/4/2014 12:30:13 PM
 Data Type: Original

 Nebulizer Parameters: YE51 A SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE51 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2943602.7	102.8	%	0.22				0.22%
ScR 361.383	247952.5	102.8	%	0.35				0.35%
Ag 328.068†	-325.8	-0.00128	mg/L	0.000057	-0.00255	mg/L	0.000113	4.44%
Al 308.215†	132247.9	105.5	mg/L	0.23	211.1	mg/L	0.46	0.22%
As 188.979†	-139.3	0.1139	mg/L	0.00243	0.2279	mg/L	0.00485	2.13%
B 249.677†	61.2	0.01100	mg/L	0.000397	0.02201	mg/L	0.000794	3.61%
Ba 233.527†	730.8	0.1686	mg/L	0.00088	0.3372	mg/L	0.00177	0.52%
Be 313.042†	672.2	0.00123	mg/L	0.000018	0.00247	mg/L	0.000035	1.44%
Ca 317.933†	453545.2	47.50	mg/L	0.084	95.00	mg/L	0.168	0.18%
Cd 228.802†	34.9	0.00055	mg/L	0.000169	0.00110	mg/L	0.000338	30.75%
Co 228.616†	1865.4	0.03759	mg/L	0.000230	0.07517	mg/L	0.000459	0.61%
Cr 267.716†	743.7	0.1529	mg/L	0.00050	0.3058	mg/L	0.00101	0.33%
Cu 324.752†	63274.8	0.2312	mg/L	0.00053	0.4624	mg/L	0.00106	0.23%
Fe 273.955†	138347.7	124.0	mg/L	0.68	248.0	mg/L	1.36	0.55%
K 766.490†	17026.6	7.739	mg/L	0.0230	15.48	mg/L	0.046	0.30%
Mg 279.077†	28004.3	25.36	mg/L	0.054	50.72	mg/L	0.108	0.21%
Mn 257.610†	18810.3	0.6193	mg/L	0.00471	1.239	mg/L	0.0094	0.76%
Mo 202.031†	171.0	0.00892	mg/L	0.000263	0.01784	mg/L	0.000525	2.94%
Na 589.592†	167849.7	12.89	mg/L	0.016	25.78	mg/L	0.032	0.12%
Na 330.237†	248.8	13.12	mg/L	0.086	26.23	mg/L	0.171	0.65%
Ni 231.604†	279.9	0.08278	mg/L	0.001455	0.1656	mg/L	0.00291	1.76%
Pb 220.353†	104.9	0.03357	mg/L	0.000589	0.06715	mg/L	0.001177	1.75%
Sb 206.836†	23.4	0.01172	mg/L	0.001396	0.02344	mg/L	0.002791	11.91%
Se 196.026†	23.0	0.01746	mg/L	0.003875	0.03491	mg/L	0.007751	22.20%
Si 288.158†	4674.1	2.729	mg/L	0.0574	5.458	mg/L	0.1149	2.10%
Sn 189.927†	-62.2	-0.01246	mg/L	0.000786	-0.02491	mg/L	0.001572	6.31%
Sr 421.552†	426234.3	0.5328	mg/L	0.00045	1.066	mg/L	0.0009	0.08%
Ti 334.903†	92707.8	5.714	mg/L	0.0024	11.43	mg/L	0.005	0.04%
Tl 190.801†	-15.7	0.00476	mg/L	0.002075	0.00952	mg/L	0.004150	43.59%
V 292.402†	62461.1	0.4127	mg/L	0.00221	0.8255	mg/L	0.00441	0.53%
Zn 206.200†	914.4	0.2697	mg/L	0.00099	0.5393	mg/L	0.00198	0.37%

Sequence No.: 34
 Sample ID: YE51 ASPK SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 333
 Date Collected: 4/4/2014 12:34:14 PM
 Data Type: Original

Nebulizer Parameters: YE51 ASPK SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE51 ASPK SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2938644.4	102.7	%	0.07			0.07%
ScR 361.383	244984.6	101.6	%	0.39			0.38%
Ag 328.068†	107492.5	0.5522	mg/L	0.00364	1.104 mg/L	0.0073	0.66%
Al 308.215†	121911.0	97.29	mg/L	0.142	194.6 mg/L	0.28	0.15%
As 188.979†	3410.9	2.283	mg/L	0.0139	4.567 mg/L	0.0277	0.61%
B 249.677†	58.7	0.00944	mg/L	0.000900	0.01888 mg/L	0.001800	9.53%
Ba 233.527†	9446.2	2.407	mg/L	0.0024	4.814 mg/L	0.0049	0.10%
Be 313.042†	253961.5	0.5287	mg/L	0.00287	1.057 mg/L	0.0057	0.54%
Ca 317.933†	539577.2	56.51	mg/L	0.100	113.0 mg/L	0.20	0.18%
Cd 228.802†	17503.4	0.5564	mg/L	0.00212	1.113 mg/L	0.0042	0.38%
Co 228.616†	22309.8	0.5624	mg/L	0.00295	1.125 mg/L	0.0059	0.52%
Cr 267.716†	3433.3	0.7009	mg/L	0.00291	1.402 mg/L	0.0058	0.42%
Cu 324.752†	213639.5	0.7708	mg/L	0.00532	1.542 mg/L	0.0106	0.69%
Fe 273.955†	148075.6	132.7	mg/L	0.65	265.5 mg/L	1.30	0.49%
K 766.490†	43015.8	19.55	mg/L	0.040	39.11 mg/L	0.080	0.20%
Mg 279.077†	39134.0	35.47	mg/L	0.033	70.94 mg/L	0.067	0.09%
Mn 257.610†	34735.2	1.145	mg/L	0.0050	2.290 mg/L	0.0100	0.44%
Mo 202.031†	181.5	0.00937	mg/L	0.000084	0.01874 mg/L	0.000167	0.89%
Na 589.592†	296787.2	22.80	mg/L	0.047	45.59 mg/L	0.094	0.21%
Na 330.237†	459.3	22.90	mg/L	0.168	45.80 mg/L	0.337	0.74%
Ni 231.604†	2115.3	0.6246	mg/L	0.00576	1.249 mg/L	0.0115	0.92%
Pb 220.353†	17410.5	2.184	mg/L	0.0117	4.369 mg/L	0.0235	0.54%
Sb 206.836†	49.3	0.01473	mg/L	0.002310	0.02946 mg/L	0.004621	15.69%
Se 196.026†	2802.6	2.158	mg/L	0.0166	4.315 mg/L	0.0331	0.77%
Si 288.158†	3613.8	2.114	mg/L	0.0038	4.229 mg/L	0.0077	0.18%
Sn 189.927†	-63.5	-0.01178	mg/L	0.001868	-0.02355 mg/L	0.003737	15.87%
Sr 421.552†	855534.6	1.069	mg/L	0.0027	2.139 mg/L	0.0055	0.26%
Ti 334.903†	84804.8	5.226	mg/L	0.0111	10.45 mg/L	0.022	0.21%
Tl 190.801†	4204.8	2.063	mg/L	0.0083	4.127 mg/L	0.0166	0.40%
V 292.402†	140267.6	0.9409	mg/L	0.00502	1.882 mg/L	0.0100	0.53%
Zn 206.200†	2722.8	0.8021	mg/L	0.00405	1.604 mg/L	0.0081	0.51%

Sequence No.: 35
 Sample ID: CV4
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/4/2014 12:38:17 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2945132.2	102.9	%	0.19				0.19%
ScR 361.383	244233.9	101.3	%	0.34				0.34%
Ag 328.068†	207419.3	1.065	mg/L	0.0067	1.065	mg/L	0.0067	0.63%
Al 308.215†	2550.2	2.004	mg/L	0.0120	2.004	mg/L	0.0120	0.60%
As 188.979†	3238.7	2.028	mg/L	0.0081	2.028	mg/L	0.0081	0.40%
B 249.677†	5590.7	1.012	mg/L	0.0037	1.012	mg/L	0.0037	0.36%
Ba 233.527†	3979.5	1.022	mg/L	0.0049	1.022	mg/L	0.0049	0.48%
Be 313.042†	465800.9	0.9700	mg/L	0.00518	0.9700	mg/L	0.00518	0.53%
Ca 317.933†	19979.6	2.092	mg/L	0.0067	2.092	mg/L	0.0067	0.32%
Cd 228.802†	31619.1	1.016	mg/L	0.0016	1.016	mg/L	0.0016	0.16%
Co 228.616†	38599.8	0.9879	mg/L	0.00532	0.9879	mg/L	0.00532	0.54%
Cr 267.716†	5059.1	1.032	mg/L	0.0067	1.032	mg/L	0.0067	0.65%
Cu 324.752†	275177.3	0.9864	mg/L	0.00340	0.9864	mg/L	0.00340	0.35%
Fe 273.955†	2302.7	2.058	mg/L	0.0046	2.058	mg/L	0.0046	0.23%
K 766.490†	44502.8	20.23	mg/L	0.075	20.23	mg/L	0.075	0.37%
Mg 279.077†	2218.3	2.022	mg/L	0.0158	2.022	mg/L	0.0158	0.78%
Mn 257.610†	29349.2	0.9684	mg/L	0.00266	0.9684	mg/L	0.00266	0.27%
Mo 202.031†	16954.8	0.9572	mg/L	0.00262	0.9572	mg/L	0.00262	0.27%
Na 589.592†	666814.6	51.22	mg/L	0.136	51.22	mg/L	0.136	0.27%
Na 330.237†	1060.4	50.96	mg/L	0.287	50.96	mg/L	0.287	0.56%
Ni 231.604†	3469.9	1.026	mg/L	0.0055	1.026	mg/L	0.0055	0.54%
Pb 220.353†	16041.9	1.997	mg/L	0.0046	1.997	mg/L	0.0046	0.23%
Sb 206.836†	6214.5	2.070	mg/L	0.0049	2.070	mg/L	0.0049	0.24%
Se 196.026†	2611.1	2.010	mg/L	0.0105	2.010	mg/L	0.0105	0.52%
Si 288.158†	3351.5	1.959	mg/L	0.0159	1.959	mg/L	0.0159	0.81%
Sn 189.927†	3174.8	0.9858	mg/L	0.00776	0.9858	mg/L	0.00776	0.79%
Sr 421.552†	806815.9	1.008	mg/L	0.0022	1.008	mg/L	0.0022	0.22%
Ti 334.903†	16192.2	0.9974	mg/L	0.00132	0.9974	mg/L	0.00132	0.13%
Tl 190.801†	4074.7	1.983	mg/L	0.0111	1.983	mg/L	0.0111	0.56%
V 292.402†	149324.6	1.014	mg/L	0.0050	1.014	mg/L	0.0050	0.49%
Zn 206.200†	3454.0	1.017	mg/L	0.0045	1.017	mg/L	0.0045	0.44%

Sequence No.: 36
 Sample ID: CB 4
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/4/2014 12:42:22 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2949429.3	103.1	%	0.59			0.57%
ScR 361.383	250534.1	103.9	%	1.05			1.01%
Ag 328.068†	34.0	0.00017	mg/L	0.000190	0.00017 mg/L	0.000190	108.58%
Al 308.215†	5.3	0.00425	mg/L	0.006463	0.00425 mg/L	0.006463	151.98%
As 188.979†	0.4	0.00031	mg/L	0.001658	0.00031 mg/L	0.001658	526.74%
B 249.677†	8.3	0.00151	mg/L	0.000977	0.00151 mg/L	0.000977	64.63%
Ba 233.527†	0.9	0.00024	mg/L	0.000142	0.00024 mg/L	0.000142	60.34%
Be 313.042†	15.7	0.00003	mg/L	0.000018	0.00003 mg/L	0.000018	56.06%
Ca 317.933†	12.7	0.00133	mg/L	0.001011	0.00133 mg/L	0.001011	76.15%
Cd 228.802†	0.9	0.00003	mg/L	0.000042	0.00003 mg/L	0.000042	150.17%
Co 228.616†	-1.5	-0.00004	mg/L	0.000097	-0.00004 mg/L	0.000097	239.03%
Cr 267.716†	2.2	0.00045	mg/L	0.000558	0.00045 mg/L	0.000558	124.97%
Cu 324.752†	71.4	0.00026	mg/L	0.000128	0.00026 mg/L	0.000128	50.07%
Fe 273.955†	1.9	0.00170	mg/L	0.002749	0.00170 mg/L	0.002749	161.99%
K 766.490†	-12.1	-0.00552	mg/L	0.007794	-0.00552 mg/L	0.007794	141.23%
Mg 279.077†	-1.1	-0.00104	mg/L	0.006202	-0.00104 mg/L	0.006202	597.40%
Mn 257.610†	-0.5	-0.00002	mg/L	0.000221	-0.00002 mg/L	0.000221	>999.9%
Mo 202.031†	15.1	0.00085	mg/L	0.000563	0.00085 mg/L	0.000563	65.86%
Na 589.592†	55.7	0.00428	mg/L	0.004730	0.00428 mg/L	0.004730	110.51%
Na 330.237†	5.6	0.2685	mg/L	0.09630	0.2685 mg/L	0.09630	35.87%
Ni 231.604†	-0.4	-0.00011	mg/L	0.000964	-0.00011 mg/L	0.000964	853.64%
Pb 220.353†	-3.3	-0.00041	mg/L	0.001231	-0.00041 mg/L	0.001231	300.25%
Sb 206.836†	23.0	0.00767	mg/L	0.001915	0.00767 mg/L	0.001915	24.98%
Se 196.026†	2.0	0.00154	mg/L	0.003764	0.00154 mg/L	0.003764	244.47%
Si 288.158†	-16.9	-0.00987	mg/L	0.002435	-0.00987 mg/L	0.002435	24.68%
Sn 189.927†	0.2	0.00008	mg/L	0.000752	0.00008 mg/L	0.000752	947.55%
Sr 421.552†	41.8	0.00005	mg/L	0.000021	0.00005 mg/L	0.000021	40.34%
Ti 334.903†	21.2	0.00131	mg/L	0.000638	0.00131 mg/L	0.000638	48.89%
Tl 190.801†	-2.8	-0.00136	mg/L	0.002307	-0.00136 mg/L	0.002307	169.57%
V 292.402†	-29.1	-0.00020	mg/L	0.000096	-0.00020 mg/L	0.000096	49.22%
Zn 206.200†	-0.9	-0.00026	mg/L	0.000901	-0.00026 mg/L	0.000901	353.07%

Sequence No.: 37

Sample ID: YE52 B SWC

Analyst: EL

Dilution: 2.000000x

Autosampler Location: 334

Date Collected: 4/4/2014 12:46:22 PM

Data Type: Original

Nebulizer Parameters: YE52 B SWC

Analyte

Back Pressure

Flow

All

216.0 kPa

0.75 L/min

Mean Data: YE52 B SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc.	Units		
ScA 357.253	2964457.2		103.6 %	0.29				0.28%
ScR 361.383	252748.2		104.8 %	0.31				0.29%
Ag 328.068†	-270.3	-0.00103	mg/L	0.000125	-0.00207	mg/L	0.000250	12.11%
Al 308.215†	114512.6	91.39	mg/L	0.147	182.8	mg/L	0.29	0.16%
As 188.979†	-95.0	0.1213	mg/L	0.00116	0.2426	mg/L	0.00232	0.96%
B 249.677†	53.3	0.00958	mg/L	0.001171	0.01917	mg/L	0.002341	12.22%
Ba 233.527†	742.1	0.1709	mg/L	0.00056	0.3417	mg/L	0.00112	0.33%
Be 313.042†	582.3	0.00105	mg/L	0.000017	0.00210	mg/L	0.000034	1.61%
Ca 317.933†	380860.8	39.89	mg/L	0.010	79.77	mg/L	0.020	0.03%
Cd 228.802†	55.4	0.00103	mg/L	0.000119	0.00206	mg/L	0.000238	11.57%
Co 228.616†	1669.5	0.03360	mg/L	0.000099	0.06720	mg/L	0.000198	0.29%
Cr 267.716†	691.2	0.1427	mg/L	0.00013	0.2853	mg/L	0.00027	0.09%
Cu 324.752†	155658.0	0.5628	mg/L	0.00342	1.126	mg/L	0.0068	0.61%
Fe 273.955†	142960.6	128.2	mg/L	0.20	256.3	mg/L	0.41	0.16%
K 766.490†	17505.7	7.957	mg/L	0.0440	15.91	mg/L	0.088	0.55%
Mg 279.077†	24558.7	22.23	mg/L	0.028	44.46	mg/L	0.055	0.12%
Mn 257.610†	16665.1	0.5487	mg/L	0.00027	1.097	mg/L	0.0005	0.05%
Mo 202.031†	253.8	0.01371	mg/L	0.000139	0.02742	mg/L	0.000278	1.01%
Na 589.592†	131815.6	10.12	mg/L	0.024	20.25	mg/L	0.049	0.24%
Na 330.237†	193.3	10.31	mg/L	0.333	20.62	mg/L	0.667	3.23%
Ni 231.604†	246.3	0.07283	mg/L	0.001435	0.1457	mg/L	0.00287	1.97%
Pb 220.353†	228.7	0.04480	mg/L	0.000537	0.08960	mg/L	0.001074	1.20%
Sb 206.836†	35.3	0.01544	mg/L	0.002946	0.03088	mg/L	0.005892	19.08%
Se 196.026†	24.1	0.01823	mg/L	0.003061	0.03647	mg/L	0.006122	16.79%
Si 288.158†	3120.6	1.823	mg/L	0.0066	3.646	mg/L	0.0133	0.36%
Sn 189.927†	-53.4	-0.01073	mg/L	0.001245	-0.02147	mg/L	0.002490	11.60%
Sr 421.552†	412003.9	0.5150	mg/L	0.00035	1.030	mg/L	0.0007	0.07%
Ti 334.903†	83353.3	5.138	mg/L	0.0010	10.28	mg/L	0.002	0.02%
Tl 190.801†	-14.4	0.00589	mg/L	0.003209	0.01179	mg/L	0.006418	54.43%
V 292.402†	64484.7	0.4265	mg/L	0.00205	0.8529	mg/L	0.00409	0.48%
Zn 206.200†	1270.3	0.3742	mg/L	0.00131	0.7484	mg/L	0.00262	0.35%

Sequence No.: 38
 Sample ID: YE52 C SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 335
 Date Collected: 4/4/2014 12:50:24 PM
 Data Type: Original

Nebulizer Parameters: YE52 C SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE52 C SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2943118.6	102.8	%	0.23			0.22%
ScR 361.383	252993.8	104.9	%	0.30			0.29%
Ag 328.068†	-341.0	-0.00138	mg/L	0.000019	-0.00277 mg/L	0.000037	1.34%
Al 308.215†	110622.4	88.28	mg/L	0.099	176.6 mg/L	0.20	0.11%
As 188.979†	-109.4	0.1384	mg/L	0.00176	0.2767 mg/L	0.00352	1.27%
B 249.677†	47.1	0.00846	mg/L	0.000846	0.01691 mg/L	0.001692	10.00%
Ba 233.527†	681.0	0.1564	mg/L	0.00101	0.3129 mg/L	0.00203	0.65%
Be 313.042†	483.1	0.00084	mg/L	0.000010	0.00167 mg/L	0.000021	1.25%
Ca 317.933†	403420.8	42.25	mg/L	0.138	84.50 mg/L	0.276	0.33%
Cd 228.802†	63.3	0.00140	mg/L	0.000027	0.00280 mg/L	0.000053	1.89%
Co 228.616†	1824.1	0.03625	mg/L	0.000262	0.07251 mg/L	0.000524	0.72%
Cr 267.716†	701.3	0.1444	mg/L	0.00215	0.2888 mg/L	0.00430	1.49%
Cu 324.752†	253150.5	0.9118	mg/L	0.00257	1.824 mg/L	0.0051	0.28%
Fe 273.955†	133736.5	119.9	mg/L	0.22	239.8 mg/L	0.45	0.19%
K 766.490†	20070.5	9.123	mg/L	0.0144	18.25 mg/L	0.029	0.16%
Mg 279.077†	24681.1	22.35	mg/L	0.019	44.69 mg/L	0.038	0.09%
Mn 257.610†	19288.8	0.6352	mg/L	0.00095	1.270 mg/L	0.0019	0.15%
Mo 202.031†	224.0	0.01199	mg/L	0.000178	0.02399 mg/L	0.000355	1.48%
Na 589.592†	132493.6	10.18	mg/L	0.010	20.35 mg/L	0.020	0.10%
Na 330.237†	194.3	10.44	mg/L	0.188	20.88 mg/L	0.375	1.80%
Ni 231.604†	248.5	0.07348	mg/L	0.001374	0.1470 mg/L	0.00275	1.87%
Pb 220.353†	178.6	0.03770	mg/L	0.002250	0.07540 mg/L	0.004500	5.97%
Sb 206.836†	34.3	0.01561	mg/L	0.000804	0.03122 mg/L	0.001608	5.15%
Se 196.026†	19.4	0.01464	mg/L	0.002077	0.02929 mg/L	0.004153	14.18%
Si 288.158†	3805.1	2.222	mg/L	0.0109	4.444 mg/L	0.0217	0.49%
Sn 189.927†	-56.2	-0.01119	mg/L	0.001452	-0.02237 mg/L	0.002905	12.98%
Sr 421.552†	357880.1	0.4473	mg/L	0.00048	0.8946 mg/L	0.00095	0.11%
Ti 334.903†	95224.3	5.870	mg/L	0.0050	11.74 mg/L	0.010	0.08%
Tl 190.801†	-18.9	0.00275	mg/L	0.003189	0.00550 mg/L	0.006378	115.86%
V 292.402†	63008.4	0.4165	mg/L	0.00063	0.8331 mg/L	0.00126	0.15%
Zn 206.200†	2425.1	0.7142	mg/L	0.00253	1.428 mg/L	0.0051	0.35%

Sequence No.: 39
 Sample ID: YE52 D SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 336
 Date Collected: 4/4/2014 12:54:24 PM
 Data Type: Original

Nebulizer Parameters: YE52 D SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE52 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2972084.0	103.8	%	0.30			0.29%
ScR 361.383	252951.2	104.9	%	0.50			0.47%
Ag 328.068†	-276.1	-0.00108	mg/L	0.000104	-0.00216 mg/L	0.000208	9.59%
Al 308.215†	105785.5	84.42	mg/L	0.328	168.8 mg/L	0.66	0.39%
As 188.979†	-181.5	0.06493	mg/L	0.001136	0.1299 mg/L	0.00227	1.75%
B 249.677†	30.9	0.00553	mg/L	0.000450	0.01105 mg/L	0.000900	8.14%
Ba 233.527†	686.7	0.1628	mg/L	0.00028	0.3256 mg/L	0.00056	0.17%
Be 313.042†	480.2	0.00086	mg/L	0.000033	0.00171 mg/L	0.000066	3.84%
Ca 317.933†	380289.2	39.83	mg/L	0.108	79.65 mg/L	0.217	0.27%
Cd 228.802†	26.9	0.00072	mg/L	0.000113	0.00144 mg/L	0.000225	15.61%
Co 228.616†	1456.7	0.02830	mg/L	0.000223	0.05659 mg/L	0.000445	0.79%
Cr 267.716†	621.1	0.1276	mg/L	0.00068	0.2552 mg/L	0.00136	0.53%
Cu 324.752†	50624.5	0.1844	mg/L	0.00139	0.3687 mg/L	0.00278	0.75%
Fe 273.955†	98324.3	88.14	mg/L	0.326	176.3 mg/L	0.65	0.37%
K 766.490†	9321.0	4.237	mg/L	0.0292	8.474 mg/L	0.0585	0.69%
Mg 279.077†	18685.0	16.92	mg/L	0.040	33.84 mg/L	0.080	0.24%
Mn 257.610†	13601.7	0.4477	mg/L	0.00185	0.8955 mg/L	0.00369	0.41%
Mo 202.031†	115.7	0.00592	mg/L	0.000244	0.01183 mg/L	0.000488	4.12%
Na 589.592†	124011.0	9.525	mg/L	0.0155	19.05 mg/L	0.031	0.16%
Na 330.237†	181.7	9.732	mg/L	0.3086	19.46 mg/L	0.617	3.17%
Ni 231.604†	210.4	0.06220	mg/L	0.001113	0.1244 mg/L	0.00223	1.79%
Pb 220.353†	-19.2	0.01455	mg/L	0.000793	0.02909 mg/L	0.001587	5.45%
Sb 206.836†	17.9	0.00947	mg/L	0.001251	0.01894 mg/L	0.002501	13.21%
Se 196.026†	14.0	0.01057	mg/L	0.004650	0.02113 mg/L	0.009300	44.01%
Si 288.158†	2516.7	1.470	mg/L	0.0047	2.940 mg/L	0.0094	0.32%
Sn 189.927†	-55.3	-0.01137	mg/L	0.000641	-0.02273 mg/L	0.001282	5.64%
Sr 421.552†	326242.1	0.4078	mg/L	0.00136	0.8155 mg/L	0.00272	0.33%
Ti 334.903†	81936.6	5.051	mg/L	0.0213	10.10 mg/L	0.043	0.42%
Tl 190.801†	-4.2	0.00654	mg/L	0.001391	0.01307 mg/L	0.002783	21.29%
V 292.402†	53741.2	0.3560	mg/L	0.00165	0.7121 mg/L	0.00329	0.46%
Zn 206.200†	1205.5	0.3551	mg/L	0.00265	0.7102 mg/L	0.00530	0.75%

Sequence No.: 40
 Sample ID: YE52 E SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 337
 Date Collected: 4/4/2014 12:58:24 PM
 Data Type: Original

Nebulizer Parameters: YE52 E SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE52 E SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2929276.3	102.3	%	0.29			0.28%
ScR 361.383	252282.4	104.6	%	0.13			0.12%
Ag 328.068†	-322.3	-0.00128	mg/L	0.000053	-0.00257 mg/L	0.000107	4.16%
Al 308.215†	120559.4	96.21	mg/L	0.405	192.4 mg/L	0.81	0.42%
As 188.979†	1037.7	0.8288	mg/L	0.00086	1.658 mg/L	0.0017	0.10%
B 249.677†	69.1	0.01242	mg/L	0.000441	0.02485 mg/L	0.000881	3.55%
Ba 233.527†	712.6	0.1651	mg/L	0.00090	0.3302 mg/L	0.00180	0.54%
Be 313.042†	665.6	0.00123	mg/L	0.000010	0.00246 mg/L	0.000019	0.79%
Ca 317.933†	419828.3	43.97	mg/L	0.153	87.93 mg/L	0.306	0.35%
Cd 228.802†	185.7	0.00178	mg/L	0.000217	0.00355 mg/L	0.000434	12.22%
Co 228.616†	2199.0	0.04668	mg/L	0.000196	0.09337 mg/L	0.000392	0.42%
Cr 267.716†	738.7	0.1520	mg/L	0.00139	0.3040 mg/L	0.00278	0.92%
Cu 324.752†	157013.6	0.5670	mg/L	0.00311	1.134 mg/L	0.0062	0.55%
Fe 273.955†	129693.3	116.3	mg/L	0.59	232.5 mg/L	1.17	0.50%
K 766.490†	14075.6	6.398	mg/L	0.0236	12.80 mg/L	0.047	0.37%
Mg 279.077†	24195.9	21.91	mg/L	0.010	43.81 mg/L	0.020	0.05%
Mn 257.610†	16917.9	0.5570	mg/L	0.00136	1.114 mg/L	0.0027	0.24%
Mo 202.031†	403.0	0.02207	mg/L	0.000134	0.04415 mg/L	0.000269	0.61%
Na 589.592†	150423.0	11.55	mg/L	0.039	23.11 mg/L	0.079	0.34%
Na 330.237†	224.2	11.71	mg/L	0.291	23.41 mg/L	0.581	2.48%
Ni 231.604†	282.0	0.08339	mg/L	0.001512	0.1668 mg/L	0.00302	1.81%
Pb 220.353†	1737.2	0.2342	mg/L	0.00087	0.4684 mg/L	0.00175	0.37%
Sb 206.836†	63.8	0.02488	mg/L	0.002810	0.04977 mg/L	0.005619	11.29%
Se 196.026†	20.7	0.01568	mg/L	0.003062	0.03137 mg/L	0.006123	19.52%
Si 288.158†	2037.3	1.191	mg/L	0.0024	2.382 mg/L	0.0049	0.20%
Sn 189.927†	-54.6	-0.01055	mg/L	0.001015	-0.02110 mg/L	0.002029	9.62%
Sr 421.552†	382435.3	0.4780	mg/L	0.00121	0.9560 mg/L	0.00242	0.25%
Ti 334.903†	87816.8	5.413	mg/L	0.0138	10.83 mg/L	0.028	0.26%
Tl 190.801†	-13.2	0.00516	mg/L	0.001061	0.01032 mg/L	0.002123	20.58%
V 292.402†	59629.0	0.3942	mg/L	0.00132	0.7884 mg/L	0.00265	0.34%
Zn 206.200†	2876.5	0.8469	mg/L	0.00190	1.694 mg/L	0.0038	0.22%

Sequence No.: 41
Sample ID: YE52 F SWC
Analyst: EL
Dilution: 2.000000X

Autosampler Location: 338
Date Collected: 4/4/2014 1:02:24 PM
Data Type: Original

Nebulizer Parameters: YE52 F SWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YE52 F SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2974230.4	103.9 %	%	0.63			0.61%
ScR 361.383	255630.9	106.0 %	%	0.37			0.35%
Ag 328.068†	-283.2	-0.00114 mg/L	mg/L	0.000177	-0.00227 mg/L	0.000355	15.61%
Al 308.215†	105953.1	84.56 mg/L	mg/L	0.119	169.1 mg/L	0.24	0.14%
As 188.979†	-207.9	0.05745 mg/L	mg/L	0.001502	0.1149 mg/L	0.00300	2.61%
B 249.677†	30.6	0.00547 mg/L	mg/L	0.000372	0.01093 mg/L	0.000744	6.81%
Ba 233.527†	553.0	0.1283 mg/L	mg/L	0.00086	0.2566 mg/L	0.00173	0.67%
Be 313.042†	516.4	0.00094 mg/L	mg/L	0.000017	0.00187 mg/L	0.000033	1.78%
Ca 317.933†	366696.0	38.40 mg/L	mg/L	0.088	76.81 mg/L	0.175	0.23%
Cd 228.802†	26.8	0.00080 mg/L	mg/L	0.000026	0.00160 mg/L	0.000051	3.20%
Co 228.616†	1791.4	0.03645 mg/L	mg/L	0.000160	0.07290 mg/L	0.000319	0.44%
Cr 267.716†	649.7	0.1334 mg/L	mg/L	0.00061	0.2668 mg/L	0.00121	0.45%
Cu 324.752†	59286.8	0.2154 mg/L	mg/L	0.00127	0.4309 mg/L	0.00254	0.59%
Fe 273.955†	99277.7	89.00 mg/L	mg/L	0.414	178.0 mg/L	0.83	0.46%
K 766.490†	9431.5	4.287 mg/L	mg/L	0.0293	8.574 mg/L	0.0587	0.68%
Mg 279.077†	19176.0	17.36 mg/L	mg/L	0.042	34.73 mg/L	0.084	0.24%
Mn 257.610†	14117.8	0.4648 mg/L	mg/L	0.00164	0.9295 mg/L	0.00328	0.35%
Mo 202.031†	106.8	0.00543 mg/L	mg/L	0.000127	0.01087 mg/L	0.000253	2.33%
Na 589.592†	127238.8	9.773 mg/L	mg/L	0.0071	19.55 mg/L	0.014	0.07%
Na 330.237†	189.6	10.18 mg/L	mg/L	0.278	20.37 mg/L	0.556	2.73%
Ni 231.604†	240.3	0.07107 mg/L	mg/L	0.000723	0.1421 mg/L	0.00145	1.02%
Pb 220.353†	-44.4	0.01137 mg/L	mg/L	0.000818	0.02274 mg/L	0.001636	7.19%
Sb 206.836†	15.7	0.00875 mg/L	mg/L	0.000665	0.01750 mg/L	0.001330	7.60%
Se 196.026†	21.5	0.01629 mg/L	mg/L	0.005773	0.03259 mg/L	0.011546	35.43%
Si 288.158†	3307.6	1.931 mg/L	mg/L	0.0087	3.862 mg/L	0.0175	0.45%
Sn 189.927†	-55.8	-0.01166 mg/L	mg/L	0.000799	-0.02331 mg/L	0.001598	6.85%
Sr 421.552†	333792.0	0.4172 mg/L	mg/L	0.00064	0.8344 mg/L	0.00128	0.15%
Ti 334.903†	85867.2	5.293 mg/L	mg/L	0.0080	10.59 mg/L	0.016	0.15%
Tl 190.801†	-1.4	0.00805 mg/L	mg/L	0.000712	0.01610 mg/L	0.001424	8.84%
V 292.402†	48865.4	0.3229 mg/L	mg/L	0.00228	0.6458 mg/L	0.00456	0.71%
Zn 206.200†	1248.4	0.3678 mg/L	mg/L	0.00259	0.7356 mg/L	0.00518	0.70%

Sequence No.: 42
 Sample ID: YE52 G SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 339
 Date Collected: 4/4/2014 1:06:24 PM
 Data Type: Original

Nebulizer Parameters: YE52 G SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE52 G SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2970587.7	103.8	%	0.35			0.34%
ScR 361.383	249784.3	103.6	%	0.53			0.51%
Ag 328.068†	-362.9	-0.00148	mg/L	0.000164	-0.00296 mg/L	0.000329	11.09%
Al 308.215†	118400.6	94.49	mg/L	0.084	189.0 mg/L	0.17	0.09%
As 188.979†	-188.4	0.06967	mg/L	0.004847	0.1393 mg/L	0.00969	6.96%
B 249.677†	48.8	0.00877	mg/L	0.000690	0.01755 mg/L	0.001380	7.86%
Ba 233.527†	659.6	0.1514	mg/L	0.00038	0.3028 mg/L	0.00075	0.25%
Be 313.042†	498.1	0.00087	mg/L	0.000011	0.00174 mg/L	0.000022	1.25%
Ca 317.933†	424413.2	44.45	mg/L	0.096	88.89 mg/L	0.192	0.22%
Cd 228.802†	26.4	0.00048	mg/L	0.000103	0.00095 mg/L	0.000205	21.61%
Co 228.616†	1548.9	0.03019	mg/L	0.000167	0.06038 mg/L	0.000334	0.55%
Cr 267.716†	689.9	0.1422	mg/L	0.00018	0.2844 mg/L	0.00036	0.13%
Cu 324.752†	47034.8	0.1727	mg/L	0.00079	0.3455 mg/L	0.00158	0.46%
Fe 273.955†	130186.4	116.7	mg/L	0.96	233.4 mg/L	1.92	0.82%
K 766.490†	16919.4	7.691	mg/L	0.0284	15.38 mg/L	0.057	0.37%
Mg 279.077†	22188.5	20.08	mg/L	0.032	40.17 mg/L	0.065	0.16%
Mn 257.610†	15457.9	0.5089	mg/L	0.00385	1.018 mg/L	0.0077	0.76%
Mo 202.031†	159.7	0.00833	mg/L	0.000257	0.01665 mg/L	0.000513	3.08%
Na 589.592†	155150.7	11.92	mg/L	0.032	23.83 mg/L	0.065	0.27%
Na 330.237†	231.8	12.23	mg/L	0.238	24.45 mg/L	0.477	1.95%
Ni 231.604†	217.4	0.06429	mg/L	0.001223	0.1286 mg/L	0.00245	1.90%
Pb 220.353†	11.2	0.01957	mg/L	0.000536	0.03914 mg/L	0.001072	2.74%
Sb 206.836†	21.0	0.01078	mg/L	0.003587	0.02156 mg/L	0.007174	33.28%
Se 196.026†	13.2	0.00985	mg/L	0.009040	0.01969 mg/L	0.018081	91.82%
Si 288.158†	2898.0	1.693	mg/L	0.0026	3.385 mg/L	0.0053	0.16%
Sn 189.927†	-63.3	-0.01325	mg/L	0.000982	-0.02649 mg/L	0.001965	7.42%
Sr 421.552†	425194.3	0.5315	mg/L	0.00102	1.063 mg/L	0.0020	0.19%
Ti 334.903†	86230.6	5.315	mg/L	0.0089	10.63 mg/L	0.018	0.17%
Tl 190.801†	-17.2	0.00323	mg/L	0.002182	0.00646 mg/L	0.004363	67.58%
V 292.402†	63993.3	0.4237	mg/L	0.00366	0.8473 mg/L	0.00731	0.86%
Zn 206.200†	682.0	0.2011	mg/L	0.00091	0.4021 mg/L	0.00183	0.45%

Sequence No.: 43
 Sample ID: YE52 H SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 340
 Date Collected: 4/4/2014 1:10:25 PM
 Data Type: Original

Nebulizer Parameters: YE52 H SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE52 H SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2973900.5	103.9 %	0.25			0.24%
ScR 361.383	253585.5	105.2 %	0.05			0.05%
Ag 328.068†	-342.0	-0.00137 mg/L	0.000109	-0.00274 mg/L	0.000217	7.95%
Al 308.215†	115336.8	92.04 mg/L	0.323	184.1 mg/L	0.65	0.35%
As 188.979†	-225.2	0.06873 mg/L	0.003542	0.1375 mg/L	0.00708	5.15%
B 249.677†	40.8	0.00731 mg/L	0.000785	0.01461 mg/L	0.001569	10.74%
Ba 233.527†	585.7	0.1311 mg/L	0.00163	0.2621 mg/L	0.00326	1.24%
Be 313.042†	447.1	0.00075 mg/L	0.000038	0.00150 mg/L	0.000076	5.04%
Ca 317.933†	419650.7	43.95 mg/L	0.205	87.90 mg/L	0.410	0.47%
Cd 228.802†	26.1	0.00051 mg/L	0.000095	0.00103 mg/L	0.000190	18.41%
Co 228.616†	1772.1	0.03483 mg/L	0.000638	0.06966 mg/L	0.001276	1.83%
Cr 267.716†	762.3	0.1571 mg/L	0.00020	0.3142 mg/L	0.00041	0.13%
Cu 324.752†	48457.2	0.1781 mg/L	0.00143	0.3562 mg/L	0.00286	0.80%
Fe 273.955†	139978.6	125.5 mg/L	0.86	251.0 mg/L	1.72	0.68%
K 766.490†	13074.5	5.943 mg/L	0.0315	11.89 mg/L	0.063	0.53%
Mg 279.077†	24074.7	21.79 mg/L	0.041	43.58 mg/L	0.081	0.19%
Mn 257.610†	18216.2	0.5998 mg/L	0.00410	1.200 mg/L	0.0082	0.68%
Mo 202.031†	132.1	0.00678 mg/L	0.000476	0.01355 mg/L	0.000953	7.03%
Na 589.592†	140221.3	10.77 mg/L	0.055	21.54 mg/L	0.110	0.51%
Na 330.237†	204.6	11.07 mg/L	0.118	22.14 mg/L	0.236	1.06%
Ni 231.604†	253.1	0.07484 mg/L	0.002484	0.1497 mg/L	0.00497	3.32%
Pb 220.353†	5.3	0.01785 mg/L	0.000376	0.03569 mg/L	0.000752	2.11%
Sb 206.836†	18.4	0.01035 mg/L	0.000653	0.02069 mg/L	0.001306	6.31%
Se 196.026†	22.1	0.01668 mg/L	0.006364	0.03336 mg/L	0.012727	38.15%
Si 288.158†	3500.4	2.044 mg/L	0.0072	4.088 mg/L	0.0144	0.35%
Sn 189.927†	-64.2	-0.01346 mg/L	0.003278	-0.02691 mg/L	0.006555	24.36%
Sr 421.552†	374084.8	0.4676 mg/L	0.00210	0.9351 mg/L	0.00420	0.45%
Ti 334.903†	96065.0	5.922 mg/L	0.0235	11.84 mg/L	0.047	0.40%
Tl 190.801†	-16.3	0.00450 mg/L	0.008944	0.00900 mg/L	0.017888	198.80%
V 292.402†	69619.5	0.4609 mg/L	0.00454	0.9219 mg/L	0.00909	0.99%
Zn 206.200†	813.4	0.2398 mg/L	0.00056	0.4796 mg/L	0.00112	0.23%

Sequence No.: 44
 Sample ID: YE52 ADUP SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 341
 Date Collected: 4/4/2014 1:14:25 PM
 Data Type: Original

Nebulizer Parameters: YE52 ADUP SWC

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: YE52 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2958852.7	103.4	%	0.36			0.35%
ScR 361.383	252436.8	104.7	%	0.68			0.65%
Ag 328.068†	-326.9	-0.00136	mg/L	0.000211	-0.00273 mg/L	0.000423	15.49%
Al 308.215†	83049.3	66.27	mg/L	0.144	132.5 mg/L	0.29	0.22%
As 188.979†	-6.6	0.1790	mg/L	0.00233	0.3580 mg/L	0.00466	1.30%
B 249.677†	28.9	0.00519	mg/L	0.000769	0.01037 mg/L	0.001538	14.83%
Ba 233.527†	571.6	0.1304	mg/L	0.00086	0.2609 mg/L	0.00171	0.66%
Be 313.042†	457.3	0.00079	mg/L	0.000013	0.00159 mg/L	0.000026	1.62%
Ca 317.933†	327428.8	34.29	mg/L	0.117	68.58 mg/L	0.233	0.34%
Cd 228.802†	46.5	0.00064	mg/L	0.000158	0.00129 mg/L	0.000316	24.52%
Co 228.616†	1597.3	0.03162	mg/L	0.000085	0.06323 mg/L	0.000170	0.27%
Cr 267.716†	640.2	0.1319	mg/L	0.00059	0.2639 mg/L	0.00118	0.45%
Cu 324.752†	57264.1	0.2090	mg/L	0.00019	0.4180 mg/L	0.00037	0.09%
Fe 273.955†	118394.7	106.1	mg/L	0.77	212.3 mg/L	1.54	0.73%
K 766.490†	10968.2	4.986	mg/L	0.0279	9.971 mg/L	0.0557	0.56%
Mg 279.077†	20323.0	18.40	mg/L	0.033	36.79 mg/L	0.066	0.18%
Mn 257.610†	16592.4	0.5465	mg/L	0.00276	1.093 mg/L	0.0055	0.51%
Mo 202.031†	420.8	0.02322	mg/L	0.000214	0.04645 mg/L	0.000427	0.92%
Na 589.592†	92837.0	7.130	mg/L	0.0183	14.26 mg/L	0.037	0.26%
Na 330.237†	127.3	7.225	mg/L	0.1204	14.45 mg/L	0.241	1.67%
Ni 231.604†	221.3	0.06544	mg/L	0.000858	0.1309 mg/L	0.00172	1.31%
Pb 220.353†	467.0	0.06968	mg/L	0.000711	0.1394 mg/L	0.00142	1.02%
Sb 206.836†	31.2	0.01419	mg/L	0.001492	0.02839 mg/L	0.002983	10.51%
Se 196.026†	11.3	0.00845	mg/L	0.003077	0.01689 mg/L	0.006153	36.42%
Si 288.158†	5351.1	3.123	mg/L	0.0211	6.246 mg/L	0.0421	0.67%
Sn 189.927†	-43.9	-0.00846	mg/L	0.001839	-0.01692 mg/L	0.003679	21.73%
Sr 421.552†	281604.5	0.3520	mg/L	0.00035	0.7040 mg/L	0.00071	0.10%
Ti 334.903†	84598.4	5.215	mg/L	0.0053	10.43 mg/L	0.011	0.10%
Tl 190.801†	-12.7	0.00431	mg/L	0.001260	0.00861 mg/L	0.002520	29.26%
V 292.402†	60634.5	0.4016	mg/L	0.00034	0.8032 mg/L	0.00069	0.09%
Zn 206.200†	820.8	0.2422	mg/L	0.00239	0.4844 mg/L	0.00478	0.99%

Sequence No.: 45
 Sample ID: YE52 A SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 342
 Date Collected: 4/4/2014 1:18:25 PM
 Data Type: Original

Nebulizer Parameters: YE52 A SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE52 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2946871.0	103.0	%	0.45				0.44%
ScR 361.383	253595.6	105.2	%	0.75				0.72%
Ag 328.068†	-347.7	-0.00145	mg/L	0.000226	-0.00291	mg/L	0.000452	15.55%
Al 308.215†	86501.9	69.03	mg/L	0.408	138.1	mg/L	0.82	0.59%
As 188.979†	-9.7	0.1824	mg/L	0.00155	0.3648	mg/L	0.00311	0.85%
B 249.677†	30.2	0.00543	mg/L	0.000704	0.01087	mg/L	0.001408	12.96%
Ba 233.527†	548.8	0.1241	mg/L	0.00187	0.2482	mg/L	0.00373	1.50%
Be 313.042†	452.0	0.00078	mg/L	0.000016	0.00156	mg/L	0.000032	2.04%
Ca 317.933†	349838.3	36.64	mg/L	0.171	73.27	mg/L	0.342	0.47%
Cd 228.802†	47.8	0.00067	mg/L	0.000112	0.00134	mg/L	0.000224	16.68%
Co 228.616†	1679.7	0.03345	mg/L	0.000482	0.06690	mg/L	0.000964	1.44%
Cr 267.716†	670.3	0.1381	mg/L	0.00090	0.2762	mg/L	0.00181	0.65%
Cu 324.752†	58815.4	0.2146	mg/L	0.00161	0.4293	mg/L	0.00322	0.75%
Fe 273.955†	121957.7	109.3	mg/L	1.11	218.7	mg/L	2.22	1.01%
K 766.490†	11162.1	5.074	mg/L	0.0367	10.15	mg/L	0.073	0.72%
Mg 279.077†	21150.2	19.15	mg/L	0.126	38.29	mg/L	0.252	0.66%
Mn 257.610†	16939.0	0.5579	mg/L	0.00328	1.116	mg/L	0.0066	0.59%
Mo 202.031†	751.6	0.04186	mg/L	0.000413	0.08373	mg/L	0.000826	0.99%
Na 589.592†	94708.1	7.274	mg/L	0.0426	14.55	mg/L	0.085	0.59%
Na 330.237†	131.9	7.462	mg/L	0.2045	14.92	mg/L	0.409	2.74%
Ni 231.604†	235.1	0.06952	mg/L	0.002383	0.1390	mg/L	0.00477	3.43%
Pb 220.353†	428.6	0.06544	mg/L	0.000229	0.1309	mg/L	0.00046	0.35%
Sb 206.836†	60.3	0.02398	mg/L	0.000730	0.04796	mg/L	0.001461	3.05%
Se 196.026†	15.8	0.01191	mg/L	0.005815	0.02382	mg/L	0.011630	48.83%
Si 288.158†	6472.5	3.777	mg/L	0.0237	7.555	mg/L	0.0473	0.63%
Sn 189.927†	-42.3	-0.00764	mg/L	0.000553	-0.01528	mg/L	0.001106	7.24%
Sr 421.552†	292976.8	0.3662	mg/L	0.00199	0.7324	mg/L	0.00398	0.54%
Ti 334.903†	87134.0	5.371	mg/L	0.0248	10.74	mg/L	0.050	0.46%
Tl 190.801†	-8.9	0.00647	mg/L	0.002326	0.01293	mg/L	0.004651	35.96%
V 292.402†	62337.4	0.4129	mg/L	0.00351	0.8257	mg/L	0.00702	0.85%
Zn 206.200†	971.5	0.2867	mg/L	0.00214	0.5733	mg/L	0.00429	0.75%

Sequence No.: 46

Sample ID: YE52 ASPK SWC

Analyst: EL

Dilution: 2.000000X

Autosampler Location: 343

Date Collected: 4/4/2014 1:22:25 PM

Data Type: Original

Nebulizer Parameters: YE52 ASPK SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE52 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2954176.3	103.2 %		0.16			0.16%
ScR 361.383	249977.3	103.7 %		0.29			0.28%
Ag 328.068†	103074.9	0.5295 mg/L		0.00128	1.059 mg/L	0.0026	0.24%
Al 308.215†	101232.3	80.78 mg/L		0.008	161.6 mg/L	0.02	0.01%
As 188.979†	3376.2	2.267 mg/L		0.0100	4.534 mg/L	0.0201	0.44%
B 249.677†	29.0	0.00414 mg/L		0.000966	0.00828 mg/L	0.001932	23.32%
Ba 233.527†	8658.5	2.209 mg/L		0.0134	4.417 mg/L	0.0267	0.61%
Be 313.042†	238103.6	0.4957 mg/L		0.00271	0.9914 mg/L	0.00541	0.55%
Ca 317.933†	490471.0	51.37 mg/L		0.139	102.7 mg/L	0.28	0.27%
Cd 228.802†	16612.6	0.5278 mg/L		0.00187	1.056 mg/L	0.0037	0.35%
Co 228.616†	21295.8	0.5362 mg/L		0.00060	1.072 mg/L	0.0012	0.11%
Cr 267.716†	3173.2	0.6476 mg/L		0.00374	1.295 mg/L	0.0075	0.58%
Cu 324.752†	208355.5	0.7507 mg/L		0.00268	1.501 mg/L	0.0054	0.36%
Fe 273.955†	120081.1	107.6 mg/L		0.46	215.3 mg/L	0.91	0.42%
K 766.490†	34023.7	15.47 mg/L		0.040	30.93 mg/L	0.079	0.26%
Mg 279.077†	33113.4	30.02 mg/L		0.174	60.03 mg/L	0.348	0.58%
Mn 257.610†	32065.8	1.057 mg/L		0.0023	2.114 mg/L	0.0046	0.22%
Mo 202.031†	672.2	0.03716 mg/L		0.000254	0.07431 mg/L	0.000508	0.68%
Na 589.592†	261355.2	20.07 mg/L		0.019	40.15 mg/L	0.039	0.10%
Na 330.237†	402.7	20.23 mg/L		0.458	40.45 mg/L	0.916	2.26%
Ni 231.604†	1923.2	0.5678 mg/L		0.00526	1.136 mg/L	0.0105	0.93%
Pb 220.353†	17203.0	2.156 mg/L		0.0028	4.311 mg/L	0.0057	0.13%
Sb 206.836†	103.0	0.03333 mg/L		0.003891	0.06667 mg/L	0.007783	11.67%
Se 196.026†	2625.8	2.022 mg/L		0.0070	4.043 mg/L	0.0140	0.35%
Si 288.158†	2261.8	1.325 mg/L		0.0105	2.650 mg/L	0.0210	0.79%
Sn 189.927†	-42.1	-0.00572 mg/L		0.000233	-0.01143 mg/L	0.000466	4.07%
Sr 421.552†	758310.9	0.9478 mg/L		0.00037	1.896 mg/L	0.0007	0.04%
Ti 334.903†	86955.8	5.359 mg/L		0.0055	10.72 mg/L	0.011	0.10%
Tl 190.801†	4016.7	1.969 mg/L		0.0026	3.938 mg/L	0.0052	0.13%
V 292.402†	134662.7	0.9041 mg/L		0.00523	1.808 mg/L	0.0105	0.58%
Zn 206.200†	2928.3	0.8624 mg/L		0.00712	1.725 mg/L	0.0142	0.83%

Sequence No.: 47
 Sample ID: CV 5
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/4/2014 1:26:26 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2901514.9	101.4 %	1.07			1.06%
ScR 361.383	244762.4	101.5 %	0.92			0.91%
Ag 328.068†	210812.2	1.082 mg/L	0.0236	1.082 mg/L	0.0236	2.18%
Al 308.215†	2560.0	2.011 mg/L	0.0186	2.011 mg/L	0.0186	0.93%
As 188.979†	3278.8	2.052 mg/L	0.0183	2.052 mg/L	0.0183	0.89%
B 249.677†	5612.3	1.016 mg/L	0.0096	1.016 mg/L	0.0096	0.94%
Ba 233.527†	4002.0	1.028 mg/L	0.0084	1.028 mg/L	0.0084	0.81%
Be 313.042†	468319.6	0.9753 mg/L	0.00496	0.9753 mg/L	0.00496	0.51%
Ca 317.933†	20081.0	2.103 mg/L	0.0216	2.103 mg/L	0.0216	1.03%
Cd 228.802†	32188.7	1.035 mg/L	0.0168	1.035 mg/L	0.0168	1.62%
Co 228.616†	39177.5	1.003 mg/L	0.0170	1.003 mg/L	0.0170	1.70%
Cr 267.716†	5084.3	1.037 mg/L	0.0077	1.037 mg/L	0.0077	0.75%
Cu 324.752†	278436.2	0.9981 mg/L	0.00690	0.9981 mg/L	0.00690	0.69%
Fe 273.955†	2309.3	2.063 mg/L	0.0195	2.063 mg/L	0.0195	0.94%
K 766.490†	44515.4	20.23 mg/L	0.148	20.23 mg/L	0.148	0.73%
Mg 279.077†	2208.9	2.013 mg/L	0.0189	2.013 mg/L	0.0189	0.94%
Mn 257.610†	29426.2	0.9709 mg/L	0.00546	0.9709 mg/L	0.00546	0.56%
Mo 202.031†	17157.0	0.9686 mg/L	0.01922	0.9686 mg/L	0.01922	1.98%
Na 589.592†	668788.1	51.37 mg/L	0.266	51.37 mg/L	0.266	0.52%
Na 330.237†	1072.6	51.54 mg/L	0.568	51.54 mg/L	0.568	1.10%
Ni 231.604†	3493.2	1.033 mg/L	0.0126	1.033 mg/L	0.0126	1.22%
Pb 220.353†	16258.9	2.024 mg/L	0.0383	2.024 mg/L	0.0383	1.89%
Sb 206.836†	6295.2	2.097 mg/L	0.0224	2.097 mg/L	0.0224	1.07%
Se 196.026†	2632.1	2.026 mg/L	0.0202	2.026 mg/L	0.0202	1.00%
Si 288.158†	3359.0	1.964 mg/L	0.0178	1.964 mg/L	0.0178	0.91%
Sn 189.927†	3210.5	0.9969 mg/L	0.01158	0.9969 mg/L	0.01158	1.16%
Sr 421.552†	808370.3	1.010 mg/L	0.0056	1.010 mg/L	0.0056	0.55%
Ti 334.903†	16225.0	0.9994 mg/L	0.00323	0.9994 mg/L	0.00323	0.32%
Tl 190.801†	4111.8	2.001 mg/L	0.0207	2.001 mg/L	0.0207	1.03%
V 292.402†	151614.9	1.029 mg/L	0.0225	1.029 mg/L	0.0225	2.19%
Zn 206.200†	3474.1	1.023 mg/L	0.0103	1.023 mg/L	0.0103	1.00%

Sequence No.: 48
 Sample ID: CB 5
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/4/2014 1:30:30 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2970491.6	103.8	%	0.28				0.27%
ScR 361.383	253465.0	105.1	%	0.61				0.58%
Ag 328.068†	15.7	0.00008	mg/L	0.000238	0.00008	mg/L	0.000238	295.33%
Al 308.215†	5.1	0.00403	mg/L	0.006061	0.00403	mg/L	0.006061	150.26%
As 188.979†	-2.5	-0.00149	mg/L	0.000756	-0.00149	mg/L	0.000756	50.75%
B 249.677†	1.0	0.00018	mg/L	0.001236	0.00018	mg/L	0.001236	696.46%
Ba 233.527†	0.6	0.00016	mg/L	0.000441	0.00016	mg/L	0.000441	267.57%
Be 313.042†	22.0	0.00005	mg/L	0.000005	0.00005	mg/L	0.000005	10.41%
Ca 317.933†	29.1	0.00305	mg/L	0.000313	0.00305	mg/L	0.000313	10.27%
Cd 228.802†	-4.5	-0.00014	mg/L	0.000099	-0.00014	mg/L	0.000099	71.92%
Co 228.616†	5.1	0.00013	mg/L	0.000092	0.00013	mg/L	0.000092	70.58%
Cr 267.716†	4.1	0.00083	mg/L	0.000729	0.00083	mg/L	0.000729	87.69%
Cu 324.752†	48.5	0.00017	mg/L	0.000363	0.00017	mg/L	0.000363	209.27%
Fe 273.955†	1.3	0.00120	mg/L	0.001339	0.00120	mg/L	0.001339	111.17%
K 766.490†	-65.3	-0.02967	mg/L	0.021089	-0.02967	mg/L	0.021089	71.08%
Mg 279.077†	4.8	0.00436	mg/L	0.000971	0.00436	mg/L	0.000971	22.27%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000079	-0.00001	mg/L	0.000079	671.97%
Mo 202.031†	17.3	0.00098	mg/L	0.000155	0.00098	mg/L	0.000155	15.89%
Na 589.592†	48.2	0.00371	mg/L	0.001736	0.00371	mg/L	0.001736	46.85%
Na 330.237†	0.6	0.03101	mg/L	0.051638	0.03101	mg/L	0.051638	166.53%
Ni 231.604†	1.2	0.00036	mg/L	0.000973	0.00036	mg/L	0.000973	268.04%
Pb 220.353†	3.7	0.00046	mg/L	0.000306	0.00046	mg/L	0.000306	66.41%
Sb 206.836†	19.3	0.00642	mg/L	0.001336	0.00642	mg/L	0.001336	20.82%
Se 196.026†	2.7	0.00206	mg/L	0.001546	0.00206	mg/L	0.001546	74.88%
Si 288.158†	-14.7	-0.00856	mg/L	0.003168	-0.00856	mg/L	0.003168	37.02%
Sn 189.927†	0.2	0.00007	mg/L	0.000868	0.00007	mg/L	0.000868	>999.9%
Sr 421.552†	31.9	0.00004	mg/L	0.000023	0.00004	mg/L	0.000023	56.57%
Ti 334.903†	16.4	0.00101	mg/L	0.000148	0.00101	mg/L	0.000148	14.57%
Tl 190.801†	0.8	0.00041	mg/L	0.001570	0.00041	mg/L	0.001570	380.87%
V 292.402†	-26.5	-0.00018	mg/L	0.000166	-0.00018	mg/L	0.000166	94.27%
Zn 206.200†	-0.6	-0.00019	mg/L	0.000968	-0.00019	mg/L	0.000968	516.00%

Sequence No.: 49
Sample ID: YE49 MB1 DMN
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 344
Date Collected: 4/4/2014 1:34:31 PM
Data Type: Original

Nebulizer Parameters: YE49 MB1 DMN

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE49 MB1 DMN

Table with 9 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Sample Conc., Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 50
Sample ID: YE49 MB2 WMN
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 345
Date Collected: 4/4/2014 1:38:32 PM
Data Type: Original

Nebulizer Parameters: YE49 MB2 WMN

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YE49 MB2 WMN

Table with 9 columns: Analyte, Mean Corrected Intensity, Calib. Conc. Units, Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective intensity, concentration, and RSD values.

Sequence No.: 51
 Sample ID: YE49 MB3 TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 346
 Date Collected: 4/4/2014 1:42:47 PM
 Data Type: Original

Nebulizer Parameters: YE49 MB3 TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE49 MB3 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2976428.1	104.0	%	0.07				0.07%
ScR 361.383	251796.2	104.4	%	0.51				0.49%
Ag 328.068†	40.2	0.00021	mg/L	0.000169	0.00021	mg/L	0.000169	81.74%
Al 308.215†	12.3	0.00983	mg/L	0.002814	0.00983	mg/L	0.002814	28.63%
As 188.979†	-2.2	-0.00135	mg/L	0.000938	-0.00135	mg/L	0.000938	69.42%
B 249.677†	3.1	0.00056	mg/L	0.000341	0.00056	mg/L	0.000341	61.05%
Ba 233.527†	3.8	0.00097	mg/L	0.000963	0.00097	mg/L	0.000963	98.92%
Be 313.042†	6.9	0.00001	mg/L	0.000013	0.00001	mg/L	0.000013	87.70%
Ca 317.933†	65.7	0.00688	mg/L	0.000602	0.00688	mg/L	0.000602	8.75%
Cd 228.802†	-3.1	-0.00009	mg/L	0.000075	-0.00009	mg/L	0.000075	80.34%
Co 228.616†	1.9	0.00005	mg/L	0.000105	0.00005	mg/L	0.000105	216.14%
Cr 267.716†	2.7	0.00056	mg/L	0.001163	0.00056	mg/L	0.001163	209.15%
Cu 324.752†	115.9	0.00042	mg/L	0.000051	0.00042	mg/L	0.000051	12.27%
Fe 273.955†	0.4	0.00039	mg/L	0.003265	0.00039	mg/L	0.003265	840.86%
K 766.490†	-24.7	-0.01123	mg/L	0.021675	-0.01123	mg/L	0.021675	192.98%
Mg 279.077†	0.3	0.00029	mg/L	0.004020	0.00029	mg/L	0.004020	>999.9%
Mn 257.610†	-1.4	-0.00005	mg/L	0.000087	-0.00005	mg/L	0.000087	185.16%
Mo 202.031†	0.2	0.00001	mg/L	0.000247	0.00001	mg/L	0.000247	>999.9%
Na 589.592†	130.4	0.01001	mg/L	0.001235	0.01001	mg/L	0.001235	12.33%
Na 330.237†	1.9	0.08890	mg/L	0.437129	0.08890	mg/L	0.437129	491.72%
Ni 231.604†	-1.3	-0.00039	mg/L	0.000848	-0.00039	mg/L	0.000848	218.94%
Pb 220.353†	-7.0	-0.00087	mg/L	0.001285	-0.00087	mg/L	0.001285	147.91%
Sb 206.836†	1.1	0.00035	mg/L	0.000298	0.00035	mg/L	0.000298	84.21%
Se 196.026†	2.0	0.00151	mg/L	0.006142	0.00151	mg/L	0.006142	406.17%
Si 288.158†	8.8	0.00511	mg/L	0.002071	0.00511	mg/L	0.002071	40.51%
Sn 189.927†	-4.3	-0.00134	mg/L	0.000623	-0.00134	mg/L	0.000623	46.36%
Sr 421.552†	16.3	0.00002	mg/L	0.000030	0.00002	mg/L	0.000030	149.28%
Ti 334.903†	-0.8	-0.00005	mg/L	0.000248	-0.00005	mg/L	0.000248	510.80%
Tl 190.801†	-0.0	-0.00002	mg/L	0.001549	-0.00002	mg/L	0.001549	>999.9%
V 292.402†	-33.4	-0.00022	mg/L	0.000179	-0.00022	mg/L	0.000179	80.01%
Zn 206.200†	2.6	0.00076	mg/L	0.000310	0.00076	mg/L	0.000310	40.59%

Sequence No.: 52
 Sample ID: YE49 H TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 347
 Date Collected: 4/4/2014 1:46:47 PM
 Data Type: Original

Nebulizer Parameters: YE49 H TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE49 H TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2933530.1	102.5	%	0.56				0.55%
ScR 361.383	250443.2	103.9	%	0.28				0.27%
Ag 328.068†	-74.3	-0.00018	mg/L	0.000049	-0.00018	mg/L	0.000049	27.76%
Al 308.215†	44145.9	35.23	mg/L	0.081	35.23	mg/L	0.081	0.23%
As 188.979†	-38.3	0.02704	mg/L	0.004051	0.02704	mg/L	0.004051	14.98%
B 249.677†	2948.4	0.5344	mg/L	0.00240	0.5344	mg/L	0.00240	0.45%
Ba 233.527†	1144.0	0.2888	mg/L	0.00150	0.2888	mg/L	0.00150	0.52%
Be 313.042†	306.5	0.00060	mg/L	0.000012	0.00060	mg/L	0.000012	2.05%
Ca 317.933†	295084.3	30.90	mg/L	0.076	30.90	mg/L	0.076	0.25%
Cd 228.802†	-0.9	-0.00011	mg/L	0.000190	-0.00011	mg/L	0.000190	169.94%
Co 228.616†	1272.8	0.02992	mg/L	0.000062	0.02992	mg/L	0.000062	0.21%
Cr 267.716†	425.5	0.08639	mg/L	0.000984	0.08639	mg/L	0.000984	1.14%
Cu 324.752†	10272.6	0.03790	mg/L	0.000363	0.03790	mg/L	0.000363	0.96%
Fe 273.955†	37219.8	33.37	mg/L	0.251	33.37	mg/L	0.251	0.75%
K 766.490†	13135.2	5.971	mg/L	0.0195	5.971	mg/L	0.0195	0.33%
Mg 279.077†	15003.6	13.61	mg/L	0.042	13.61	mg/L	0.042	0.31%
Mn 257.610†	21312.6	0.7024	mg/L	0.00433	0.7024	mg/L	0.00433	0.62%
Mo 202.031†	376.7	0.02079	mg/L	0.000154	0.02079	mg/L	0.000154	0.74%
Na 589.592†	448018.1	34.41	mg/L	0.044	34.41	mg/L	0.044	0.13%
Na 330.237†	727.0	35.15	mg/L	0.187	35.15	mg/L	0.187	0.53%
Ni 231.604†	322.8	0.09544	mg/L	0.001477	0.09544	mg/L	0.001477	1.55%
Pb 220.353†	-18.8	0.00500	mg/L	0.000753	0.00500	mg/L	0.000753	15.06%
Sb 206.836†	7.8	0.00279	mg/L	0.000376	0.00279	mg/L	0.000376	13.50%
Se 196.026†	12.5	0.00959	mg/L	0.004907	0.00959	mg/L	0.004907	51.17%
Si 288.158†	16110.4	9.398	mg/L	0.0144	9.398	mg/L	0.0144	0.15%
Sn 189.927†	-48.0	-0.01086	mg/L	0.000533	-0.01086	mg/L	0.000533	4.91%
Sr 421.552†	289687.4	0.3621	mg/L	0.00044	0.3621	mg/L	0.00044	0.12%
Ti 334.903†	24294.3	1.496	mg/L	0.0039	1.496	mg/L	0.0039	0.26%
Tl 190.801†	-0.1	0.00331	mg/L	0.000383	0.00331	mg/L	0.000383	11.57%
V 292.402†	10859.9	0.07115	mg/L	0.000733	0.07115	mg/L	0.000733	1.03%
Zn 206.200†	192.6	0.05846	mg/L	0.000717	0.05846	mg/L	0.000717	1.23%

Sequence No.: 53
 Sample ID: YE49 I TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 348
 Date Collected: 4/4/2014 1:51:02 PM
 Data Type: Original

Nebulizer Parameters: YE49 I TWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE49 I TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2971543.1	103.8 %	0.34			0.33%
ScR 361.383	250636.1	103.9 %	0.47			0.45%
Ag 328.068†	-35.9	-0.00007 mg/L	0.000180	-0.00007 mg/L	0.000180	252.42%
Al 308.215†	15826.6	12.63 mg/L	0.019	12.63 mg/L	0.019	0.15%
As 188.979†	0.9	0.01497 mg/L	0.000835	0.01497 mg/L	0.000835	5.58%
B 249.677†	445.4	0.08072 mg/L	0.000594	0.08072 mg/L	0.000594	0.74%
Ba 233.527†	774.9	0.1972 mg/L	0.00138	0.1972 mg/L	0.00138	0.70%
Be 313.042†	145.2	0.00029 mg/L	0.000026	0.00029 mg/L	0.000026	9.08%
Ca 317.933†	166913.6	17.48 mg/L	0.027	17.48 mg/L	0.027	0.15%
Cd 228.802†	-2.9	-0.00014 mg/L	0.000035	-0.00014 mg/L	0.000035	25.87%
Co 228.616†	672.3	0.01641 mg/L	0.000136	0.01641 mg/L	0.000136	0.83%
Cr 267.716†	209.7	0.04238 mg/L	0.000863	0.04238 mg/L	0.000863	2.04%
Cu 324.752†	5218.8	0.01910 mg/L	0.000191	0.01910 mg/L	0.000191	1.00%
Fe 273.955†	13742.9	12.32 mg/L	0.055	12.32 mg/L	0.055	0.44%
K 766.490†	6103.5	2.774 mg/L	0.0074	2.774 mg/L	0.0074	0.27%
Mg 279.077†	7876.8	7.147 mg/L	0.0156	7.147 mg/L	0.0156	0.22%
Mn 257.610†	28560.7	0.9417 mg/L	0.00235	0.9417 mg/L	0.00235	0.25%
Mo 202.031†	232.1	0.01283 mg/L	0.000039	0.01283 mg/L	0.000039	0.30%
Na 589.592†	225904.3	17.35 mg/L	0.037	17.35 mg/L	0.037	0.21%
Na 330.237†	365.0	17.56 mg/L	0.190	17.56 mg/L	0.190	1.08%
Ni 231.604†	248.0	0.07333 mg/L	0.001927	0.07333 mg/L	0.001927	2.63%
Pb 220.353†	-13.7	0.00094 mg/L	0.000316	0.00094 mg/L	0.000316	33.73%
Sb 206.836†	3.1	0.00084 mg/L	0.000686	0.00084 mg/L	0.000686	81.32%
Se 196.026†	8.7	0.00671 mg/L	0.002293	0.00671 mg/L	0.002293	34.19%
Si 288.158†	34149.2	19.92 mg/L	0.114	19.92 mg/L	0.114	0.57%
Sn 189.927†	-33.3	-0.00812 mg/L	0.000145	-0.00812 mg/L	0.000145	1.79%
Sr 421.552†	174661.7	0.2183 mg/L	0.00036	0.2183 mg/L	0.00036	0.16%
Ti 334.903†	7269.2	0.4471 mg/L	0.00022	0.4471 mg/L	0.00022	0.05%
Tl 190.801†	-2.1	0.00021 mg/L	0.001095	0.00021 mg/L	0.001095	509.92%
V 292.402†	4141.9	0.02738 mg/L	0.000166	0.02738 mg/L	0.000166	0.61%
Zn 206.200†	77.0	0.02638 mg/L	0.000684	0.02638 mg/L	0.000684	2.59%

Sequence No.: 54
 Sample ID: YE52 I SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 349
 Date Collected: 4/4/2014 1:55:17 PM
 Data Type: Original

Nebulizer Parameters: YE52 I SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE52 I SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2948469.3	103.0	%	0.56			0.54%
ScR 361.383	252447.3	104.7	%	0.99			0.95%
Ag 328.068†	-278.0	-0.00109	mg/L	0.000167	-0.00218	0.000334	15.33%
Al 308.215†	89463.3	71.39	mg/L	0.274	142.8	0.55	0.38%
As 188.979†	-204.1	0.05446	mg/L	0.003409	0.1089	0.00682	6.26%
B 249.677†	26.4	0.00469	mg/L	0.000431	0.00937	0.000862	9.19%
Ba 233.527†	613.6	0.1447	mg/L	0.00127	0.2894	0.00255	0.88%
Be 313.042†	367.2	0.00061	mg/L	0.000032	0.00123	0.000063	5.14%
Ca 317.933†	376654.1	39.45	mg/L	0.068	78.89	0.136	0.17%
Cd 228.802†	34.9	0.00111	mg/L	0.000206	0.00222	0.000412	18.56%
Co 228.616†	2068.9	0.04382	mg/L	0.000329	0.08765	0.000658	0.75%
Cr 267.716†	619.2	0.1272	mg/L	0.00044	0.2545	0.00089	0.35%
Cu 324.752†	25069.0	0.09253	mg/L	0.000871	0.1851	0.00174	0.94%
Fe 273.955†	93295.5	83.64	mg/L	0.391	167.3	0.78	0.47%
K 766.490†	8260.1	3.755	mg/L	0.0156	7.509	0.0312	0.41%
Mg 279.077†	16422.0	14.86	mg/L	0.037	29.73	0.075	0.25%
Mn 257.610†	13848.8	0.4560	mg/L	0.00269	0.9120	0.00538	0.59%
Mo 202.031†	100.5	0.00506	mg/L	0.000256	0.01013	0.000511	5.04%
Na 589.592†	111059.1	8.530	mg/L	0.0191	17.06	0.038	0.22%
Na 330.237†	156.5	8.584	mg/L	0.1988	17.17	0.398	2.32%
Ni 231.604†	291.3	0.08612	mg/L	0.000853	0.1722	0.00171	0.99%
Pb 220.353†	-42.5	0.00874	mg/L	0.000986	0.01748	0.001973	11.29%
Sb 206.836†	7.8	0.00625	mg/L	0.001710	0.01251	0.003420	27.34%
Se 196.026†	15.9	0.01201	mg/L	0.003575	0.02402	0.007150	29.76%
Si 288.158†	2633.2	1.538	mg/L	0.0125	3.075	0.0250	0.81%
Sn 189.927†	-54.3	-0.01109	mg/L	0.000358	-0.02218	0.000716	3.23%
Sr 421.552†	321159.8	0.4014	mg/L	0.00095	0.8028	0.00190	0.24%
Ti 334.903†	83480.7	5.146	mg/L	0.0168	10.29	0.034	0.33%
Tl 190.801†	-2.2	0.00683	mg/L	0.002103	0.01367	0.004205	30.77%
V 292.402†	56342.4	0.3738	mg/L	0.00239	0.7477	0.00477	0.64%
Zn 206.200†	799.8	0.2357	mg/L	0.00020	0.4714	0.00039	0.08%

Sequence No.: 55
 Sample ID: YE52 J SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 350
 Date Collected: 4/4/2014 1:59:17 PM
 Data Type: Original

Nebulizer Parameters: YE52 J SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE52 J SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2954403.6	103.2	%	0.55			0.53%
ScR 361.383	254006.7	105.3	%	0.43			0.40%
Ag 328.068†	-353.8	-0.00145	mg/L	0.000054	-0.00290 mg/L	0.000107	3.70%
Al 308.215†	105998.9	84.59	mg/L	0.232	169.2 mg/L	0.46	0.27%
As 188.979†	-193.1	0.06878	mg/L	0.002681	0.1376 mg/L	0.00536	3.90%
B 249.677†	65.5	0.01179	mg/L	0.000359	0.02357 mg/L	0.000719	3.05%
Ba 233.527†	586.3	0.1337	mg/L	0.00172	0.2674 mg/L	0.00345	1.29%
Be 313.042†	571.8	0.00103	mg/L	0.000023	0.00206 mg/L	0.000046	2.23%
Ca 317.933†	409204.7	42.85	mg/L	0.141	85.71 mg/L	0.283	0.33%
Cd 228.802†	27.0	0.00058	mg/L	0.000123	0.00116 mg/L	0.000246	21.16%
Co 228.616†	1736.3	0.03490	mg/L	0.000305	0.06980 mg/L	0.000610	0.87%
Cr 267.716†	680.2	0.1400	mg/L	0.00166	0.2799 mg/L	0.00332	1.18%
Cu 324.752†	46041.0	0.1688	mg/L	0.00130	0.3377 mg/L	0.00260	0.77%
Fe 273.955†	122250.2	109.6	mg/L	0.50	219.2 mg/L	1.01	0.46%
K 766.490†	14107.2	6.412	mg/L	0.0312	12.82 mg/L	0.062	0.49%
Mg 279.077†	22708.1	20.56	mg/L	0.069	41.12 mg/L	0.138	0.33%
Mn 257.610†	16840.3	0.5545	mg/L	0.00167	1.109 mg/L	0.0033	0.30%
Mo 202.031†	144.4	0.00749	mg/L	0.000283	0.01497 mg/L	0.000565	3.77%
Na 589.592†	135025.3	10.37	mg/L	0.018	20.74 mg/L	0.036	0.17%
Na 330.237†	197.0	10.58	mg/L	0.157	21.15 mg/L	0.313	1.48%
Ni 231.604†	250.0	0.07393	mg/L	0.000687	0.1479 mg/L	0.00137	0.93%
Pb 220.353†	74.9	0.02536	mg/L	0.000957	0.05071 mg/L	0.001914	3.77%
Sb 206.836†	17.5	0.00959	mg/L	0.003214	0.01918 mg/L	0.006428	33.51%
Se 196.026†	23.5	0.01785	mg/L	0.004057	0.03570 mg/L	0.008115	22.73%
Si 288.158†	3333.3	1.947	mg/L	0.0114	3.893 mg/L	0.0228	0.59%
Sn 189.927†	-57.5	-0.01163	mg/L	0.000808	-0.02325 mg/L	0.001617	6.95%
Sr 421.552†	362931.8	0.4536	mg/L	0.00114	0.9073 mg/L	0.00228	0.25%
Ti 334.903†	87064.3	5.367	mg/L	0.0115	10.73 mg/L	0.023	0.21%
Tl 190.801†	-14.3	0.00387	mg/L	0.002016	0.00774 mg/L	0.004033	52.12%
V 292.402†	60307.4	0.3991	mg/L	0.00224	0.7982 mg/L	0.00449	0.56%
Zn 206.200†	719.2	0.2121	mg/L	0.00133	0.4241 mg/L	0.00267	0.63%

Sequence No.: 56

Sample ID: YE51 MB1SPK SWC

Analyst: EL

Dilution: 2.000000X

Autosampler Location: 351

Date Collected: 4/4/2014 2:03:17 PM

Data Type: Original

Nebulizer Parameters: YE51 MB1SPK SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE51 MB1SPK SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2947148.2	103.0	%	0.31				0.31%
ScR 361.383	247093.9	102.5	%	0.48				0.47%
Ag 328.068†	106964.0	0.5491	mg/L	0.00506	1.098	mg/L	0.0101	0.92%
Al 308.215†	2637.1	2.097	mg/L	0.0073	4.195	mg/L	0.0147	0.35%
As 188.979†	3434.7	2.116	mg/L	0.0068	4.231	mg/L	0.0136	0.32%
B 249.677†	3.0	-0.00054	mg/L	0.000651	-0.00108	mg/L	0.001302	120.52%
Ba 233.527†	8317.5	2.137	mg/L	0.0040	4.275	mg/L	0.0079	0.19%
Be 313.042†	241241.8	0.5024	mg/L	0.00264	1.005	mg/L	0.0053	0.53%
Ca 317.933†	97947.5	10.26	mg/L	0.052	20.52	mg/L	0.105	0.51%
Cd 228.802†	16574.8	0.5273	mg/L	0.00828	1.055	mg/L	0.0166	1.57%
Co 228.616†	20030.9	0.5133	mg/L	0.00624	1.027	mg/L	0.0125	1.22%
Cr 267.716†	2633.2	0.5362	mg/L	0.00154	1.072	mg/L	0.0031	0.29%
Cu 324.752†	141929.7	0.5090	mg/L	0.00635	1.018	mg/L	0.0127	1.25%
Fe 273.955†	2387.4	2.137	mg/L	0.0178	4.274	mg/L	0.0356	0.83%
K 766.490†	22862.8	10.39	mg/L	0.040	20.78	mg/L	0.080	0.38%
Mg 279.077†	11777.3	10.70	mg/L	0.057	21.40	mg/L	0.114	0.53%
Mn 257.610†	14996.7	0.4949	mg/L	0.00346	0.9898	mg/L	0.00692	0.70%
Mo 202.031†	26.0	0.00131	mg/L	0.000126	0.00262	mg/L	0.000251	9.61%
Na 589.592†	136883.2	10.51	mg/L	0.023	21.03	mg/L	0.045	0.22%
Na 330.237†	227.4	10.72	mg/L	0.155	21.45	mg/L	0.309	1.44%
Ni 231.604†	1805.1	0.5329	mg/L	0.00287	1.066	mg/L	0.0057	0.54%
Pb 220.353†	16656.9	2.073	mg/L	0.0276	4.146	mg/L	0.0552	1.33%
Sb 206.836†	14.9	-0.00019	mg/L	0.001526	-0.00038	mg/L	0.003052	804.42%
Se 196.026†	2733.5	2.105	mg/L	0.0164	4.210	mg/L	0.0328	0.78%
Si 288.158†	-12.4	-0.00357	mg/L	0.007908	-0.00714	mg/L	0.015816	221.59%
Sn 189.927†	-20.1	-0.00490	mg/L	0.000183	-0.00981	mg/L	0.000366	3.74%
Sr 421.552†	411992.4	0.5150	mg/L	0.00066	1.030	mg/L	0.0013	0.13%
Ti 334.903†	99.1	0.00528	mg/L	0.000136	0.01057	mg/L	0.000271	2.57%
Tl 190.801†	4240.6	2.068	mg/L	0.0119	4.135	mg/L	0.0237	0.57%
V 292.402†	76213.7	0.5175	mg/L	0.00572	1.035	mg/L	0.0114	1.10%
Zn 206.200†	1772.3	0.5219	mg/L	0.00304	1.044	mg/L	0.0061	0.58%

YE49:00137

Sequence No.: 57

Sample ID: YE52 MB1SPK SWC

Analyst: EL

Dilution: 2.000000X

Autosampler Location: 352

Date Collected: 4/4/2014 2:07:17 PM

Data Type: Original

Nebulizer Parameters: YE52 MB1SPK SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE52 MB1SPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2928586.5	102.3	%	0.46				0.45%
ScR 361.383	250335.7	103.8	%	0.54				0.52%
Ag 328.068†	106625.1	0.5473	mg/L	0.00285	1.095	mg/L	0.0057	0.52%
Al 308.215†	2584.4	2.055	mg/L	0.0099	4.111	mg/L	0.0198	0.48%
As 188.979†	3441.7	2.120	mg/L	0.0173	4.240	mg/L	0.0346	0.82%
B 249.677†	2.4	-0.00065	mg/L	0.000781	-0.00130	mg/L	0.001562	120.50%
Ba 233.527†	8197.6	2.107	mg/L	0.0071	4.213	mg/L	0.0142	0.34%
Be 313.042†	240972.8	0.5018	mg/L	0.00152	1.004	mg/L	0.0030	0.30%
Ca 317.933†	97983.3	10.26	mg/L	0.010	20.52	mg/L	0.021	0.10%
Cd 228.802†	16542.4	0.5262	mg/L	0.00474	1.052	mg/L	0.0095	0.90%
Co 228.616†	19976.0	0.5119	mg/L	0.00214	1.024	mg/L	0.0043	0.42%
Cr 267.716†	2597.7	0.5290	mg/L	0.00386	1.058	mg/L	0.0077	0.73%
Cu 324.752†	140914.5	0.5053	mg/L	0.00150	1.011	mg/L	0.0030	0.30%
Fe 273.955†	2343.7	2.098	mg/L	0.0128	4.195	mg/L	0.0257	0.61%
K 766.490†	22583.6	10.27	mg/L	0.030	20.53	mg/L	0.060	0.29%
Mg 279.077†	11604.9	10.54	mg/L	0.051	21.09	mg/L	0.101	0.48%
Mn 257.610†	14909.7	0.4921	mg/L	0.00060	0.9841	mg/L	0.00119	0.12%
Mo 202.031†	24.8	0.00124	mg/L	0.000066	0.00248	mg/L	0.000131	5.29%
Na 589.592†	135401.8	10.40	mg/L	0.038	20.80	mg/L	0.076	0.36%
Na 330.237†	230.0	10.85	mg/L	0.122	21.70	mg/L	0.245	1.13%
Ni 231.604†	1778.1	0.5249	mg/L	0.00334	1.050	mg/L	0.0067	0.64%
Pb 220.353†	16629.6	2.070	mg/L	0.0119	4.139	mg/L	0.0238	0.58%
Sb 206.836†	15.6	0.00013	mg/L	0.001163	0.00026	mg/L	0.002325	887.16%
Se 196.026†	2738.3	2.108	mg/L	0.0091	4.217	mg/L	0.0183	0.43%
Si 288.158†	-17.3	-0.00648	mg/L	0.004293	-0.01296	mg/L	0.008585	66.26%
Sn 189.927†	-19.8	-0.00483	mg/L	0.000067	-0.00966	mg/L	0.000134	1.39%
Sr 421.552†	405608.2	0.5070	mg/L	0.00226	1.014	mg/L	0.0045	0.45%
Ti 334.903†	33.9	0.00127	mg/L	0.000142	0.00253	mg/L	0.000283	11.19%
Tl 190.801†	4233.1	2.064	mg/L	0.0124	4.128	mg/L	0.0248	0.60%
V 292.402†	76212.1	0.5174	mg/L	0.00333	1.035	mg/L	0.0067	0.64%
Zn 206.200†	1744.3	0.5136	mg/L	0.00320	1.027	mg/L	0.0064	0.62%

Sequence No.: 58
 Sample ID: YE49 MB3SPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 353
 Date Collected: 4/4/2014 2:11:17 PM
 Data Type: Original

 Nebulizer Parameters: YE49 MB3SPK TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

 Mean Data: YE49 MB3SPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2927992.6	102.3	%	0.11				0.11%
ScR 361.383	250560.7	103.9	%	0.16				0.15%
Ag 328.068†	109409.6	0.5616	mg/L	0.00167	0.5616	mg/L	0.00167	0.30%
Al 308.215†	2639.8	2.099	mg/L	0.0108	2.099	mg/L	0.0108	0.52%
As 188.979†	3506.8	2.160	mg/L	0.0117	2.160	mg/L	0.0117	0.54%
B 249.677†	5.6	-0.00009	mg/L	0.001498	-0.00009	mg/L	0.001498	>999.9%
Ba 233.527†	8354.6	2.147	mg/L	0.0111	2.147	mg/L	0.0111	0.52%
Be 313.042†	247378.9	0.5152	mg/L	0.00177	0.5152	mg/L	0.00177	0.34%
Ca 317.933†	99972.7	10.47	mg/L	0.015	10.47	mg/L	0.015	0.14%
Cd 228.802†	16914.2	0.5381	mg/L	0.00059	0.5381	mg/L	0.00059	0.11%
Co 228.616†	20459.4	0.5243	mg/L	0.00216	0.5243	mg/L	0.00216	0.41%
Cr 267.716†	2651.8	0.5400	mg/L	0.00296	0.5400	mg/L	0.00296	0.55%
Cu 324.752†	145191.9	0.5207	mg/L	0.00186	0.5207	mg/L	0.00186	0.36%
Fe 273.955†	2393.1	2.142	mg/L	0.0049	2.142	mg/L	0.0049	0.23%
K 766.490†	23025.5	10.47	mg/L	0.012	10.47	mg/L	0.012	0.12%
Mg 279.077†	11831.8	10.75	mg/L	0.028	10.75	mg/L	0.028	0.26%
Mn 257.610†	15164.4	0.5005	mg/L	0.00163	0.5005	mg/L	0.00163	0.33%
Mo 202.031†	26.1	0.00131	mg/L	0.000142	0.00131	mg/L	0.000142	10.82%
Na 589.592†	138511.6	10.64	mg/L	0.001	10.64	mg/L	0.001	0.01%
Na 330.237†	234.6	11.07	mg/L	0.256	11.07	mg/L	0.256	2.32%
Ni 231.604†	1811.1	0.5346	mg/L	0.00171	0.5346	mg/L	0.00171	0.32%
Pb 220.353†	17009.2	2.117	mg/L	0.0096	2.117	mg/L	0.0096	0.45%
Sb 206.836†	11.4	-0.00137	mg/L	0.002049	-0.00137	mg/L	0.002049	149.96%
Se 196.026†	2806.0	2.161	mg/L	0.0114	2.161	mg/L	0.0114	0.53%
Si 288.158†	-0.0	0.00369	mg/L	0.006991	0.00369	mg/L	0.006991	189.68%
Sn 189.927†	-21.3	-0.00525	mg/L	0.000469	-0.00525	mg/L	0.000469	8.93%
Sr 421.552†	415336.7	0.5191	mg/L	0.00110	0.5191	mg/L	0.00110	0.21%
Ti 334.903†	28.4	0.00091	mg/L	0.000208	0.00091	mg/L	0.000208	22.83%
Tl 190.801†	4321.7	2.107	mg/L	0.0075	2.107	mg/L	0.0075	0.36%
V 292.402†	78325.2	0.5318	mg/L	0.00286	0.5318	mg/L	0.00286	0.54%
Zn 206.200†	1773.0	0.5221	mg/L	0.00150	0.5221	mg/L	0.00150	0.29%

Sequence No.: 59

Sample ID: CV6

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/4/2014 2:15:17 PM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2902093.0	101.4	%	0.70			0.69%
ScR 361.383	243547.3	101.0	%	0.37			0.36%
Ag 328.068†	211017.2	1.083	mg/L	0.0080	1.083 mg/L	0.0080	0.74%
Al 308.215†	2598.5	2.042	mg/L	0.0163	2.042 mg/L	0.0163	0.80%
As 188.979†	3292.7	2.061	mg/L	0.0180	2.061 mg/L	0.0180	0.87%
B 249.677†	5696.4	1.032	mg/L	0.0071	1.032 mg/L	0.0071	0.69%
Ba 233.527†	4049.0	1.040	mg/L	0.0034	1.040 mg/L	0.0034	0.33%
Be 313.042†	478687.8	0.9969	mg/L	0.00182	0.9969 mg/L	0.00182	0.18%
Ca 317.933†	20447.0	2.141	mg/L	0.0079	2.141 mg/L	0.0079	0.37%
Cd 228.802†	32363.6	1.040	mg/L	0.0100	1.040 mg/L	0.0100	0.96%
Co 228.616†	39579.3	1.013	mg/L	0.0087	1.013 mg/L	0.0087	0.85%
Cr 267.716†	5159.7	1.053	mg/L	0.0062	1.053 mg/L	0.0062	0.59%
Cu 324.752†	280098.8	1.004	mg/L	0.0023	1.004 mg/L	0.0023	0.23%
Fe 273.955†	2347.2	2.097	mg/L	0.0135	2.097 mg/L	0.0135	0.64%
K 766.490†	45106.8	20.50	mg/L	0.158	20.50 mg/L	0.158	0.77%
Mg 279.077†	2254.1	2.054	mg/L	0.0182	2.054 mg/L	0.0182	0.88%
Mn 257.610†	29872.1	0.9856	mg/L	0.00122	0.9856 mg/L	0.00122	0.12%
Mo 202.031†	17345.3	0.9792	mg/L	0.00660	0.9792 mg/L	0.00660	0.67%
Na 589.592†	675156.0	51.86	mg/L	0.220	51.86 mg/L	0.220	0.42%
Na 330.237†	1086.0	52.19	mg/L	0.376	52.19 mg/L	0.376	0.72%
Ni 231.604†	3544.1	1.048	mg/L	0.0062	1.048 mg/L	0.0062	0.59%
Pb 220.353†	16381.2	2.039	mg/L	0.0118	2.039 mg/L	0.0118	0.58%
Sb 206.836†	6320.4	2.105	mg/L	0.0218	2.105 mg/L	0.0218	1.04%
Se 196.026†	2659.7	2.047	mg/L	0.0183	2.047 mg/L	0.0183	0.90%
Si 288.158†	3400.2	1.988	mg/L	0.0366	1.988 mg/L	0.0366	1.84%
Sn 189.927†	3239.2	1.006	mg/L	0.0148	1.006 mg/L	0.0148	1.47%
Sr 421.552†	820633.4	1.026	mg/L	0.0030	1.026 mg/L	0.0030	0.29%
Ti 334.903†	16365.4	1.008	mg/L	0.0029	1.008 mg/L	0.0029	0.29%
Tl 190.801†	4133.1	2.012	mg/L	0.0178	2.012 mg/L	0.0178	0.89%
V 292.402†	152177.9	1.033	mg/L	0.0087	1.033 mg/L	0.0087	0.84%
Zn 206.200†	3533.5	1.040	mg/L	0.0042	1.040 mg/L	0.0042	0.41%

Sequence No.: 60
 Sample ID: CB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/4/2014 2:19:21 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2923485.0	102.1	%	0.39				0.38%
ScR 361.383	249338.8	103.4	%	1.05				1.02%
Ag 328.068†	-8.4	-0.00004	mg/L	0.000120	-0.00004	mg/L	0.000120	279.12%
Al 308.215†	1.3	0.00100	mg/L	0.000477	0.00100	mg/L	0.000477	47.73%
As 188.979†	2.0	0.00124	mg/L	0.001333	0.00124	mg/L	0.001333	107.15%
B 249.677†	10.1	0.00183	mg/L	0.000587	0.00183	mg/L	0.000587	32.05%
Ba 233.527†	1.3	0.00032	mg/L	0.000377	0.00032	mg/L	0.000377	116.86%
Be 313.042†	20.0	0.00004	mg/L	0.000020	0.00004	mg/L	0.000020	49.14%
Ca 317.933†	18.8	0.00197	mg/L	0.001452	0.00197	mg/L	0.001452	73.69%
Cd 228.802†	-1.7	-0.00006	mg/L	0.000095	-0.00006	mg/L	0.000095	152.47%
Co 228.616†	0.8	0.00002	mg/L	0.000082	0.00002	mg/L	0.000082	404.72%
Cr 267.716†	6.1	0.00124	mg/L	0.000381	0.00124	mg/L	0.000381	30.74%
Cu 324.752†	139.8	0.00050	mg/L	0.000123	0.00050	mg/L	0.000123	24.65%
Fe 273.955†	2.6	0.00231	mg/L	0.001031	0.00231	mg/L	0.001031	44.56%
K 766.490†	-19.4	-0.00880	mg/L	0.026338	-0.00880	mg/L	0.026338	299.19%
Mg 279.077†	-0.3	-0.00030	mg/L	0.005935	-0.00030	mg/L	0.005935	>999.9%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000252	-0.00001	mg/L	0.000252	>999.9%
Mo 202.031†	18.2	0.00102	mg/L	0.000436	0.00102	mg/L	0.000436	42.54%
Na 589.592†	61.2	0.00470	mg/L	0.002038	0.00470	mg/L	0.002038	43.36%
Na 330.237†	-1.4	-0.06827	mg/L	0.228196	-0.06827	mg/L	0.228196	334.25%
Ni 231.604†	1.2	0.00035	mg/L	0.000923	0.00035	mg/L	0.000923	262.37%
Pb 220.353†	-3.0	-0.00037	mg/L	0.000430	-0.00037	mg/L	0.000430	114.68%
Sb 206.836†	29.8	0.00991	mg/L	0.002818	0.00991	mg/L	0.002818	28.44%
Se 196.026†	2.2	0.00172	mg/L	0.006047	0.00172	mg/L	0.006047	352.18%
Si 288.158†	-12.5	-0.00728	mg/L	0.002495	-0.00728	mg/L	0.002495	34.28%
Sn 189.927†	0.7	0.00021	mg/L	0.001046	0.00021	mg/L	0.001046	495.13%
Sr 421.552†	27.0	0.00003	mg/L	0.000022	0.00003	mg/L	0.000022	65.80%
Ti 334.903†	13.9	0.00085	mg/L	0.000568	0.00085	mg/L	0.000568	66.51%
Tl 190.801†	-3.7	-0.00182	mg/L	0.002346	-0.00182	mg/L	0.002346	128.63%
V 292.402†	-0.6	0.00000	mg/L	0.000191	0.00000	mg/L	0.000191	>999.9%
Zn 206.200†	-1.5	-0.00044	mg/L	0.000426	-0.00044	mg/L	0.000426	96.34%

Sequence No.: 61
Sample ID: YF34 MB TWC
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 354
Date Collected: 4/4/2014 2:23:21 PM
Data Type: Original

Nebulizer Parameters: YF34 MB TWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YF34 MB TWC

Table with 9 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Sample Conc., Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 62
 Sample ID: YF35 MB TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 355
 Date Collected: 4/4/2014 2:27:21 PM
 Data Type: Original

Nebulizer Parameters: YF35 MB TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF35 MB TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2932406.0	102.5	%	0.37			0.36%
ScR 361.383	251454.9	104.3	%	0.32			0.31%
Ag 328.068†	-23.0	-0.00012	mg/L	0.000266	-0.00012 mg/L	0.000266	224.93%
Al 308.215†	8.6	0.00687	mg/L	0.004529	0.00687 mg/L	0.004529	65.94%
As 188.979†	-1.2	-0.00075	mg/L	0.000236	-0.00075 mg/L	0.000236	31.36%
B 249.677†	-1.4	-0.00026	mg/L	0.000881	-0.00026 mg/L	0.000881	340.80%
Ba 233.527†	2.4	0.00062	mg/L	0.000756	0.00062 mg/L	0.000756	121.87%
Be 313.042†	8.8	0.00002	mg/L	0.000020	0.00002 mg/L	0.000020	108.42%
Ca 317.933†	41.2	0.00431	mg/L	0.000555	0.00431 mg/L	0.000555	12.87%
Cd 228.802†	-0.4	-0.00001	mg/L	0.000056	-0.00001 mg/L	0.000056	555.07%
Co 228.616†	-2.0	-0.00005	mg/L	0.000214	-0.00005 mg/L	0.000214	406.16%
Cr 267.716†	-1.2	-0.00024	mg/L	0.000826	-0.00024 mg/L	0.000826	342.58%
Cu 324.752†	166.5	0.00060	mg/L	0.000146	0.00060 mg/L	0.000146	24.39%
Fe 273.955†	1.9	0.00174	mg/L	0.001107	0.00174 mg/L	0.001107	63.48%
K 766.490†	2.0	0.00091	mg/L	0.004305	0.00091 mg/L	0.004305	473.69%
Mg 279.077†	-0.6	-0.00054	mg/L	0.004898	-0.00054 mg/L	0.004898	905.73%
Mn 257.610†	3.5	0.00012	mg/L	0.000164	0.00012 mg/L	0.000164	141.53%
Mo 202.031†	-1.7	-0.00010	mg/L	0.000150	-0.00010 mg/L	0.000150	153.56%
Na 589.592†	83.7	0.00643	mg/L	0.000957	0.00643 mg/L	0.000957	14.88%
Na 330.237†	4.6	0.2228	mg/L	0.28918	0.2228 mg/L	0.28918	129.78%
Ni 231.604†	1.5	0.00043	mg/L	0.000437	0.00043 mg/L	0.000437	100.43%
Pb 220.353†	-5.7	-0.00071	mg/L	0.000853	-0.00071 mg/L	0.000853	120.37%
Sb 206.836†	3.4	0.00114	mg/L	0.001046	0.00114 mg/L	0.001046	91.37%
Se 196.026†	-0.3	-0.00020	mg/L	0.003012	-0.00020 mg/L	0.003012	>999.9%
Si 288.158†	3.8	0.00220	mg/L	0.004521	0.00220 mg/L	0.004521	205.48%
Sn 189.927†	1.6	0.00051	mg/L	0.000890	0.00051 mg/L	0.000890	175.46%
Sr 421.552†	-16.3	-0.00002	mg/L	0.000023	-0.00002 mg/L	0.000023	111.43%
Ti 334.903†	4.4	0.00027	mg/L	0.000228	0.00027 mg/L	0.000228	84.05%
Tl 190.801†	-0.0	-0.00001	mg/L	0.001296	-0.00001 mg/L	0.001296	>999.9%
V 292.402†	-20.7	-0.00014	mg/L	0.000088	-0.00014 mg/L	0.000088	62.54%
Zn 206.200†	2.0	0.00059	mg/L	0.000656	0.00059 mg/L	0.000656	110.94%

Sequence No.: 63
 Sample ID: YF36 MB1 TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 356
 Date Collected: 4/4/2014 2:31:20 PM
 Data Type: Original

 Nebulizer Parameters: YF36 MB1 TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

 Mean Data: YF36 MB1 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2928134.5	102.3	%	0.55				0.53%
ScR 361.383	248685.2	103.1	%	0.54				0.52%
Ag 328.068†	19.4	0.00010	mg/L	0.000227	0.00010	mg/L	0.000227	227.39%
Al 308.215†	4.6	0.00364	mg/L	0.004676	0.00364	mg/L	0.004676	128.51%
As 188.979†	-0.7	-0.00043	mg/L	0.000669	-0.00043	mg/L	0.000669	157.04%
B 249.677†	5.0	0.00090	mg/L	0.001249	0.00090	mg/L	0.001249	138.18%
Ba 233.527†	3.1	0.00079	mg/L	0.000240	0.00079	mg/L	0.000240	30.53%
Be 313.042†	19.4	0.00004	mg/L	0.000019	0.00004	mg/L	0.000019	45.98%
Ca 317.933†	61.2	0.00641	mg/L	0.000317	0.00641	mg/L	0.000317	4.95%
Cd 228.802†	-2.7	-0.00008	mg/L	0.000095	-0.00008	mg/L	0.000095	113.46%
Co 228.616†	-3.1	-0.00008	mg/L	0.000065	-0.00008	mg/L	0.000065	81.04%
Cr 267.716†	1.5	0.00031	mg/L	0.000092	0.00031	mg/L	0.000092	29.51%
Cu 324.752†	160.7	0.00058	mg/L	0.000136	0.00058	mg/L	0.000136	23.54%
Fe 273.955†	3.6	0.00321	mg/L	0.000747	0.00321	mg/L	0.000747	23.27%
K 766.490†	21.0	0.00954	mg/L	0.017601	0.00954	mg/L	0.017601	184.40%
Mg 279.077†	0.0	0.00003	mg/L	0.002138	0.00003	mg/L	0.002138	>999.9%
Mn 257.610†	7.6	0.00025	mg/L	0.000084	0.00025	mg/L	0.000084	33.49%
Mo 202.031†	-0.8	-0.00005	mg/L	0.000237	-0.00005	mg/L	0.000237	512.89%
Na 589.592†	17.5	0.00135	mg/L	0.001455	0.00135	mg/L	0.001455	108.15%
Na 330.237†	6.4	0.3082	mg/L	0.15536	0.3082	mg/L	0.15536	50.42%
Ni 231.604†	1.8	0.00052	mg/L	0.000537	0.00052	mg/L	0.000537	103.48%
Pb 220.353†	-2.3	-0.00028	mg/L	0.000898	-0.00028	mg/L	0.000898	316.59%
Sb 206.836†	-0.3	-0.00010	mg/L	0.000691	-0.00010	mg/L	0.000691	664.16%
Se 196.026†	-3.7	-0.00287	mg/L	0.001957	-0.00287	mg/L	0.001957	68.07%
Si 288.158†	12.2	0.00710	mg/L	0.000686	0.00710	mg/L	0.000686	9.66%
Sn 189.927†	-1.5	-0.00046	mg/L	0.000567	-0.00046	mg/L	0.000567	122.03%
Sr 421.552†	19.4	0.00002	mg/L	0.000066	0.00002	mg/L	0.000066	271.39%
Ti 334.903†	1.1	0.00007	mg/L	0.000342	0.00007	mg/L	0.000342	500.92%
Tl 190.801†	-1.0	-0.00049	mg/L	0.000940	-0.00049	mg/L	0.000940	191.95%
V 292.402†	-34.5	-0.00023	mg/L	0.000104	-0.00023	mg/L	0.000104	44.88%
Zn 206.200†	3.0	0.00089	mg/L	0.000934	0.00089	mg/L	0.000934	104.95%

Sequence No.: 64
 Sample ID: YF36 A TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 357
 Date Collected: 4/4/2014 2:35:19 PM
 Data Type: Original

Nebulizer Parameters: YF36 A TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF36 A TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2906226.1	101.5	%	0.31				0.30%
ScR 361.383	250273.1	103.8	%	0.87				0.84%
Ag 328.068†	-1.2	0.00009	mg/L	0.000093	0.00009	mg/L	0.000093	105.69%
Al 308.215†	627.0	0.5003	mg/L	0.00860	0.5003	mg/L	0.00860	1.72%
As 188.979†	22.0	0.01299	mg/L	0.001304	0.01299	mg/L	0.001304	10.03%
B 249.677†	114.2	0.02071	mg/L	0.000432	0.02071	mg/L	0.000432	2.08%
Ba 233.527†	46.1	0.00909	mg/L	0.000603	0.00909	mg/L	0.000603	6.63%
Be 313.042†	38.1	0.00008	mg/L	0.000025	0.00008	mg/L	0.000025	32.67%
Ca 317.933†	147174.3	15.41	mg/L	0.102	15.41	mg/L	0.102	0.66%
Cd 228.802†	1.7	-0.00017	mg/L	0.000101	-0.00017	mg/L	0.000101	59.85%
Co 228.616†	24.8	0.00059	mg/L	0.000034	0.00059	mg/L	0.000034	5.70%
Cr 267.716†	13.6	0.00276	mg/L	0.000220	0.00276	mg/L	0.000220	7.98%
Cu 324.752†	1399.1	0.00576	mg/L	0.000149	0.00576	mg/L	0.000149	2.58%
Fe 273.955†	19953.7	17.89	mg/L	0.041	17.89	mg/L	0.041	0.23%
K 766.490†	1031.8	0.4690	mg/L	0.02447	0.4690	mg/L	0.02447	5.22%
Mg 279.077†	5569.8	5.048	mg/L	0.0403	5.048	mg/L	0.0403	0.80%
Mn 257.610†	29878.1	0.9853	mg/L	0.00331	0.9853	mg/L	0.00331	0.34%
Mo 202.031†	70.9	0.00376	mg/L	0.000150	0.00376	mg/L	0.000150	3.99%
Na 589.592†	105733.4	8.121	mg/L	0.0421	8.121	mg/L	0.0421	0.52%
Na 330.237†	181.7	8.649	mg/L	0.0777	8.649	mg/L	0.0777	0.90%
Ni 231.604†	9.5	0.00281	mg/L	0.001800	0.00281	mg/L	0.001800	64.15%
Pb 220.353†	-1.1	-0.00083	mg/L	0.000452	-0.00083	mg/L	0.000452	54.20%
Sb 206.836†	9.7	0.00315	mg/L	0.003412	0.00315	mg/L	0.003412	108.16%
Se 196.026†	-0.3	-0.00026	mg/L	0.003693	-0.00026	mg/L	0.003693	>999.9%
Si 288.158†	30824.8	17.98	mg/L	0.140	17.98	mg/L	0.140	0.78%
Sn 189.927†	-28.9	-0.00707	mg/L	0.000984	-0.00707	mg/L	0.000984	13.92%
Sr 421.552†	56295.9	0.07036	mg/L	0.000234	0.07036	mg/L	0.000234	0.33%
Ti 334.903†	377.8	0.02221	mg/L	0.000741	0.02221	mg/L	0.000741	3.33%
Tl 190.801†	-2.2	0.00096	mg/L	0.001058	0.00096	mg/L	0.001058	109.64%
V 292.402†	638.9	0.00346	mg/L	0.000071	0.00346	mg/L	0.000071	2.07%
Zn 206.200†	-2.3	0.00268	mg/L	0.000451	0.00268	mg/L	0.000451	16.84%

Sequence No.: 65
 Sample ID: YF36 B TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 358
 Date Collected: 4/4/2014 2:39:19 PM
 Data Type: Original

Nebulizer Parameters: YF36 B TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF36 B TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2910640.2	101.7	%	0.65			0.64%
ScR 361.383	246801.8	102.4	%	0.49			0.48%
Ag 328.068†	-57.2	-0.00005	mg/L	0.000065	-0.00005 mg/L	0.000065	126.90%
Al 308.215†	8456.4	6.749	mg/L	0.0333	6.749 mg/L	0.0333	0.49%
As 188.979†	33.8	0.03133	mg/L	0.002187	0.03133 mg/L	0.002187	6.98%
B 249.677†	156.6	0.02839	mg/L	0.000730	0.02839 mg/L	0.000730	2.57%
Ba 233.527†	199.5	0.04335	mg/L	0.001250	0.04335 mg/L	0.001250	2.88%
Be 313.042†	61.9	0.00012	mg/L	0.000055	0.00012 mg/L	0.000055	46.51%
Ca 317.933†	371635.3	38.92	mg/L	0.140	38.92 mg/L	0.140	0.36%
Cd 228.802†	4.2	-0.00041	mg/L	0.000193	-0.00041 mg/L	0.000193	46.95%
Co 228.616†	211.0	0.00471	mg/L	0.000083	0.00471 mg/L	0.000083	1.76%
Cr 267.716†	56.3	0.01172	mg/L	0.000863	0.01172 mg/L	0.000863	7.36%
Cu 324.752†	2798.4	0.01214	mg/L	0.000288	0.01214 mg/L	0.000288	2.37%
Fe 273.955†	57279.0	51.35	mg/L	0.103	51.35 mg/L	0.103	0.20%
K 766.490†	4960.4	2.255	mg/L	0.0206	2.255 mg/L	0.0206	0.91%
Mg 279.077†	13133.9	11.90	mg/L	0.095	11.90 mg/L	0.095	0.80%
Mn 257.610†	56869.4	1.875	mg/L	0.0034	1.875 mg/L	0.0034	0.18%
Mo 202.031†	68.3	0.00325	mg/L	0.000163	0.00325 mg/L	0.000163	5.01%
Na 589.592†	126960.9	9.751	mg/L	0.0125	9.751 mg/L	0.0125	0.13%
Na 330.237†	210.3	9.974	mg/L	0.4660	9.974 mg/L	0.4660	4.67%
Ni 231.604†	29.8	0.00882	mg/L	0.000703	0.00882 mg/L	0.000703	7.97%
Pb 220.353†	-5.5	-0.00135	mg/L	0.000600	-0.00135 mg/L	0.000600	44.62%
Sb 206.836†	13.3	0.00456	mg/L	0.001499	0.00456 mg/L	0.001499	32.88%
Se 196.026†	1.7	0.00130	mg/L	0.004815	0.00130 mg/L	0.004815	371.25%
Si 288.158†	51789.7	30.21	mg/L	0.208	30.21 mg/L	0.208	0.69%
Sn 189.927†	-59.1	-0.01352	mg/L	0.000585	-0.01352 mg/L	0.000585	4.33%
Sr 421.552†	108891.8	0.1361	mg/L	0.00020	0.1361 mg/L	0.00020	0.15%
Ti 334.903†	6328.6	0.3876	mg/L	0.00979	0.3876 mg/L	0.00979	2.53%
Tl 190.801†	-8.1	0.00182	mg/L	0.002761	0.00182 mg/L	0.002761	151.85%
V 292.402†	3944.4	0.02388	mg/L	0.000185	0.02388 mg/L	0.000185	0.77%
Zn 206.200†	46.9	0.01943	mg/L	0.000930	0.01943 mg/L	0.000930	4.79%

Sequence No.: 66
 Sample ID: YF36 C TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 359
 Date Collected: 4/4/2014 2:43:34 PM
 Data Type: Original

Nebulizer Parameters: YF36 C TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF36 C TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904152.6	101.5	%	0.43			0.43%
ScR 361.383	247866.9	102.8	%	0.43			0.41%
Ag 328.068†	-26.3	-0.00005	mg/L	0.000108	-0.00005 mg/L	0.000108	200.37%
Al 308.215†	4144.7	3.308	mg/L	0.0187	3.308 mg/L	0.0187	0.57%
As 188.979†	14.0	0.01400	mg/L	0.003158	0.01400 mg/L	0.003158	22.55%
B 249.677†	142.6	0.02584	mg/L	0.000530	0.02584 mg/L	0.000530	2.05%
Ba 233.527†	110.7	0.02502	mg/L	0.000540	0.02502 mg/L	0.000540	2.16%
Be 313.042†	55.6	0.00011	mg/L	0.000022	0.00011 mg/L	0.000022	19.72%
Ca 317.933†	121277.6	12.70	mg/L	0.033	12.70 mg/L	0.033	0.26%
Cd 228.802†	1.2	-0.00019	mg/L	0.000061	-0.00019 mg/L	0.000061	31.47%
Co 228.616†	64.2	0.00132	mg/L	0.000108	0.00132 mg/L	0.000108	8.22%
Cr 267.716†	38.2	0.00802	mg/L	0.000371	0.00802 mg/L	0.000371	4.62%
Cu 324.752†	2853.1	0.01116	mg/L	0.000183	0.01116 mg/L	0.000183	1.64%
Fe 273.955†	24790.6	22.22	mg/L	0.077	22.22 mg/L	0.077	0.35%
K 766.490†	2562.5	1.165	mg/L	0.0081	1.165 mg/L	0.0081	0.70%
Mg 279.077†	4506.6	4.079	mg/L	0.0163	4.079 mg/L	0.0163	0.40%
Mn 257.610†	24349.8	0.8030	mg/L	0.00441	0.8030 mg/L	0.00441	0.55%
Mo 202.031†	43.3	0.00225	mg/L	0.000185	0.00225 mg/L	0.000185	8.24%
Na 589.592†	179707.6	13.80	mg/L	0.006	13.80 mg/L	0.006	0.04%
Na 330.237†	299.0	14.35	mg/L	0.102	14.35 mg/L	0.102	0.71%
Ni 231.604†	19.3	0.00571	mg/L	0.001248	0.00571 mg/L	0.001248	21.85%
Pb 220.353†	-6.7	-0.00103	mg/L	0.001166	-0.00103 mg/L	0.001166	113.55%
Sb 206.836†	8.5	0.00285	mg/L	0.001373	0.00285 mg/L	0.001373	48.21%
Se 196.026†	4.7	0.00363	mg/L	0.002763	0.00363 mg/L	0.002763	76.03%
Si 288.158†	54681.1	31.89	mg/L	0.164	31.89 mg/L	0.164	0.51%
Sn 189.927†	-31.3	-0.00813	mg/L	0.000895	-0.00813 mg/L	0.000895	11.00%
Sr 421.552†	54058.4	0.06757	mg/L	0.000158	0.06757 mg/L	0.000158	0.23%
Ti 334.903†	2942.6	0.1806	mg/L	0.00040	0.1806 mg/L	0.00040	0.22%
Tl 190.801†	-8.1	-0.00149	mg/L	0.002211	-0.00149 mg/L	0.002211	148.55%
V 292.402†	2504.6	0.01573	mg/L	0.000161	0.01573 mg/L	0.000161	1.03%
Zn 206.200†	7.6	0.00817	mg/L	0.000146	0.00817 mg/L	0.000146	1.79%

Sequence No.: 67
 Sample ID: YF35 A TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 360
 Date Collected: 4/4/2014 2:47:49 PM
 Data Type: Original

Nebulizer Parameters: YF35 A TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF35 A TWC

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2764013.1	96.57	%	0.320				0.33%
ScR 361.383	241957.7	100.3	%	0.88				0.88%
Ag 328.068†	-275.7	0.00026	mg/L	0.000291	0.00026	mg/L	0.000291	111.35%
Al 308.215†	16.5	0.01071	mg/L	0.004950	0.01071	mg/L	0.004950	46.22%
As 188.979†	143.2	0.06421	mg/L	0.001384	0.06421	mg/L	0.001384	2.16%
B 249.677†	17567.9	3.185	mg/L	0.0064	3.185	mg/L	0.0064	0.20%
Ba 233.527†	485.3	0.1246	mg/L	0.00141	0.1246	mg/L	0.00141	1.14%
Be 313.042†	41.1	0.00008	mg/L	0.000004	0.00008	mg/L	0.000004	4.94%
Ca 317.933†	2649008.7	277.4	mg/L	2.82	277.4	mg/L	2.82	1.01%
Cd 228.802†	-3.8	-0.00058	mg/L	0.000132	-0.00058	mg/L	0.000132	22.74%
Co 228.616†	25.8	0.00063	mg/L	0.000155	0.00063	mg/L	0.000155	24.66%
Cr 267.716†	34.6	0.00091	mg/L	0.001584	0.00091	mg/L	0.001584	174.32%
Cu 324.752†	1052.5	0.00269	mg/L	0.000109	0.00269	mg/L	0.000109	4.03%
Fe 273.955†	634.9	0.5691	mg/L	0.00273	0.5691	mg/L	0.00273	0.48%
K 766.490†	101048.2	45.93	mg/L	0.111	45.93	mg/L	0.111	0.24%
Mg 279.077†	45818.8	41.60	mg/L	0.080	41.60	mg/L	0.080	0.19%
Mn 257.610†	18858.8	0.6205	mg/L	0.00111	0.6205	mg/L	0.00111	0.18%
Mo 202.031†	2571.2	0.1409	mg/L	0.00055	0.1409	mg/L	0.00055	0.39%
Na 589.592†	1473914.6	113.2	mg/L	1.24	113.2	mg/L	1.24	1.09%
Na 330.237†	2315.4	109.7	mg/L	0.43	109.7	mg/L	0.43	0.39%
Ni 231.604†	6.6	0.00259	mg/L	0.001623	0.00259	mg/L	0.001623	62.66%
Pb 220.353†	-50.8	-0.00634	mg/L	0.000508	-0.00634	mg/L	0.000508	8.02%
Sb 206.836†	3665.6	1.221	mg/L	0.0026	1.221	mg/L	0.0026	0.22%
Se 196.026†	10.7	0.00825	mg/L	0.004027	0.00825	mg/L	0.004027	48.83%
Si 288.158†	27398.8	15.98	mg/L	0.119	15.98	mg/L	0.119	0.74%
Sn 189.927†	-114.7	-0.00131	mg/L	0.001387	-0.00131	mg/L	0.001387	106.23%
Sr 421.552†	1945489.5	2.432	mg/L	0.0268	2.432	mg/L	0.0268	1.10%
Ti 334.903†	385.0	0.00402	mg/L	0.000262	0.00402	mg/L	0.000262	6.52%
Tl 190.801†	20.3	0.01018	mg/L	0.003162	0.01018	mg/L	0.003162	31.07%
V 292.402†	1460.3	0.01003	mg/L	0.000102	0.01003	mg/L	0.000102	1.02%
Zn 206.200†	70.9	0.02382	mg/L	0.000591	0.02382	mg/L	0.000591	2.48%

Sequence No.: 68
 Sample ID: YF34 MBSPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 361
 Date Collected: 4/4/2014 2:52:06 PM
 Data Type: Original

 Nebulizer Parameters: YF34 MBSPK TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF34 MBSPK TWC

Analyte	Mean Corrected			Std.Dev.	Sample			RSD
	Intensity	Conc.	Calib. Units		Conc.	Units	Std.Dev.	
ScA 357.253	2900560.9	101.3	%	1.01				1.00%
ScR 361.383	243471.8	101.0	%	0.56				0.55%
Ag 328.068†	107428.6	0.5515	mg/L	0.00603	0.5515	mg/L	0.00603	1.09%
Al 308.215†	2668.9	2.123	mg/L	0.0129	2.123	mg/L	0.0129	0.61%
As 188.979†	3462.8	2.133	mg/L	0.0223	2.133	mg/L	0.0223	1.04%
B 249.677†	34.4	0.00513	mg/L	0.000921	0.00513	mg/L	0.000921	17.93%
Ba 233.527†	8343.6	2.144	mg/L	0.0214	2.144	mg/L	0.0214	1.00%
Be 313.042†	246199.9	0.5127	mg/L	0.00366	0.5127	mg/L	0.00366	0.71%
Ca 317.933†	99657.4	10.44	mg/L	0.073	10.44	mg/L	0.073	0.70%
Cd 228.802†	16677.6	0.5305	mg/L	0.00522	0.5305	mg/L	0.00522	0.98%
Co 228.616†	20200.6	0.5177	mg/L	0.00508	0.5177	mg/L	0.00508	0.98%
Cr 267.716†	2679.1	0.5456	mg/L	0.00427	0.5456	mg/L	0.00427	0.78%
Cu 324.752†	143923.7	0.5161	mg/L	0.00573	0.5161	mg/L	0.00573	1.11%
Fe 273.955†	2440.3	2.184	mg/L	0.0180	2.184	mg/L	0.0180	0.83%
K 766.490†	23126.7	10.51	mg/L	0.017	10.51	mg/L	0.017	0.16%
Mg 279.077†	11927.0	10.84	mg/L	0.081	10.84	mg/L	0.081	0.74%
Mn 257.610†	15358.3	0.5069	mg/L	0.00110	0.5069	mg/L	0.00110	0.22%
Mo 202.031†	27.4	0.00139	mg/L	0.000048	0.00139	mg/L	0.000048	3.49%
Na 589.592†	138720.6	10.65	mg/L	0.033	10.65	mg/L	0.033	0.31%
Na 330.237†	230.5	10.87	mg/L	0.233	10.87	mg/L	0.233	2.14%
Ni 231.604†	1818.3	0.5368	mg/L	0.00335	0.5368	mg/L	0.00335	0.62%
Pb 220.353†	16816.7	2.093	mg/L	0.0234	2.093	mg/L	0.0234	1.12%
Sb 206.836†	67.0	0.01706	mg/L	0.002456	0.01706	mg/L	0.002456	14.39%
Se 196.026†	2735.2	2.106	mg/L	0.0163	2.106	mg/L	0.0163	0.78%
Si 288.158†	143.3	0.08727	mg/L	0.034559	0.08727	mg/L	0.034559	39.60%
Sn 189.927†	-20.7	-0.00506	mg/L	0.000974	-0.00506	mg/L	0.000974	19.23%
Sr 421.552†	419119.5	0.5239	mg/L	0.00180	0.5239	mg/L	0.00180	0.34%
Ti 334.903†	25.4	0.00072	mg/L	0.000497	0.00072	mg/L	0.000497	68.86%
Tl 190.801†	4279.2	2.087	mg/L	0.0225	2.087	mg/L	0.0225	1.08%
V 292.402†	77244.4	0.5245	mg/L	0.00589	0.5245	mg/L	0.00589	1.12%
Zn 206.200†	1785.5	0.5258	mg/L	0.00388	0.5258	mg/L	0.00388	0.74%

Sequence No.: 69
 Sample ID: YF35 MBSPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 362
 Date Collected: 4/4/2014 2:56:07 PM
 Data Type: Original

Nebulizer Parameters: YF35 MBSPK TWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YF35 MBSPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2896556.1	101.2	%	0.05				0.05%
ScR 361.383	247271.3	102.5	%	0.58				0.57%
Ag 328.068†	105743.8	0.5428	mg/L	0.00329	0.5428	mg/L	0.00329	0.61%
Al 308.215†	2598.5	2.058	mg/L	0.0140	2.058	mg/L	0.0140	0.68%
As 188.979†	3365.9	2.071	mg/L	0.0081	2.071	mg/L	0.0081	0.39%
B 249.677†	11.8	0.00164	mg/L	0.000518	0.00164	mg/L	0.000518	31.49%
Ba 233.527†	8114.7	2.085	mg/L	0.0029	2.085	mg/L	0.0029	0.14%
Be 313.042†	242532.2	0.5051	mg/L	0.00289	0.5051	mg/L	0.00289	0.57%
Ca 317.933†	97850.0	10.25	mg/L	0.023	10.25	mg/L	0.023	0.23%
Cd 228.802†	16401.7	0.5219	mg/L	0.00355	0.5219	mg/L	0.00355	0.68%
Co 228.616†	19919.3	0.5106	mg/L	0.00213	0.5106	mg/L	0.00213	0.42%
Cr 267.716†	2596.7	0.5288	mg/L	0.00173	0.5288	mg/L	0.00173	0.33%
Cu 324.752†	141572.6	0.5075	mg/L	0.00327	0.5075	mg/L	0.00327	0.64%
Fe 273.955†	2362.2	2.114	mg/L	0.0154	2.114	mg/L	0.0154	0.73%
K 766.490†	22404.1	10.18	mg/L	0.015	10.18	mg/L	0.015	0.15%
Mg 279.077†	11574.2	10.52	mg/L	0.049	10.52	mg/L	0.049	0.46%
Mn 257.610†	14958.5	0.4937	mg/L	0.00135	0.4937	mg/L	0.00135	0.27%
Mo 202.031†	9181.8	0.5182	mg/L	0.00559	0.5182	mg/L	0.00559	1.08%
Na 589.592†	134369.3	10.32	mg/L	0.021	10.32	mg/L	0.021	0.20%
Na 330.237†	224.1	10.57	mg/L	0.097	10.57	mg/L	0.097	0.91%
Ni 231.604†	1767.3	0.5217	mg/L	0.00018	0.5217	mg/L	0.00018	0.03%
Pb 220.353†	16558.9	2.061	mg/L	0.0155	2.061	mg/L	0.0155	0.75%
Sb 206.836†	25.1	0.00329	mg/L	0.001422	0.00329	mg/L	0.001422	43.18%
Se 196.026†	2656.6	2.046	mg/L	0.0045	2.046	mg/L	0.0045	0.22%
Si 288.158†	75.2	0.04745	mg/L	0.018178	0.04745	mg/L	0.018178	38.31%
Sn 189.927†	-21.4	-0.00531	mg/L	0.000202	-0.00531	mg/L	0.000202	3.80%
Sr 421.552†	405692.8	0.5071	mg/L	0.00095	0.5071	mg/L	0.00095	0.19%
Ti 334.903†	22.5	0.00007	mg/L	0.000127	0.00007	mg/L	0.000127	192.68%
Tl 190.801†	4151.1	2.025	mg/L	0.0055	2.025	mg/L	0.0055	0.27%
V 292.402†	76279.8	0.5182	mg/L	0.00460	0.5182	mg/L	0.00460	0.89%
Zn 206.200†	1737.5	0.5115	mg/L	0.00182	0.5115	mg/L	0.00182	0.36%

Sequence No.: 70
 Sample ID: YF36 MB1SPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 363
 Date Collected: 4/4/2014 3:00:07 PM
 Data Type: Original

Nebulizer Parameters: YF36 MB1SPK TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF36 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2920083.4	102.0 %		0.11			0.11%
ScR 361.383	245044.1	101.6 %		0.29			0.29%
Ag 328.068†	105497.6	0.5416 mg/L		0.00391	0.5416 mg/L	0.00391	0.72%
Al 308.215†	2622.6	2.086 mg/L		0.0044	2.086 mg/L	0.0044	0.21%
As 188.979†	3373.0	2.078 mg/L		0.0068	2.078 mg/L	0.0068	0.33%
B 249.677†	10.4	0.00081 mg/L		0.000449	0.00081 mg/L	0.000449	55.72%
Ba 233.527†	8206.1	2.109 mg/L		0.0084	2.109 mg/L	0.0084	0.40%
Be 313.042†	244042.5	0.5082 mg/L		0.00088	0.5082 mg/L	0.00088	0.17%
Ca 317.933†	98684.3	10.33 mg/L		0.022	10.33 mg/L	0.022	0.21%
Cd 228.802†	16327.5	0.5194 mg/L		0.00407	0.5194 mg/L	0.00407	0.78%
Co 228.616†	19796.3	0.5073 mg/L		0.00413	0.5073 mg/L	0.00413	0.81%
Cr 267.716†	2613.6	0.5323 mg/L		0.00362	0.5323 mg/L	0.00362	0.68%
Cu 324.752†	141396.4	0.5071 mg/L		0.00345	0.5071 mg/L	0.00345	0.68%
Fe 273.955†	2375.1	2.126 mg/L		0.0146	2.126 mg/L	0.0146	0.69%
K 766.490†	22743.3	10.34 mg/L		0.039	10.34 mg/L	0.039	0.38%
Mg 279.077†	11658.0	10.59 mg/L		0.053	10.59 mg/L	0.053	0.50%
Mn 257.610†	15033.3	0.4961 mg/L		0.00236	0.4961 mg/L	0.00236	0.47%
Mo 202.031†	34.8	0.00180 mg/L		0.000189	0.00180 mg/L	0.000189	10.49%
Na 589.592†	136694.4	10.50 mg/L		0.031	10.50 mg/L	0.031	0.29%
Na 330.237†	229.9	10.85 mg/L		0.259	10.85 mg/L	0.259	2.39%
Ni 231.604†	1782.0	0.5260 mg/L		0.00413	0.5260 mg/L	0.00413	0.78%
Pb 220.353†	16449.0	2.047 mg/L		0.0163	2.047 mg/L	0.0163	0.80%
Sb 206.836†	20.8	0.00180 mg/L		0.000796	0.00180 mg/L	0.000796	44.26%
Se 196.026†	2670.7	2.056 mg/L		0.0130	2.056 mg/L	0.0130	0.63%
Si 288.158†	47.9	0.03158 mg/L		0.018515	0.03158 mg/L	0.018515	58.63%
Sn 189.927†	-22.3	-0.00558 mg/L		0.001225	-0.00558 mg/L	0.001225	21.97%
Sr 421.552†	410187.5	0.5127 mg/L		0.00079	0.5127 mg/L	0.00079	0.15%
Ti 334.903†	23.4	0.00061 mg/L		0.000460	0.00061 mg/L	0.000460	75.17%
Tl 190.801†	4200.8	2.048 mg/L		0.0091	2.048 mg/L	0.0091	0.44%
V 292.402†	75832.7	0.5149 mg/L		0.00384	0.5149 mg/L	0.00384	0.75%
Zn 206.200†	1744.2	0.5136 mg/L		0.00349	0.5136 mg/L	0.00349	0.68%

Sequence No.: 71
 Sample ID: CV 7
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/4/2014 3:04:07 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2856994.6	99.82 %	0.342			0.34%
ScR 361.383	242235.4	100.5 %	0.48			0.47%
Ag 328.068†	215286.0	1.105 mg/L	0.0156	1.105 mg/L	0.0156	1.42%
Al 308.215†	2634.4	2.070 mg/L	0.0087	2.070 mg/L	0.0087	0.42%
As 188.979†	3350.5	2.097 mg/L	0.0080	2.097 mg/L	0.0080	0.38%
B 249.677†	5762.1	1.043 mg/L	0.0065	1.043 mg/L	0.0065	0.62%
Ba 233.527†	4062.9	1.044 mg/L	0.0081	1.044 mg/L	0.0081	0.78%
Be 313.042†	480050.3	0.9997 mg/L	0.00074	0.9997 mg/L	0.00074	0.07%
Ca 317.933†	20625.9	2.160 mg/L	0.0091	2.160 mg/L	0.0091	0.42%
Cd 228.802†	33163.6	1.066 mg/L	0.0187	1.066 mg/L	0.0187	1.75%
Co 228.616†	40446.5	1.035 mg/L	0.0129	1.035 mg/L	0.0129	1.25%
Cr 267.716†	5220.1	1.065 mg/L	0.0038	1.065 mg/L	0.0038	0.36%
Cu 324.752†	284072.6	1.018 mg/L	0.0029	1.018 mg/L	0.0029	0.29%
Fe 273.955†	2383.9	2.130 mg/L	0.0077	2.130 mg/L	0.0077	0.36%
K 766.490†	45673.5	20.76 mg/L	0.068	20.76 mg/L	0.068	0.33%
Mg 279.077†	2268.0	2.067 mg/L	0.0154	2.067 mg/L	0.0154	0.74%
Mn 257.610†	30165.7	0.9953 mg/L	0.00300	0.9953 mg/L	0.00300	0.30%
Mo 202.031†	17748.8	1.002 mg/L	0.0144	1.002 mg/L	0.0144	1.43%
Na 589.592†	682204.4	52.40 mg/L	0.241	52.40 mg/L	0.241	0.46%
Na 330.237†	1098.2	52.77 mg/L	0.188	52.77 mg/L	0.188	0.36%
Ni 231.604†	3573.3	1.057 mg/L	0.0045	1.057 mg/L	0.0045	0.42%
Pb 220.353†	16798.2	2.091 mg/L	0.0300	2.091 mg/L	0.0300	1.44%
Sb 206.836†	6427.3	2.141 mg/L	0.0083	2.141 mg/L	0.0083	0.39%
Se 196.026†	2694.8	2.074 mg/L	0.0171	2.074 mg/L	0.0171	0.82%
Si 288.158†	3498.2	2.045 mg/L	0.0465	2.045 mg/L	0.0465	2.27%
Sn 189.927†	3291.7	1.022 mg/L	0.0065	1.022 mg/L	0.0065	0.63%
Sr 421.552†	828533.2	1.036 mg/L	0.0037	1.036 mg/L	0.0037	0.36%
Ti 334.903†	16512.2	1.017 mg/L	0.0022	1.017 mg/L	0.0022	0.22%
Tl 190.801†	4199.2	2.044 mg/L	0.0145	2.044 mg/L	0.0145	0.71%
V 292.402†	155399.3	1.055 mg/L	0.0158	1.055 mg/L	0.0158	1.50%
Zn 206.200†	3561.5	1.049 mg/L	0.0052	1.049 mg/L	0.0052	0.50%

Sequence No.: 72
Sample ID: CB 7
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 1
Date Collected: 4/4/2014 3:08:11 PM
Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2915828.4	101.9	%	0.46			0.46%
ScR 361.383	249027.0	103.3	%	0.68			0.66%
Ag 328.068†	-18.5	-0.00010	mg/L	0.000268	-0.00010 mg/L	0.000268	282.33%
Al 308.215†	0.7	0.00053	mg/L	0.002424	0.00053 mg/L	0.002424	456.15%
As 188.979†	2.5	0.00160	mg/L	0.002755	0.00160 mg/L	0.002755	171.91%
B 249.677†	13.4	0.00243	mg/L	0.000318	0.00243 mg/L	0.000318	13.07%
Ba 233.527†	-0.5	-0.00013	mg/L	0.000368	-0.00013 mg/L	0.000368	287.01%
Be 313.042†	30.5	0.00006	mg/L	0.000027	0.00006 mg/L	0.000027	41.89%
Ca 317.933†	15.5	0.00163	mg/L	0.000343	0.00163 mg/L	0.000343	21.13%
Cd 228.802†	1.4	0.00004	mg/L	0.000132	0.00004 mg/L	0.000132	344.24%
Co 228.616†	-4.2	-0.00011	mg/L	0.000205	-0.00011 mg/L	0.000205	189.00%
Cr 267.716†	4.1	0.00084	mg/L	0.000995	0.00084 mg/L	0.000995	118.81%
Cu 324.752†	136.8	0.00049	mg/L	0.000190	0.00049 mg/L	0.000190	38.71%
Fe 273.955†	3.5	0.00314	mg/L	0.000417	0.00314 mg/L	0.000417	13.29%
K 766.490†	-14.6	-0.00664	mg/L	0.007358	-0.00664 mg/L	0.007358	110.85%
Mg 279.077†	1.4	0.00124	mg/L	0.003518	0.00124 mg/L	0.003518	283.96%
Mn 257.610†	2.7	0.00009	mg/L	0.000085	0.00009 mg/L	0.000085	94.87%
Mo 202.031†	15.3	0.00086	mg/L	0.000153	0.00086 mg/L	0.000153	17.79%
Na 589.592†	74.9	0.00576	mg/L	0.000254	0.00576 mg/L	0.000254	4.42%
Na 330.237†	-0.4	-0.01719	mg/L	0.124388	-0.01719 mg/L	0.124388	723.64%
Ni 231.604†	-1.6	-0.00048	mg/L	0.001184	-0.00048 mg/L	0.001184	248.46%
Pb 220.353†	-6.8	-0.00084	mg/L	0.000390	-0.00084 mg/L	0.000390	46.26%
Sb 206.836†	35.1	0.01168	mg/L	0.003048	0.01168 mg/L	0.003048	26.10%
Se 196.026†	-0.6	-0.00046	mg/L	0.003851	-0.00046 mg/L	0.003851	838.50%
Si 288.158†	15.4	0.00901	mg/L	0.008518	0.00901 mg/L	0.008518	94.56%
Sn 189.927†	-0.1	-0.00004	mg/L	0.000593	-0.00004 mg/L	0.000593	>999.9%
Sr 421.552†	33.5	0.00004	mg/L	0.000032	0.00004 mg/L	0.000032	76.83%
Ti 334.903†	17.6	0.00109	mg/L	0.000413	0.00109 mg/L	0.000413	37.99%
Tl 190.801†	2.6	0.00129	mg/L	0.001479	0.00129 mg/L	0.001479	114.34%
V 292.402†	-16.6	-0.00011	mg/L	0.000185	-0.00011 mg/L	0.000185	169.83%
Zn 206.200†	-0.7	-0.00022	mg/L	0.000291	-0.00022 mg/L	0.000291	133.85%

Sequence No.: 73
 Sample ID: YE49 B DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 364
 Date Collected: 4/4/2014 3:12:11 PM
 Data Type: Original

Nebulizer Parameters: YE49 B DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 B DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA,357.253	2969837.3	103.8	%	0.61				0.59%
ScR 361.383	250041.5	103.7	%	0.98				0.95%
Ag 328.068†	27.0	0.00027	mg/L	0.000261	0.00027	mg/L	0.000261	98.04%
Al 308.215†	15.5	0.01207	mg/L	0.000283	0.01207	mg/L	0.000283	2.35%
As 188.979†	22.8	0.01224	mg/L	0.001022	0.01224	mg/L	0.001022	8.35%
B 249.677†	2924.0	0.5300	mg/L	0.00552	0.5300	mg/L	0.00552	1.04%
Ba 233.527†	46.6	0.01195	mg/L	0.000928	0.01195	mg/L	0.000928	7.76%
Be 313.042†	25.4	0.00005	mg/L	0.000009	0.00005	mg/L	0.000009	17.92%
Ca 317.933†	201501.2	21.10	mg/L	0.076	21.10	mg/L	0.076	0.36%
Cd 228.802†	-8.8	-0.00035	mg/L	0.000085	-0.00035	mg/L	0.000085	24.15%
Co 228.616†	400.2	0.01026	mg/L	0.000118	0.01026	mg/L	0.000118	1.15%
Cr 267.716†	6.9	0.00076	mg/L	0.000620	0.00076	mg/L	0.000620	81.12%
Cu 324.752†	-15.1	-0.00014	mg/L	0.000110	-0.00014	mg/L	0.000110	78.25%
Fe 273.955†	282.3	0.2531	mg/L	0.00258	0.2531	mg/L	0.00258	1.02%
K 766.490†	8399.0	3.818	mg/L	0.0095	3.818	mg/L	0.0095	0.25%
Mg 279.077†	5738.7	5.212	mg/L	0.0387	5.212	mg/L	0.0387	0.74%
Mn 257.610†	7512.6	0.2476	mg/L	0.00221	0.2476	mg/L	0.00221	0.89%
Mo 202.031†	325.9	0.01807	mg/L	0.000144	0.01807	mg/L	0.000144	0.80%
Na 589.592†	407672.2	31.31	mg/L	0.015	31.31	mg/L	0.015	0.05%
Na 330.237†	656.9	31.47	mg/L	0.492	31.47	mg/L	0.492	1.56%
Ni 231.604†	33.2	0.00982	mg/L	0.000978	0.00982	mg/L	0.000978	9.95%
Pb 220.353†	-9.9	-0.00123	mg/L	0.000192	-0.00123	mg/L	0.000192	15.60%
Sb 206.836†	-1.2	-0.00049	mg/L	0.000919	-0.00049	mg/L	0.000919	185.96%
Se 196.026†	11.4	0.00875	mg/L	0.002883	0.00875	mg/L	0.002883	32.94%
Si 288.158†	22428.9	13.08	mg/L	0.081	13.08	mg/L	0.081	0.62%
Sn 189.927†	-36.5	-0.00875	mg/L	0.000939	-0.00875	mg/L	0.000939	10.73%
Sr 421.552†	179305.6	0.2241	mg/L	0.00038	0.2241	mg/L	0.00038	0.17%
Ti 334.903†	43.8	0.00119	mg/L	0.000337	0.00119	mg/L	0.000337	28.19%
Tl 190.801†	9.1	0.00443	mg/L	0.001249	0.00443	mg/L	0.001249	28.17%
V 292.402†	4.6	0.00007	mg/L	0.000067	0.00007	mg/L	0.000067	97.37%
Zn 206.200†	-7.2	0.00033	mg/L	0.000424	0.00033	mg/L	0.000424	130.28%

Sequence No.: 74
 Sample ID: YE49 C DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 365
 Date Collected: 4/4/2014 3:16:28 PM
 Data Type: Original

Nebulizer Parameters: YE49 C DMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE49 C DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2982635.4	104.2	%	0.61				0.59%
ScR 361.383	255247.1	105.9	%	0.99				0.93%
Ag 328.068†	-15.5	-0.00000	mg/L	0.000181	-0.00000	mg/L	0.000181	>999.9%
Al 308.215†	12.1	0.00948	mg/L	0.005199	0.00948	mg/L	0.005199	54.82%
As 188.979†	16.1	0.00875	mg/L	0.000800	0.00875	mg/L	0.000800	9.14%
B 249.677†	446.7	0.08097	mg/L	0.002552	0.08097	mg/L	0.002552	3.15%
Ba 233.527†	20.1	0.00516	mg/L	0.000405	0.00516	mg/L	0.000405	7.85%
Be 313.042†	6.8	0.00001	mg/L	0.000017	0.00001	mg/L	0.000017	121.44%
Ca 317.933†	124135.9	13.00	mg/L	0.039	13.00	mg/L	0.039	0.30%
Cd 228.802†	-5.5	-0.00021	mg/L	0.000102	-0.00021	mg/L	0.000102	48.70%
Co 228.616†	207.9	0.00533	mg/L	0.000046	0.00533	mg/L	0.000046	0.87%
Cr 267.716†	2.2	-0.00003	mg/L	0.001364	-0.00003	mg/L	0.001364	>999.9%
Cu 324.752†	90.6	0.00026	mg/L	0.000118	0.00026	mg/L	0.000118	44.82%
Fe 273.955†	97.6	0.08753	mg/L	0.001781	0.08753	mg/L	0.001781	2.04%
K 766.490†	3800.8	1.728	mg/L	0.0212	1.728	mg/L	0.0212	1.22%
Mg 279.077†	4499.4	4.087	mg/L	0.0361	4.087	mg/L	0.0361	0.88%
Mn 257.610†	11939.8	0.3937	mg/L	0.00602	0.3937	mg/L	0.00602	1.53%
Mo 202.031†	207.3	0.01150	mg/L	0.000376	0.01150	mg/L	0.000376	3.27%
Na 589.592†	206847.3	15.89	mg/L	0.050	15.89	mg/L	0.050	0.31%
Na 330.237†	333.9	15.98	mg/L	0.250	15.98	mg/L	0.250	1.56%
Ni 231.604†	76.0	0.02247	mg/L	0.001171	0.02247	mg/L	0.001171	5.21%
Pb 220.353†	-12.7	-0.00158	mg/L	0.000716	-0.00158	mg/L	0.000716	45.43%
Sb 206.836†	-4.5	-0.00158	mg/L	0.002519	-0.00158	mg/L	0.002519	159.71%
Se 196.026†	6.3	0.00482	mg/L	0.001315	0.00482	mg/L	0.001315	27.30%
Si 288.158†	20579.8	12.00	mg/L	0.145	12.00	mg/L	0.145	1.21%
Sn 189.927†	-25.1	-0.00619	mg/L	0.000587	-0.00619	mg/L	0.000587	9.47%
Sr 421.552†	101477.3	0.1268	mg/L	0.00021	0.1268	mg/L	0.00021	0.17%
Ti 334.903†	16.9	0.00011	mg/L	0.000427	0.00011	mg/L	0.000427	378.08%
Tl 190.801†	10.1	0.00492	mg/L	0.000509	0.00492	mg/L	0.000509	10.35%
V 292.402†	-1.4	0.00005	mg/L	0.000091	0.00005	mg/L	0.000091	171.88%
Zn 206.200†	-8.1	-0.00016	mg/L	0.000978	-0.00016	mg/L	0.000978	600.34%

Sequence No.: 75
 Sample ID: YE49 E WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 366
 Date Collected: 4/4/2014 3:20:43 PM
 Data Type: Original

Nebulizer Parameters: YE49 E WMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE49 E WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2950095.4	103.1 %		0.24			0.23%
ScR 361.383	250237.8	103.8 %		1.34			1.30%
Ag 328.068†	-19.1	0.00003 mg/L		0.000172	0.00003 mg/L	0.000172	504.10%
Al 308.215†	68.7	0.05452 mg/L		0.002334	0.05452 mg/L	0.002334	4.28%
As 188.979†	23.6	0.01274 mg/L		0.000234	0.01274 mg/L	0.000234	1.84%
B 249.677†	3032.1	0.5496 mg/L		0.00356	0.5496 mg/L	0.00356	0.65%
Ba 233.527†	50.3	0.01287 mg/L		0.000633	0.01287 mg/L	0.000633	4.92%
Be 313.042†	29.3	0.00006 mg/L		0.000023	0.00006 mg/L	0.000023	38.34%
Ca 317.933†	208525.0	21.84 mg/L		0.076	21.84 mg/L	0.076	0.35%
Cd 228.802†	-7.3	-0.00031 mg/L		0.000082	-0.00031 mg/L	0.000082	26.80%
Co 228.616†	344.9	0.00884 mg/L		0.000158	0.00884 mg/L	0.000158	1.79%
Cr 267.716†	11.8	0.00174 mg/L		0.000950	0.00174 mg/L	0.000950	54.49%
Cu 324.752†	136.7	0.00040 mg/L		0.000111	0.00040 mg/L	0.000111	27.42%
Fe 273.955†	363.3	0.3257 mg/L		0.00586	0.3257 mg/L	0.00586	1.80%
K 766.490†	8530.6	3.878 mg/L		0.0288	3.878 mg/L	0.0288	0.74%
Mg 279.077†	5933.1	5.388 mg/L		0.0534	5.388 mg/L	0.0534	0.99%
Mn 257.610†	6524.1	0.2150 mg/L		0.00243	0.2150 mg/L	0.00243	1.13%
Mo 202.031†	305.5	0.01691 mg/L		0.000109	0.01691 mg/L	0.000109	0.64%
Na 589.592†	422786.4	32.47 mg/L		0.131	32.47 mg/L	0.131	0.40%
Na 330.237†	671.3	32.15 mg/L		0.109	32.15 mg/L	0.109	0.34%
Ni 231.604†	30.0	0.00888 mg/L		0.000729	0.00888 mg/L	0.000729	8.21%
Pb 220.353†	-15.8	-0.00196 mg/L		0.000422	-0.00196 mg/L	0.000422	21.52%
Sb 206.836†	-0.0	-0.00012 mg/L		0.002248	-0.00012 mg/L	0.002248	>999.9%
Se 196.026†	13.4	0.01031 mg/L		0.002166	0.01031 mg/L	0.002166	21.01%
Si 288.158†	23516.0	13.72 mg/L		0.121	13.72 mg/L	0.121	0.88%
Sn 189.927†	-37.7	-0.00904 mg/L		0.000713	-0.00904 mg/L	0.000713	7.88%
Sr 421.552†	185091.7	0.2313 mg/L		0.00112	0.2313 mg/L	0.00112	0.49%
Ti 334.903†	79.8	0.00336 mg/L		0.000320	0.00336 mg/L	0.000320	9.51%
Tl 190.801†	12.3	0.00605 mg/L		0.000271	0.00605 mg/L	0.000271	4.49%
V 292.402†	36.6	0.00028 mg/L		0.000181	0.00028 mg/L	0.000181	64.91%
Zn 206.200†	-5.5	0.00094 mg/L		0.000227	0.00094 mg/L	0.000227	24.14%

Sequence No.: 76
Sample ID: YF34 ADUP TWC
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 367
Date Collected: 4/4/2014 3:24:58 PM
Data Type: Original

Nebulizer Parameters: YF34 ADUP TWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YF34 ADUP TWC

Table with 9 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Sample Conc., Units, Std.Dev., RSD. Lists various elements like ScA, SCR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 77
 Sample ID: YF34 A TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 368
 Date Collected: 4/4/2014 3:29:15 PM
 Data Type: Original

Nebulizer Parameters: YF34 A TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF34 A TWC

Analyte	Mean Corrected			Std.Dev.	Sample			RSD
	Intensity	Conc.	Calib. Units		Conc.	Units	Std.Dev.	
ScA 357.253	2834594.0	99.04	%	0.309				0.31%
ScR 361.383	238584.4	98.94	%	0.189				0.19%
Ag 328.068†	-59.9	0.00022	mg/L	0.000227	0.00022	mg/L	0.000227	101.13%
Al 308.215†	52.8	0.04130	mg/L	0.003626	0.04130	mg/L	0.003626	8.78%
As 188.979†	49.9	0.02305	mg/L	0.002313	0.02305	mg/L	0.002313	10.04%
B 249.677†	6802.0	1.233	mg/L	0.0066	1.233	mg/L	0.0066	0.54%
Ba 233.527†	184.1	0.04709	mg/L	0.001096	0.04709	mg/L	0.001096	2.33%
Be 313.042†	49.2	0.00010	mg/L	0.000019	0.00010	mg/L	0.000019	18.30%
Ca 317.933†	842089.2	88.19	mg/L	0.269	88.19	mg/L	0.269	0.30%
Cd 228.802†	467.1	0.01503	mg/L	0.000198	0.01503	mg/L	0.000198	1.32%
Co 228.616†	78.5	0.00199	mg/L	0.000203	0.00199	mg/L	0.000203	10.21%
Cr 267.716†	197.6	0.03940	mg/L	0.000583	0.03940	mg/L	0.000583	1.48%
Cu 324.752†	1992.7	0.00693	mg/L	0.000104	0.00693	mg/L	0.000104	1.51%
Fe 273.955†	1656.4	1.485	mg/L	0.0129	1.485	mg/L	0.0129	0.87%
K 766.490†	49871.7	22.67	mg/L	0.108	22.67	mg/L	0.108	0.48%
Mg 279.077†	2302.7	2.081	mg/L	0.0096	2.081	mg/L	0.0096	0.46%
Mn 257.610†	1020.6	0.03328	mg/L	0.000325	0.03328	mg/L	0.000325	0.98%
Mo 202.031†	970.1	0.05340	mg/L	0.000348	0.05340	mg/L	0.000348	0.65%
Na 589.592†	1512723.7	116.2	mg/L	0.18	116.2	mg/L	0.18	0.15%
Na 330.237†	2390.1	114.4	mg/L	0.39	114.4	mg/L	0.39	0.34%
Ni 231.604†	154.3	0.04562	mg/L	0.001433	0.04562	mg/L	0.001433	3.14%
Pb 220.353†	-20.8	-0.00257	mg/L	0.000506	-0.00257	mg/L	0.000506	19.67%
Sb 206.836†	34.9	0.01094	mg/L	0.001817	0.01094	mg/L	0.001817	16.61%
Se 196.026†	8.6	0.00662	mg/L	0.002039	0.00662	mg/L	0.002039	30.80%
Si 288.158†	1125.1	0.6565	mg/L	0.01114	0.6565	mg/L	0.01114	1.70%
Sn 189.927†	-75.2	-0.01263	mg/L	0.001195	-0.01263	mg/L	0.001195	9.46%
Sr 421.552†	3066584.8	3.833	mg/L	0.0080	3.833	mg/L	0.0080	0.21%
Ti 334.903†	146.1	0.00273	mg/L	0.000783	0.00273	mg/L	0.000783	28.74%
Tl 190.801†	13.9	0.00701	mg/L	0.001260	0.00701	mg/L	0.001260	17.98%
V 292.402†	-36.5	-0.00013	mg/L	0.000143	-0.00013	mg/L	0.000143	105.91%
Zn 206.200†	27.7	0.00826	mg/L	0.000351	0.00826	mg/L	0.000351	4.25%

Sequence No.: 78
 Sample ID: YF34 ASPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 369
 Date Collected: 4/4/2014 3:33:32 PM
 Data Type: Original

Nebulizer Parameters: YF34 ASPK TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF34 ASPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2809265.8	98.15	%	0.743				0.76%
ScR 361.383	243241.2	100.9	%	0.49				0.49%
Ag 328.068†	109703.1	0.5637	mg/L	0.00310	0.5637	mg/L	0.00310	0.55%
Al 308.215†	2676.6	2.128	mg/L	0.0123	2.128	mg/L	0.0123	0.58%
As 188.979†	3604.0	2.212	mg/L	0.0204	2.212	mg/L	0.0204	0.92%
B 249.677†	6894.4	1.249	mg/L	0.0083	1.249	mg/L	0.0083	0.66%
Ba 233.527†	8388.3	2.155	mg/L	0.0156	2.155	mg/L	0.0156	0.72%
Be 313.042†	252718.8	0.5263	mg/L	0.00138	0.5263	mg/L	0.00138	0.26%
Ca 317.933†	947307.7	99.21	mg/L	0.879	99.21	mg/L	0.879	0.89%
Cd 228.802†	17484.5	0.5563	mg/L	0.00254	0.5563	mg/L	0.00254	0.46%
Co 228.616†	20132.0	0.5159	mg/L	0.00246	0.5159	mg/L	0.00246	0.48%
Cr 267.716†	2804.5	0.5703	mg/L	0.00539	0.5703	mg/L	0.00539	0.95%
Cu 324.752†	154801.2	0.5549	mg/L	0.00159	0.5549	mg/L	0.00159	0.29%
Fe 273.955†	4048.6	3.626	mg/L	0.0290	3.626	mg/L	0.0290	0.80%
K 766.490†	73739.2	33.52	mg/L	0.086	33.52	mg/L	0.086	0.26%
Mg 279.077†	14063.8	12.77	mg/L	0.096	12.77	mg/L	0.096	0.75%
Mn 257.610†	16899.3	0.5573	mg/L	0.00362	0.5573	mg/L	0.00362	0.65%
Mo 202.031†	997.9	0.05480	mg/L	0.000457	0.05480	mg/L	0.000457	0.83%
Na 589.592†	1661113.0	127.6	mg/L	0.96	127.6	mg/L	0.96	0.75%
Na 330.237†	2672.0	127.8	mg/L	1.09	127.8	mg/L	1.09	0.85%
Ni 231.604†	1920.1	0.5669	mg/L	0.00523	0.5669	mg/L	0.00523	0.92%
Pb 220.353†	16710.5	2.080	mg/L	0.0073	2.080	mg/L	0.0073	0.35%
Sb 206.836†	45.3	0.00936	mg/L	0.000272	0.00936	mg/L	0.000272	2.91%
Se 196.026†	2826.3	2.176	mg/L	0.0193	2.176	mg/L	0.0193	0.88%
Si 288.158†	1141.9	0.6700	mg/L	0.01058	0.6700	mg/L	0.01058	1.58%
Sn 189.927†	-85.7	-0.01448	mg/L	0.001436	-0.01448	mg/L	0.001436	9.91%
Sr 421.552†	3495052.9	4.368	mg/L	0.0343	4.368	mg/L	0.0343	0.78%
Ti 334.903†	155.3	0.00241	mg/L	0.000332	0.00241	mg/L	0.000332	13.77%
Tl 190.801†	4224.3	2.060	mg/L	0.0133	2.060	mg/L	0.0133	0.65%
V 292.402†	77531.8	0.5265	mg/L	0.00364	0.5265	mg/L	0.00364	0.69%
Zn 206.200†	1807.1	0.5323	mg/L	0.00431	0.5323	mg/L	0.00431	0.81%

Sequence No.: 79
 Sample ID: YE49 GDUP TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 370
 Date Collected: 4/4/2014 3:37:49 PM
 Data Type: Original

Nebulizer Parameters: YE49 GDUP TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 GDUP TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2912473.4	101.8	%	0.13				0.13%
ScR 361.383	253248.4	105.0	%	0.84				0.80%
Ag 328.068†	-35.7	-0.00006	mg/L	0.000161	-0.00006	mg/L	0.000161	291.38%
Al 308.215†	11917.3	9.511	mg/L	0.0130	9.511	mg/L	0.0130	0.14%
As 188.979†	0.5	0.01465	mg/L	0.001539	0.01465	mg/L	0.001539	10.50%
B 249.677†	256.2	0.04642	mg/L	0.002121	0.04642	mg/L	0.002121	4.57%
Ba 233.527†	333.2	0.08376	mg/L	0.000980	0.08376	mg/L	0.000980	1.17%
Be 313.042†	42.0	0.00008	mg/L	0.000031	0.00008	mg/L	0.000031	40.79%
Ca 317.933†	191226.3	20.03	mg/L	0.013	20.03	mg/L	0.013	0.06%
Cd 228.802†	-5.3	-0.00025	mg/L	0.000019	-0.00025	mg/L	0.000019	7.61%
Co 228.616†	350.6	0.00817	mg/L	0.000151	0.00817	mg/L	0.000151	1.85%
Cr 267.716†	161.3	0.03204	mg/L	0.000543	0.03204	mg/L	0.000543	1.69%
Cu 324.752†	3422.9	0.01260	mg/L	0.000166	0.01260	mg/L	0.000166	1.32%
Fe 273.955†	13427.6	12.04	mg/L	0.042	12.04	mg/L	0.042	0.35%
K 766.490†	4969.3	2.259	mg/L	0.0065	2.259	mg/L	0.0065	0.29%
Mg 279.077†	13400.0	12.17	mg/L	0.011	12.17	mg/L	0.011	0.09%
Mn 257.610†	6403.0	0.2109	mg/L	0.00038	0.2109	mg/L	0.00038	0.18%
Mo 202.031†	113.9	0.00612	mg/L	0.000219	0.00612	mg/L	0.000219	3.58%
Na 589.592†	114884.7	8.824	mg/L	0.0160	8.824	mg/L	0.0160	0.18%
Na 330.237†	193.7	9.307	mg/L	0.0488	9.307	mg/L	0.0488	0.52%
Ni 231.604†	105.6	0.03121	mg/L	0.001058	0.03121	mg/L	0.001058	3.39%
Pb 220.353†	-9.7	0.00065	mg/L	0.000389	0.00065	mg/L	0.000389	59.72%
Sb 206.836†	6.9	0.00226	mg/L	0.001534	0.00226	mg/L	0.001534	67.87%
Se 196.026†	8.2	0.00629	mg/L	0.002300	0.00629	mg/L	0.002300	36.56%
Si 288.158†	34865.3	20.34	mg/L	0.161	20.34	mg/L	0.161	0.79%
Sn 189.927†	-35.0	-0.00835	mg/L	0.001617	-0.00835	mg/L	0.001617	19.37%
Sr 421.552†	92552.9	0.1157	mg/L	0.00009	0.1157	mg/L	0.00009	0.07%
Ti 334.903†	7351.4	0.4520	mg/L	0.00167	0.4520	mg/L	0.00167	0.37%
Tl 190.801†	2.7	0.00255	mg/L	0.000603	0.00255	mg/L	0.000603	23.63%
V 292.402†	3987.5	0.02619	mg/L	0.000353	0.02619	mg/L	0.000353	1.35%
Zn 206.200†	52.2	0.01916	mg/L	0.000292	0.01916	mg/L	0.000292	1.52%

Sequence No.: 80
 Sample ID: YE49 G TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 371
 Date Collected: 4/4/2014 3:41:49 PM
 Data Type: Original

Nebulizer Parameters: YE49 G TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE49 G TWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2934492.5	102.5	%	0.73			0.72%
ScR 361.383	252309.6	104.6	%	0.84			0.80%
Ag 328.068†	3.6	0.00014	mg/L	0.000226	0.00014	mg/L	0.000226 164.56%
Al 308.215†	5420.1	4.326	mg/L	0.0180	4.326	mg/L	0.0180 0.42%
As 188.979†	12.7	0.01232	mg/L	0.001236	0.01232	mg/L	0.001236 10.04%
B 249.677†	245.9	0.04456	mg/L	0.001107	0.04456	mg/L	0.001107 2.48%
Ba 233.527†	265.2	0.06722	mg/L	0.000744	0.06722	mg/L	0.000744 1.11%
Be 313.042†	11.9	0.00002	mg/L	0.000007	0.00002	mg/L	0.000007 37.25%
Ca 317.933†	181237.1	18.98	mg/L	0.074	18.98	mg/L	0.074 0.39%
Cd 228.802†	-7.6	-0.00032	mg/L	0.000142	-0.00032	mg/L	0.000142 44.02%
Co 228.616†	254.6	0.00621	mg/L	0.000148	0.00621	mg/L	0.000148 2.38%
Cr 267.716†	99.8	0.01943	mg/L	0.000187	0.01943	mg/L	0.000187 0.96%
Cu 324.752†	2153.5	0.00784	mg/L	0.000158	0.00784	mg/L	0.000158 2.01%
Fe 273.955†	6761.7	6.062	mg/L	0.0696	6.062	mg/L	0.0696 1.15%
K 766.490†	4204.6	1.911	mg/L	0.0048	1.911	mg/L	0.0048 0.25%
Mg 279.077†	11925.3	10.83	mg/L	0.028	10.83	mg/L	0.028 0.26%
Mn 257.610†	4820.1	0.1588	mg/L	0.00119	0.1588	mg/L	0.00119 0.75%
Mo 202.031†	93.2	0.00497	mg/L	0.000288	0.00497	mg/L	0.000288 5.80%
Na 589.592†	107401.5	8.249	mg/L	0.0138	8.249	mg/L	0.0138 0.17%
Na 330.237†	183.2	8.740	mg/L	0.2818	8.740	mg/L	0.2818 3.22%
Ni 231.604†	56.6	0.01673	mg/L	0.000826	0.01673	mg/L	0.000826 4.94%
Pb 220.353†	-7.8	-0.00015	mg/L	0.001027	-0.00015	mg/L	0.001027 701.36%
Sb 206.836†	5.0	0.00151	mg/L	0.001321	0.00151	mg/L	0.001321 87.71%
Se 196.026†	6.5	0.00499	mg/L	0.001585	0.00499	mg/L	0.001585 31.74%
Si 288.158†	27826.4	16.23	mg/L	0.075	16.23	mg/L	0.075 0.46%
Sn 189.927†	-30.9	-0.00726	mg/L	0.001087	-0.00726	mg/L	0.001087 14.97%
Sr 421.552†	83546.1	0.1044	mg/L	0.00013	0.1044	mg/L	0.00013 0.13%
Ti 334.903†	2815.6	0.1723	mg/L	0.00165	0.1723	mg/L	0.00165 0.96%
Tl 190.801†	1.7	0.00144	mg/L	0.001679	0.00144	mg/L	0.001679 116.55%
V 292.402†	2185.0	0.01444	mg/L	0.000111	0.01444	mg/L	0.000111 0.77%
Zn 206.200†	26.4	0.01080	mg/L	0.000312	0.01080	mg/L	0.000312 2.89%

Sequence No.: 81
 Sample ID: YE49 GSPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 372
 Date Collected: 4/4/2014 3:45:49 PM
 Data Type: Original

Nebulizer Parameters: YE49 GSPK TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 GSPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2896472.6	101.2	%	0.19				0.18%
ScR 361.383	249312.3	103.4	%	0.70				0.67%
Ag 328.068†	111875.2	0.5744	mg/L	0.00376	0.5744	mg/L	0.00376	0.65%
Al 308.215†	16737.1	13.35	mg/L	0.084	13.35	mg/L	0.084	0.63%
As 188.979†	3595.5	2.232	mg/L	0.0098	2.232	mg/L	0.0098	0.44%
B 249.677†	250.5	0.04428	mg/L	0.000934	0.04428	mg/L	0.000934	2.11%
Ba 233.527†	8810.6	2.262	mg/L	0.0166	2.262	mg/L	0.0166	0.73%
Be 313.042†	257435.9	0.5361	mg/L	0.00075	0.5361	mg/L	0.00075	0.14%
Ca 317.933†	302756.9	31.71	mg/L	0.061	31.71	mg/L	0.061	0.19%
Cd 228.802†	17332.1	0.5512	mg/L	0.00248	0.5512	mg/L	0.00248	0.45%
Co 228.616†	21097.8	0.5397	mg/L	0.00351	0.5397	mg/L	0.00351	0.65%
Cr 267.716†	2871.2	0.5838	mg/L	0.00420	0.5838	mg/L	0.00420	0.72%
Cu 324.752†	154573.3	0.5547	mg/L	0.00228	0.5547	mg/L	0.00228	0.41%
Fe 273.955†	18223.9	16.33	mg/L	0.117	16.33	mg/L	0.117	0.72%
K 766.490†	28826.7	13.10	mg/L	0.065	13.10	mg/L	0.065	0.50%
Mg 279.077†	26945.3	24.47	mg/L	0.163	24.47	mg/L	0.163	0.67%
Mn 257.610†	23608.7	0.7787	mg/L	0.00565	0.7787	mg/L	0.00565	0.73%
Mo 202.031†	131.9	0.00696	mg/L	0.000301	0.00696	mg/L	0.000301	4.32%
Na 589.592†	264148.5	20.29	mg/L	0.037	20.29	mg/L	0.037	0.18%
Na 330.237†	427.5	20.35	mg/L	0.226	20.35	mg/L	0.226	1.11%
Ni 231.604†	1951.8	0.5762	mg/L	0.00445	0.5762	mg/L	0.00445	0.77%
Pb 220.353†	17298.2	2.155	mg/L	0.0107	2.155	mg/L	0.0107	0.49%
Sb 206.836†	22.3	0.00220	mg/L	0.001728	0.00220	mg/L	0.001728	78.43%
Se 196.026†	2869.5	2.209	mg/L	0.0110	2.209	mg/L	0.0110	0.50%
Si 288.158†	39018.8	22.76	mg/L	0.164	22.76	mg/L	0.164	0.72%
Sn 189.927†	-52.1	-0.01213	mg/L	0.001478	-0.01213	mg/L	0.001478	12.18%
Sr 421.552†	530328.3	0.6629	mg/L	0.00088	0.6629	mg/L	0.00088	0.13%
Ti 334.903†	8707.1	0.5347	mg/L	0.00301	0.5347	mg/L	0.00301	0.56%
Tl 190.801†	4370.7	2.133	mg/L	0.0074	2.133	mg/L	0.0074	0.35%
V 292.402†	84514.4	0.5727	mg/L	0.00421	0.5727	mg/L	0.00421	0.73%
Zn 206.200†	1862.4	0.5527	mg/L	0.00243	0.5527	mg/L	0.00243	0.44%

Sequence No.: 82
 Sample ID: YE49 MB2SPK WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 373
 Date Collected: 4/4/2014 3:49:49 PM
 Data Type: Original

Nebulizer Parameters: YE49 MB2SPK WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 MB2SPK WMN

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2998343.5	104.8	%	0.12				0.12%
ScR 361.383	254661.6	105.6	%	0.60				0.57%
Ag 328.068†	100145.5	0.5141	mg/L	0.00556	0.5141	mg/L	0.00556	1.08%
Al 308.215†	2623.6	2.087	mg/L	0.0222	2.087	mg/L	0.0222	1.06%
As 188.979†	3607.2	2.222	mg/L	0.0038	2.222	mg/L	0.0038	0.17%
B 249.677†	3.7	-0.00043	mg/L	0.001613	-0.00043	mg/L	0.001613	377.54%
Ba 233.527†	8089.2	2.079	mg/L	0.0229	2.079	mg/L	0.0229	1.10%
Be 313.042†	232552.7	0.4843	mg/L	0.00154	0.4843	mg/L	0.00154	0.32%
Ca 317.933†	98890.9	10.36	mg/L	0.038	10.36	mg/L	0.038	0.37%
Cd 228.802†	17307.9	0.5505	mg/L	0.00407	0.5505	mg/L	0.00407	0.74%
Co 228.616†	20331.7	0.5210	mg/L	0.00206	0.5210	mg/L	0.00206	0.40%
Cr 267.716†	2629.8	0.5356	mg/L	0.00489	0.5356	mg/L	0.00489	0.91%
Cu 324.752†	142612.0	0.5114	mg/L	0.00115	0.5114	mg/L	0.00115	0.23%
Fe 273.955†	2380.6	2.131	mg/L	0.0182	2.131	mg/L	0.0182	0.85%
K 766.490†	23112.3	10.51	mg/L	0.054	10.51	mg/L	0.054	0.51%
Mg 279.077†	11800.0	10.72	mg/L	0.101	10.72	mg/L	0.101	0.95%
Mn 257.610†	15138.2	0.4996	mg/L	0.00122	0.4996	mg/L	0.00122	0.24%
Mo 202.031†	16.6	0.00077	mg/L	0.000189	0.00077	mg/L	0.000189	24.39%
Na 589.592†	138400.4	10.63	mg/L	0.041	10.63	mg/L	0.041	0.38%
Na 330.237†	233.4	11.01	mg/L	0.139	11.01	mg/L	0.139	1.26%
Ni 231.604†	1798.7	0.5310	mg/L	0.00420	0.5310	mg/L	0.00420	0.79%
Pb 220.353†	17045.3	2.121	mg/L	0.0082	2.121	mg/L	0.0082	0.38%
Sb 206.836†	8.6	-0.00227	mg/L	0.003452	-0.00227	mg/L	0.003452	151.93%
Se 196.026†	3136.9	2.415	mg/L	0.0049	2.415	mg/L	0.0049	0.20%
Si 288.158†	74.8	0.04741	mg/L	0.019019	0.04741	mg/L	0.019019	40.12%
Sn 189.927†	-21.1	-0.00521	mg/L	0.000394	-0.00521	mg/L	0.000394	7.57%
Sr 421.552†	414384.6	0.5179	mg/L	0.00169	0.5179	mg/L	0.00169	0.33%
Ti 334.903†	32.2	0.00115	mg/L	0.000112	0.00115	mg/L	0.000112	9.72%
Tl 190.801†	4312.7	2.103	mg/L	0.0070	2.103	mg/L	0.0070	0.33%
V 292.402†	77123.2	0.5236	mg/L	0.00146	0.5236	mg/L	0.00146	0.28%
Zn 206.200†	1813.6	0.5341	mg/L	0.00593	0.5341	mg/L	0.00593	1.11%

Sequence No.: 83

Sample ID: CV *878*
Analyst: EL *EL*
Dilution: 1.000000X *4-11-14*

Autosampler Location: 7

Date Collected: 4/4/2014 3:53:49 PM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2873966.9	100.4	%	0.16				0.16%
ScR 361.383	242920.1	100.7	%	0.45				0.44%
Ag 328.068†	214612.9	1.102	mg/L	0.0033	1.102	mg/L	0.0033	0.30%
Al 308.215†	2642.1	2.076	mg/L	0.0070	2.076	mg/L	0.0070	0.34%
As 188.979†	3351.5	2.098	mg/L	0.0112	2.098	mg/L	0.0112	0.53%
B 249.677†	5786.7	1.048	mg/L	0.0063	1.048	mg/L	0.0063	0.60%
Ba 233.527†	4080.5	1.048	mg/L	0.0067	1.048	mg/L	0.0067	0.64%
Be 313.042†	484323.0	1.009	mg/L	0.0033	1.009	mg/L	0.0033	0.32%
Ca 317.933†	20712.7	2.169	mg/L	0.0119	2.169	mg/L	0.0119	0.55%
Cd 228.802†	32938.1	1.059	mg/L	0.0017	1.059	mg/L	0.0017	0.16%
Co 228.616†	40082.9	1.026	mg/L	0.0024	1.026	mg/L	0.0024	0.24%
Cr 267.716†	5244.0	1.070	mg/L	0.0073	1.070	mg/L	0.0073	0.68%
Cu 324.752†	284394.5	1.019	mg/L	0.0026	1.019	mg/L	0.0026	0.26%
Fe 273.955†	2397.8	2.143	mg/L	0.0135	2.143	mg/L	0.0135	0.63%
K 766.490†	45694.0	20.77	mg/L	0.073	20.77	mg/L	0.073	0.35%
Mg 279.077†	2270.8	2.070	mg/L	0.0183	2.070	mg/L	0.0183	0.88%
Mn 257.610†	30379.1	1.002	mg/L	0.0014	1.002	mg/L	0.0014	0.14%
Mo 202.031†	17596.6	0.9934	mg/L	0.00335	0.9934	mg/L	0.00335	0.34%
Na 589.592†	685215.0	52.63	mg/L	0.076	52.63	mg/L	0.076	0.15%
Na 330.237†	1099.4	52.83	mg/L	0.412	52.83	mg/L	0.412	0.78%
Ni 231.604†	3589.9	1.062	mg/L	0.0103	1.062	mg/L	0.0103	0.97%
Pb 220.353†	16643.8	2.072	mg/L	0.0078	2.072	mg/L	0.0078	0.38%
Sb 206.836†	6426.1	2.140	mg/L	0.0061	2.140	mg/L	0.0061	0.28%
Se 196.026†	2710.9	2.087	mg/L	0.0077	2.087	mg/L	0.0077	0.37%
Si 288.158†	3579.1	2.092	mg/L	0.0451	2.092	mg/L	0.0451	2.16%
Sn 189.927†	3296.8	1.024	mg/L	0.0038	1.024	mg/L	0.0038	0.37%
Sr 421.552†	832137.1	1.040	mg/L	0.0013	1.040	mg/L	0.0013	0.12%
Ti 334.903†	16626.7	1.024	mg/L	0.0004	1.024	mg/L	0.0004	0.04%
Tl 190.801†	4201.2	2.045	mg/L	0.0065	2.045	mg/L	0.0065	0.32%
V 292.402†	154291.9	1.048	mg/L	0.0019	1.048	mg/L	0.0019	0.19%
Zn 206.200†	3580.2	1.054	mg/L	0.0089	1.054	mg/L	0.0089	0.84%

Sequence No.: 84
 Sample ID: CB 8
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/4/2014 3:57:53 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2933817.3	102.5	%	0.77			0.75%
ScR 361.383	250279.4	103.8	%	0.48			0.47%
Ag 328.068†	19.3	0.00010	mg/L	0.000042	0.00010	mg/L	0.000042 42.64%
Al 308.215†	10.5	0.00840	mg/L	0.001614	0.00840	mg/L	0.001614 19.22%
As 188.979†	-0.5	-0.00026	mg/L	0.000878	-0.00026	mg/L	0.000878 334.25%
B 249.677†	10.0	0.00181	mg/L	0.000904	0.00181	mg/L	0.000904 50.03%
Ba 233.527†	-0.6	-0.00015	mg/L	0.000837	-0.00015	mg/L	0.000837 564.55%
Be 313.042†	26.1	0.00005	mg/L	0.000004	0.00005	mg/L	0.000004 7.18%
Ca 317.933†	14.8	0.00155	mg/L	0.001400	0.00155	mg/L	0.001400 90.32%
Cd 228.802†	-7.6	-0.00025	mg/L	0.000070	-0.00025	mg/L	0.000070 28.43%
Co 228.616†	1.0	0.00002	mg/L	0.000049	0.00002	mg/L	0.000049 197.45%
Cr 267.716†	1.5	0.00031	mg/L	0.000827	0.00031	mg/L	0.000827 263.22%
Cu 324.752†	34.8	0.00012	mg/L	0.000022	0.00012	mg/L	0.000022 17.74%
Fe 273.955†	0.7	0.00060	mg/L	0.001127	0.00060	mg/L	0.001127 189.23%
K 766.490†	2.0	0.00092	mg/L	0.009031	0.00092	mg/L	0.009031 978.58%
Mg 279.077†	-1.3	-0.00120	mg/L	0.008235	-0.00120	mg/L	0.008235 687.12%
Mn 257.610†	2.1	0.00007	mg/L	0.000114	0.00007	mg/L	0.000114 165.62%
Mo 202.031†	11.3	0.00064	mg/L	0.000321	0.00064	mg/L	0.000321 50.45%
Na 589.592†	113.5	0.00872	mg/L	0.000437	0.00872	mg/L	0.000437 5.02%
Na 330.237†	-0.0	0.00007	mg/L	0.182206	0.00007	mg/L	0.182206 >999.9%
Ni 231.604†	-3.0	-0.00089	mg/L	0.001559	-0.00089	mg/L	0.001559 174.40%
Pb 220.353†	0.4	0.00005	mg/L	0.000119	0.00005	mg/L	0.000119 236.63%
Sb 206.836†	30.2	0.01007	mg/L	0.002661	0.01007	mg/L	0.002661 26.43%
Se 196.026†	0.1	0.00006	mg/L	0.004926	0.00006	mg/L	0.004926 >999.9%
Si 288.158†	28.4	0.01659	mg/L	0.015499	0.01659	mg/L	0.015499 93.45%
Sn 189.927†	-1.0	-0.00031	mg/L	0.000752	-0.00031	mg/L	0.000752 239.66%
Sr 421.552†	50.6	0.00006	mg/L	0.000015	0.00006	mg/L	0.000015 23.81%
Ti 334.903†	18.8	0.00116	mg/L	0.000498	0.00116	mg/L	0.000498 42.95%
Tl 190.801†	2.2	0.00106	mg/L	0.002524	0.00106	mg/L	0.002524 238.59%
V 292.402†	-14.6	-0.00010	mg/L	0.000082	-0.00010	mg/L	0.000082 83.59%
Zn 206.200†	-0.5	-0.00014	mg/L	0.000771	-0.00014	mg/L	0.000771 552.50%

Sequence No.: 85
 Sample ID: YF36 MB2 WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 374
 Date Collected: 4/4/2014 4:01:53 PM
 Data Type: Original

Nebulizer Parameters: YF36 MB2 WMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF36 MB2 WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3035185.6	106.0	%	0.42				0.40%
ScR 361.383	255340.7	105.9	%	0.46				0.44%
Ag 328.068†	25.7	0.00013	mg/L	0.000170	0.00013	mg/L	0.000170	128.50%
Al 308.215†	5.9	0.00468	mg/L	0.004856	0.00468	mg/L	0.004856	103.73%
As 188.979†	4.8	0.00296	mg/L	0.000519	0.00296	mg/L	0.000519	17.54%
B 249.677†	3.1	0.00057	mg/L	0.000599	0.00057	mg/L	0.000599	105.85%
Ba 233.527†	0.7	0.00017	mg/L	0.000883	0.00017	mg/L	0.000883	510.69%
Be 313.042†	22.9	0.00005	mg/L	0.000006	0.00005	mg/L	0.000006	13.14%
Ca 317.933†	280.0	0.02933	mg/L	0.001300	0.02933	mg/L	0.001300	4.43%
Cd 228.802†	-4.8	-0.00017	mg/L	0.000053	-0.00017	mg/L	0.000053	31.07%
Co 228.616†	25.8	0.00066	mg/L	0.000076	0.00066	mg/L	0.000076	11.49%
Cr 267.716†	5.4	0.00111	mg/L	0.000350	0.00111	mg/L	0.000350	31.56%
Cu 324.752†	-67.0	-0.00024	mg/L	0.000076	-0.00024	mg/L	0.000076	31.58%
Fe 273.955†	0.5	0.00049	mg/L	0.001532	0.00049	mg/L	0.001532	312.10%
K 766.490†	39.9	0.01812	mg/L	0.005921	0.01812	mg/L	0.005921	32.68%
Mg 279.077†	1.3	0.00121	mg/L	0.012113	0.00121	mg/L	0.012113	997.65%
Mn 257.610†	-2.0	-0.00007	mg/L	0.000170	-0.00007	mg/L	0.000170	259.59%
Mo 202.031†	-5.0	-0.00029	mg/L	0.000142	-0.00029	mg/L	0.000142	49.79%
Na 589.592†	187.2	0.01437	mg/L	0.002652	0.01437	mg/L	0.002652	18.45%
Na 330.237†	0.6	0.03106	mg/L	0.134907	0.03106	mg/L	0.134907	434.39%
Ni 231.604†	1.4	0.00041	mg/L	0.001071	0.00041	mg/L	0.001071	262.64%
Pb 220.353†	0.2	0.00003	mg/L	0.000464	0.00003	mg/L	0.000464	>999.9%
Sb 206.836†	-10.4	-0.00349	mg/L	0.002339	-0.00349	mg/L	0.002339	67.05%
Se 196.026†	6.7	0.00513	mg/L	0.003498	0.00513	mg/L	0.003498	68.25%
Si 288.158†	-3.5	-0.00201	mg/L	0.008189	-0.00201	mg/L	0.008189	406.76%
Sn 189.927†	-2.7	-0.00084	mg/L	0.001123	-0.00084	mg/L	0.001123	134.25%
Sr 421.552†	72.7	0.00009	mg/L	0.000017	0.00009	mg/L	0.000017	18.24%
Ti 334.903†	6.0	0.00037	mg/L	0.000189	0.00037	mg/L	0.000189	51.14%
Tl 190.801†	4.0	0.00195	mg/L	0.000480	0.00195	mg/L	0.000480	24.67%
V 292.402†	-24.9	-0.00016	mg/L	0.000046	-0.00016	mg/L	0.000046	27.99%
Zn 206.200†	-2.2	-0.00065	mg/L	0.000291	-0.00065	mg/L	0.000291	44.68%

Sequence No.: 86
 Sample ID: YF36 E WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 375
 Date Collected: 4/4/2014 4:06:09 PM
 Data Type: Original

Nebulizer Parameters: YF36 E WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF36 E WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	3009442.0	105.1	%	0.93			0.89%
ScR 361.383	261227.2	108.3	%	1.03			0.95%
Ag 328.068†	4.0	0.00011	mg/L	0.000276	0.00011	mg/L	0.000276 243.23%
Al 308.215†	28.3	0.02250	mg/L	0.004718	0.02250	mg/L	0.004718 20.97%
As 188.979†	28.7	0.01644	mg/L	0.002968	0.01644	mg/L	0.002968 18.05%
B 249.677†	111.7	0.02025	mg/L	0.000864	0.02025	mg/L	0.000864 4.27%
Ba 233.527†	27.4	0.00429	mg/L	0.000514	0.00429	mg/L	0.000514 11.99%
Be 313.042†	-12.2	-0.00003	mg/L	0.000046	-0.00003	mg/L	0.000046 175.91%
Ca 317.933†	145757.7	15.26	mg/L	0.070	15.26	mg/L	0.070 0.46%
Cd 228.802†	-4.4	-0.00039	mg/L	0.000115	-0.00039	mg/L	0.000115 29.61%
Co 228.616†	32.3	0.00082	mg/L	0.000078	0.00082	mg/L	0.000078 9.42%
Cr 267.716†	9.3	0.00188	mg/L	0.000921	0.00188	mg/L	0.000921 48.97%
Cu 324.752†	-191.7	0.00006	mg/L	0.000074	0.00006	mg/L	0.000074 120.15%
Fe 273.955†	19955.8	17.89	mg/L	0.054	17.89	mg/L	0.054 0.30%
K 766.490†	944.2	0.4292	mg/L	0.02001	0.4292	mg/L	0.02001 4.66%
Mg 279.077†	5552.8	5.032	mg/L	0.0278	5.032	mg/L	0.0278 0.55%
Mn 257.610†	30288.2	0.9988	mg/L	0.00397	0.9988	mg/L	0.00397 0.40%
Mo 202.031†	55.3	0.00289	mg/L	0.000251	0.00289	mg/L	0.000251 8.71%
Na 589.592†	105742.5	8.122	mg/L	0.0121	8.122	mg/L	0.0121 0.15%
Na 330.237†	172.6	8.208	mg/L	0.1676	8.208	mg/L	0.1676 2.04%
Ni 231.604†	5.8	0.00172	mg/L	0.001001	0.00172	mg/L	0.001001 58.31%
Pb 220.353†	-4.1	-0.00132	mg/L	0.000412	-0.00132	mg/L	0.000412 31.25%
Sb 206.836†	-4.5	-0.00159	mg/L	0.000816	-0.00159	mg/L	0.000816 51.40%
Se 196.026†	16.5	0.01269	mg/L	0.004376	0.01269	mg/L	0.004376 34.49%
Si 288.158†	31000.0	18.08	mg/L	0.055	18.08	mg/L	0.055 0.30%
Sn 189.927†	-26.2	-0.00627	mg/L	0.000537	-0.00627	mg/L	0.000537 8.57%
Sr 421.552†	54716.9	0.06839	mg/L	0.000131	0.06839	mg/L	0.000131 0.19%
Ti 334.903†	46.6	0.00180	mg/L	0.000395	0.00180	mg/L	0.000395 22.00%
Tl 190.801†	6.3	0.00514	mg/L	0.000433	0.00514	mg/L	0.000433 8.43%
V 292.402†	405.7	0.00189	mg/L	0.000105	0.00189	mg/L	0.000105 5.55%
Zn 206.200†	-12.7	-0.00036	mg/L	0.000485	-0.00036	mg/L	0.000485 134.70%

Sequence No.: 87
 Sample ID: YF36 F WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 376
 Date Collected: 4/4/2014 4:10:24 PM
 Data Type: Original

Nebulizer Parameters: YF36 F WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF36 F WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	3015908.2		105.4 %	0.50			0.47%
ScR 361.383	257751.6		106.9 %	1.14			1.06%
Ag 328.068†	-52.7	-0.00004	mg/L	0.000056	-0.00004	mg/L	0.000056 129.10%
Al 308.215†	18.1	0.01431	mg/L	0.007929	0.01431	mg/L	0.007929 55.40%
As 188.979†	51.0	0.02835	mg/L	0.002946	0.02835	mg/L	0.002946 10.39%
B 249.677†	157.5	0.02855	mg/L	0.000738	0.02855	mg/L	0.000738 2.58%
Ba 233.527†	75.3	0.01266	mg/L	0.000558	0.01266	mg/L	0.000558 4.40%
Be 313.042†	16.5	0.00003	mg/L	0.000026	0.00003	mg/L	0.000026 79.20%
Ca 317.933†	356783.4	37.36	mg/L	0.100	37.36	mg/L	0.100 0.27%
Cd 228.802†	-0.7	-0.00056	mg/L	0.000127	-0.00056	mg/L	0.000127 22.60%
Co 228.616†	77.1	0.00196	mg/L	0.000066	0.00196	mg/L	0.000066 3.35%
Cr 267.716†	10.4	0.00227	mg/L	0.000497	0.00227	mg/L	0.000497 21.90%
Cu 324.752†	-466.2	0.00016	mg/L	0.000246	0.00016	mg/L	0.000246 154.16%
Fe 273.955†	48421.6	43.41	mg/L	0.339	43.41	mg/L	0.339 0.78%
K 766.490†	4172.6	1.897	mg/L	0.0310	1.897	mg/L	0.0310 1.63%
Mg 279.077†	11119.7	10.07	mg/L	0.141	10.07	mg/L	0.141 1.40%
Mn 257.610†	55065.8	1.816	mg/L	0.0111	1.816	mg/L	0.0111 0.61%
Mo 202.031†	63.4	0.00300	mg/L	0.000274	0.00300	mg/L	0.000274 9.12%
Na 589.592†	123322.6	9.472	mg/L	0.0169	9.472	mg/L	0.0169 0.18%
Na 330.237†	212.5	9.993	mg/L	0.0889	9.993	mg/L	0.0889 0.89%
Ni 231.604†	4.7	0.00138	mg/L	0.000879	0.00138	mg/L	0.000879 63.57%
Pb 220.353†	6.4	-0.00117	mg/L	0.000400	-0.00117	mg/L	0.000400 34.11%
Sb 206.836†	-1.6	-0.00064	mg/L	0.002617	-0.00064	mg/L	0.002617 409.23%
Se 196.026†	11.2	0.00863	mg/L	0.002591	0.00863	mg/L	0.002591 30.02%
Si 288.158†	41140.9	24.00	mg/L	0.291	24.00	mg/L	0.291 1.21%
Sn 189.927†	-46.3	-0.00983	mg/L	0.000315	-0.00983	mg/L	0.000315 3.20%
Sr 421.552†	94284.3	0.1178	mg/L	0.00038	0.1178	mg/L	0.00038 0.32%
Ti 334.903†	89.1	0.00285	mg/L	0.000770	0.00285	mg/L	0.000770 27.00%
Tl 190.801†	1.5	0.00570	mg/L	0.000591	0.00570	mg/L	0.000591 10.37%
V 292.402†	715.0	0.00267	mg/L	0.000033	0.00267	mg/L	0.000033 1.25%
Zn 206.200†	-10.4	0.00142	mg/L	0.001217	0.00142	mg/L	0.001217 85.62%

Sequence No.: 88
 Sample ID: YF36 G WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 377
 Date Collected: 4/4/2014 4:14:40 PM
 Data Type: Original

Nebulizer Parameters: YF36 G WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF36 G WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2965593.1	103.6	%	0.38			0.37%
ScR 361.383	258055.6	107.0	%	1.85			1.73%
Ag 328.068†	-19.2	-0.00002	mg/L	0.000080	-0.00002	mg/L	0.000080 346.47%
Al 308.215†	71.5	0.05691	mg/L	0.002771	0.05691	mg/L	0.002771 4.87%
As 188.979†	21.1	0.01224	mg/L	0.001742	0.01224	mg/L	0.001742 14.24%
B 249.677†	130.7	0.02369	mg/L	0.000661	0.02369	mg/L	0.000661 2.79%
Ba 233.527†	45.9	0.00882	mg/L	0.000229	0.00882	mg/L	0.000229 2.59%
Be 313.042†	11.5	0.00002	mg/L	0.000055	0.00002	mg/L	0.000055 250.54%
Ca 317.933†	115647.3	12.11	mg/L	0.071	12.11	mg/L	0.071 0.59%
Cd 228.802†	0.5	-0.00022	mg/L	0.000087	-0.00022	mg/L	0.000087 40.18%
Co 228.616†	30.0	0.00075	mg/L	0.000178	0.00075	mg/L	0.000178 23.64%
Cr 267.716†	14.3	0.00311	mg/L	0.000742	0.00311	mg/L	0.000742 23.82%
Cu 324.752†	-53.3	0.00063	mg/L	0.000255	0.00063	mg/L	0.000255 40.20%
Fe 273.955†	21370.6	19.16	mg/L	0.198	19.16	mg/L	0.198 1.03%
K 766.490†	2059.6	0.9362	mg/L	0.02098	0.9362	mg/L	0.02098 2.24%
Mg 279.077†	3825.2	3.462	mg/L	0.0560	3.462	mg/L	0.0560 1.62%
Mn 257.610†	23255.6	0.7669	mg/L	0.00737	0.7669	mg/L	0.00737 0.96%
Mo 202.031†	32.2	0.00163	mg/L	0.000151	0.00163	mg/L	0.000151 9.27%
Na 589.592†	173646.5	13.34	mg/L	0.041	13.34	mg/L	0.041 0.30%
Na 330.237†	275.2	13.17	mg/L	0.450	13.17	mg/L	0.450 3.42%
Ni 231.604†	-0.2	-0.00006	mg/L	0.000875	-0.00006	mg/L	0.000875 >999.9%
Pb 220.353†	-9.6	-0.00205	mg/L	0.000600	-0.00205	mg/L	0.000600 29.26%
Sb 206.836†	-1.0	-0.00037	mg/L	0.000977	-0.00037	mg/L	0.000977 261.30%
Se 196.026†	18.2	0.01401	mg/L	0.002646	0.01401	mg/L	0.002646 18.88%
Si 288.158†	48899.2	28.52	mg/L	0.263	28.52	mg/L	0.263 0.92%
Sn 189.927†	-21.4	-0.00516	mg/L	0.000171	-0.00516	mg/L	0.000171 3.32%
Sr 421.552†	47531.6	0.05941	mg/L	0.000195	0.05941	mg/L	0.000195 0.33%
Ti 334.903†	146.3	0.00817	mg/L	0.000293	0.00817	mg/L	0.000293 3.59%
Tl 190.801†	3.6	0.00395	mg/L	0.001427	0.00395	mg/L	0.001427 36.11%
V 292.402†	1165.9	0.00693	mg/L	0.000091	0.00693	mg/L	0.000091 1.31%
Zn 206.200†	-16.2	0.00056	mg/L	0.000361	0.00056	mg/L	0.000361 64.16%

Sequence No.: 89
 Sample ID: YE49 F WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 378
 Date Collected: 4/4/2014 4:18:55 PM
 Data Type: Original

Nebulizer Parameters: YE49 F WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE49 F WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2983667.1	104.2	%	0.07			0.07%
ScR 361.383	256718.4	106.5	%	1.57			1.47%
Ag 328.068†	-43.5	-0.00014	mg/L	0.000115	-0.00014	mg/L	80.24%
Al 308.215†	10.8	0.00845	mg/L	0.003671	0.00845	mg/L	43.46%
As 188.979†	16.0	0.00870	mg/L	0.000425	0.00870	mg/L	4.88%
B 249.677†	447.2	0.08106	mg/L	0.000875	0.08106	mg/L	1.08%
Ba 233.527†	17.4	0.00444	mg/L	0.000738	0.00444	mg/L	16.62%
Be 313.042†	13.6	0.00003	mg/L	0.000044	0.00003	mg/L	153.81%
Ca 317.933†	127117.1	13.31	mg/L	0.066	13.31	mg/L	0.50%
Cd 228.802†	-5.7	-0.00022	mg/L	0.000201	-0.00022	mg/L	91.37%
Co 228.616†	173.2	0.00444	mg/L	0.000108	0.00444	mg/L	2.43%
Cr 267.716†	17.8	0.00314	mg/L	0.000759	0.00314	mg/L	24.16%
Cu 324.752†	178.1	0.00058	mg/L	0.000149	0.00058	mg/L	25.75%
Fe 273.955†	129.6	0.1162	mg/L	0.00215	0.1162	mg/L	1.85%
K 766.490†	3694.2	1.679	mg/L	0.0294	1.679	mg/L	1.75%
Mg 279.077†	4600.8	4.179	mg/L	0.0560	4.179	mg/L	1.34%
Mn 257.610†	8727.2	0.2877	mg/L	0.00353	0.2877	mg/L	1.23%
Mo 202.031†	174.4	0.00964	mg/L	0.000131	0.00964	mg/L	1.36%
Na 589.592†	208399.2	16.01	mg/L	0.069	16.01	mg/L	0.43%
Na 330.237†	338.7	16.21	mg/L	0.284	16.21	mg/L	1.75%
Ni 231.604†	58.4	0.01727	mg/L	0.000237	0.01727	mg/L	1.37%
Pb 220.353†	-7.5	-0.00092	mg/L	0.001340	-0.00092	mg/L	145.25%
Sb 206.836†	-8.6	-0.00297	mg/L	0.000543	-0.00297	mg/L	18.31%
Se 196.026†	9.9	0.00766	mg/L	0.002619	0.00766	mg/L	34.21%
Si 288.158†	21096.3	12.30	mg/L	0.146	12.30	mg/L	1.19%
Sn 189.927†	-27.5	-0.00690	mg/L	0.000443	-0.00690	mg/L	6.42%
Sr 421.552†	103774.3	0.1297	mg/L	0.00052	0.1297	mg/L	0.40%
Ti 334.903†	26.8	0.00070	mg/L	0.000478	0.00070	mg/L	68.00%
Tl 190.801†	10.8	0.00527	mg/L	0.001285	0.00527	mg/L	24.41%
V 292.402†	24.2	0.00022	mg/L	0.000091	0.00022	mg/L	41.57%
Zn 206.200†	-5.9	0.00055	mg/L	0.000476	0.00055	mg/L	85.84%

Sequence No.: 90

Sample ID: YE49 DDUP WMN

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 379

Date Collected: 4/4/2014 4:23:10 PM

Data Type: Original

Nebulizer Parameters: YE49 DDUP WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE49 DDUP WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2962360.6	103.5	%	0.28				0.27%
ScR 361.383	255172.5	105.8	%	1.31				1.24%
Ag 328.068†	-21.8	-0.00001	mg/L	0.000061	-0.00001	mg/L	0.000061	658.15%
Al 308.215†	69.3	0.05520	mg/L	0.007789	0.05520	mg/L	0.007789	14.11%
As 188.979†	20.1	0.01103	mg/L	0.003405	0.01103	mg/L	0.003405	30.88%
B 249.677†	247.2	0.04481	mg/L	0.001262	0.04481	mg/L	0.001262	2.82%
Ba 233.527†	30.0	0.00769	mg/L	0.000773	0.00769	mg/L	0.000773	10.05%
Be 313.042†	6.7	0.00001	mg/L	0.000015	0.00001	mg/L	0.000015	112.97%
Ca 317.933†	161410.2	16.90	mg/L	0.045	16.90	mg/L	0.045	0.26%
Cd 228.802†	-9.8	-0.00038	mg/L	0.000151	-0.00038	mg/L	0.000151	39.57%
Co 228.616†	64.2	0.00164	mg/L	0.000104	0.00164	mg/L	0.000104	6.38%
Cr 267.716†	12.6	0.00159	mg/L	0.000592	0.00159	mg/L	0.000592	37.24%
Cu 324.752†	258.1	0.00082	mg/L	0.000118	0.00082	mg/L	0.000118	14.43%
Fe 273.955†	121.1	0.1085	mg/L	0.00108	0.1085	mg/L	0.00108	0.99%
K 766.490†	3377.4	1.535	mg/L	0.0077	1.535	mg/L	0.0077	0.50%
Mg 279.077†	10369.6	9.420	mg/L	0.0215	9.420	mg/L	0.0215	0.23%
Mn 257.610†	1275.9	0.04194	mg/L	0.000579	0.04194	mg/L	0.000579	1.38%
Mo 202.031†	70.9	0.00374	mg/L	0.000104	0.00374	mg/L	0.000104	2.79%
Na 589.592†	101175.0	7.771	mg/L	0.0167	7.771	mg/L	0.0167	0.21%
Na 330.237†	169.9	8.068	mg/L	0.1415	8.068	mg/L	0.1415	1.75%
Ni 231.604†	5.7	0.00168	mg/L	0.000864	0.00168	mg/L	0.000864	51.50%
Pb 220.353†	-12.7	-0.00157	mg/L	0.001117	-0.00157	mg/L	0.001117	71.22%
Sb 206.836†	-8.5	-0.00293	mg/L	0.002235	-0.00293	mg/L	0.002235	76.34%
Se 196.026†	1.8	0.00139	mg/L	0.002390	0.00139	mg/L	0.002390	172.55%
Si 288.158†	20995.7	12.25	mg/L	0.022	12.25	mg/L	0.022	0.18%
Sn 189.927†	-31.0	-0.00758	mg/L	0.000277	-0.00758	mg/L	0.000277	3.66%
Sr 421.552†	67788.6	0.08473	mg/L	0.000242	0.08473	mg/L	0.000242	0.29%
Ti 334.903†	67.8	0.00299	mg/L	0.000214	0.00299	mg/L	0.000214	7.17%
Tl 190.801†	11.7	0.00571	mg/L	0.000847	0.00571	mg/L	0.000847	14.83%
V 292.402†	254.0	0.00173	mg/L	0.000095	0.00173	mg/L	0.000095	5.52%
Zn 206.200†	-6.4	0.00041	mg/L	0.000953	0.00041	mg/L	0.000953	234.60%

Sequence No.: 91
 Sample ID: YE49 D WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 380
 Date Collected: 4/4/2014 4:27:09 PM
 Data Type: Original

Nebulizer Parameters: YE49 D WMN

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YE49 D WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2982620.8	104.2	%	0.69			0.66%
ScR 361.383	255778.2	106.1	%	1.08			1.02%
Ag 328.068†	-40.6	-0.00011	mg/L	0.000123	-0.00011 mg/L	0.000123	116.69%
Al 308.215†	73.2	0.05832	mg/L	0.005116	0.05832 mg/L	0.005116	8.77%
As 188.979†	21.3	0.01174	mg/L	0.000993	0.01174 mg/L	0.000993	8.46%
B 249.677†	241.5	0.04378	mg/L	0.001405	0.04378 mg/L	0.001405	3.21%
Ba 233.527†	31.2	0.00800	mg/L	0.000279	0.00800 mg/L	0.000279	3.48%
Be 313.042†	13.7	0.00003	mg/L	0.000016	0.00003 mg/L	0.000016	58.46%
Ca 317.933†	161665.6	16.93	mg/L	0.033	16.93 mg/L	0.033	0.20%
Cd 228.802†	-7.6	-0.00031	mg/L	0.000080	-0.00031 mg/L	0.000080	25.41%
Co 228.616†	59.0	0.00151	mg/L	0.000013	0.00151 mg/L	0.000013	0.87%
Cr 267.716†	11.1	0.00127	mg/L	0.001455	0.00127 mg/L	0.001455	114.98%
Cu 324.752†	236.1	0.00074	mg/L	0.000053	0.00074 mg/L	0.000053	7.11%
Fe 273.955†	113.1	0.1014	mg/L	0.00133	0.1014 mg/L	0.00133	1.31%
K 766.490†	3438.6	1.563	mg/L	0.0134	1.563 mg/L	0.0134	0.86%
Mg 279.077†	10563.8	9.597	mg/L	0.0586	9.597 mg/L	0.0586	0.61%
Mn 257.610†	1347.2	0.04430	mg/L	0.000413	0.04430 mg/L	0.000413	0.93%
Mo 202.031†	70.9	0.00374	mg/L	0.000154	0.00374 mg/L	0.000154	4.13%
Na 589.592†	101559.4	7.800	mg/L	0.0256	7.800 mg/L	0.0256	0.33%
Na 330.237†	165.9	7.876	mg/L	0.0740	7.876 mg/L	0.0740	0.94%
Ni 231.604†	9.3	0.00274	mg/L	0.001023	0.00274 mg/L	0.001023	37.30%
Pb 220.353†	-13.5	-0.00166	mg/L	0.000543	-0.00166 mg/L	0.000543	32.62%
Sb 206.836†	-8.9	-0.00307	mg/L	0.000886	-0.00307 mg/L	0.000886	28.88%
Se 196.026†	9.8	0.00755	mg/L	0.002659	0.00755 mg/L	0.002659	35.24%
Si 288.158†	21323.9	12.44	mg/L	0.067	12.44 mg/L	0.067	0.54%
Sn 189.927†	-31.1	-0.00759	mg/L	0.001847	-0.00759 mg/L	0.001847	24.33%
Sr 421.552†	67757.0	0.08469	mg/L	0.000205	0.08469 mg/L	0.000205	0.24%
Ti 334.903†	62.2	0.00264	mg/L	0.000224	0.00264 mg/L	0.000224	8.47%
Tl 190.801†	10.1	0.00495	mg/L	0.003356	0.00495 mg/L	0.003356	67.79%
V 292.402†	255.0	0.00173	mg/L	0.000214	0.00173 mg/L	0.000214	12.32%
Zn 206.200†	-6.5	0.00041	mg/L	0.000390	0.00041 mg/L	0.000390	95.27%

Sequence No.: 92

Autosampler Location: 381

Sample ID: YE49 DSPK WMN

Date Collected: 4/4/2014 4:31:24 PM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE49 DSPK WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE49 DSPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2950357.7	103.1	%	0.53				0.52%
ScR 361.383	254099.6	105.4	%	0.58				0.55%
Ag 328.068†	80232.8	0.4120	mg/L	0.02978	0.4120	mg/L	0.02978	7.23%
Al 308.215†	2670.2	2.124	mg/L	0.0109	2.124	mg/L	0.0109	0.51%
As 188.979†	3705.9	2.281	mg/L	0.0117	2.281	mg/L	0.0117	0.51%
B 249.677†	242.1	0.04279	mg/L	0.001380	0.04279	mg/L	0.001380	3.23%
Ba 233.527†	8213.6	2.111	mg/L	0.0108	2.111	mg/L	0.0108	0.51%
Be 313.042†	236544.4	0.4926	mg/L	0.00103	0.4926	mg/L	0.00103	0.21%
Ca 317.933†	262394.5	27.48	mg/L	0.034	27.48	mg/L	0.034	0.12%
Cd 228.802†	17459.9	0.5551	mg/L	0.00197	0.5551	mg/L	0.00197	0.36%
Co 228.616†	20285.8	0.5199	mg/L	0.00284	0.5199	mg/L	0.00284	0.55%
Cr 267.716†	2609.9	0.5305	mg/L	0.00172	0.5305	mg/L	0.00172	0.32%
Cu 324.752†	144951.5	0.5197	mg/L	0.00310	0.5197	mg/L	0.00310	0.60%
Fe 273.955†	2457.4	2.200	mg/L	0.0106	2.200	mg/L	0.0106	0.48%
K 766.490†	26801.8	12.18	mg/L	0.073	12.18	mg/L	0.073	0.60%
Mg 279.077†	22546.4	20.48	mg/L	0.107	20.48	mg/L	0.107	0.52%
Mn 257.610†	16840.8	0.5556	mg/L	0.00333	0.5556	mg/L	0.00333	0.60%
Mo 202.031†	83.1	0.00427	mg/L	0.000175	0.00427	mg/L	0.000175	4.11%
Na 589.592†	241996.3	18.59	mg/L	0.059	18.59	mg/L	0.059	0.32%
Na 330.237†	392.1	18.54	mg/L	0.075	18.54	mg/L	0.075	0.40%
Ni 231.604†	1779.1	0.5252	mg/L	0.00298	0.5252	mg/L	0.00298	0.57%
Pb 220.353†	17019.3	2.118	mg/L	0.0069	2.118	mg/L	0.0069	0.32%
Sb 206.836†	11.1	-0.00142	mg/L	0.001820	-0.00142	mg/L	0.001820	128.34%
Se 196.026†	3191.9	2.458	mg/L	0.0075	2.458	mg/L	0.0075	0.30%
Si 288.158†	21423.4	12.50	mg/L	0.051	12.50	mg/L	0.051	0.40%
Sn 189.927†	-46.6	-0.01104	mg/L	0.000216	-0.01104	mg/L	0.000216	1.96%
Sr 421.552†	489043.1	0.6113	mg/L	0.00118	0.6113	mg/L	0.00118	0.19%
Ti 334.903†	84.1	0.00314	mg/L	0.000574	0.00314	mg/L	0.000574	18.29%
Tl 190.801†	4358.3	2.125	mg/L	0.0141	2.125	mg/L	0.0141	0.66%
V 292.402†	78206.3	0.5309	mg/L	0.00299	0.5309	mg/L	0.00299	0.56%
Zn 206.200†	1790.9	0.5297	mg/L	0.00262	0.5297	mg/L	0.00262	0.49%

Sequence No.: 93
 Sample ID: YE49 MB1SPK DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 382
 Date Collected: 4/4/2014 4:35:24 PM
 Data Type: Original

Nebulizer Parameters: YE49 MB1SPK DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 MB1SPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2964221.9	103.6	%	0.10			0.10%
ScR 361.383	254461.5	105.5	%	1.35			1.28%
Ag 328.068†	104229.6	0.5351	mg/L	0.00361	0.5351 mg/L	0.00361	0.67%
Al 308.215†	2704.6	2.151	mg/L	0.0255	2.151 mg/L	0.0255	1.18%
As 188.979†	3675.3	2.264	mg/L	0.0070	2.264 mg/L	0.0070	0.31%
B 249.677†	38.8	0.00591	mg/L	0.001144	0.00591 mg/L	0.001144	19.35%
Ba 233.527†	8348.8	2.145	mg/L	0.0352	2.145 mg/L	0.0352	1.64%
Be 313.042†	239124.7	0.4980	mg/L	0.00575	0.4980 mg/L	0.00575	1.15%
Ca 317.933†	102993.3	10.79	mg/L	0.099	10.79 mg/L	0.099	0.91%
Cd 228.802†	17695.3	0.5629	mg/L	0.00413	0.5629 mg/L	0.00413	0.73%
Co 228.616†	20780.2	0.5325	mg/L	0.00335	0.5325 mg/L	0.00335	0.63%
Cr 267.716†	2682.3	0.5462	mg/L	0.00441	0.5462 mg/L	0.00441	0.81%
Cu 324.752†	146775.9	0.5264	mg/L	0.00324	0.5264 mg/L	0.00324	0.61%
Fe 273.955†	2402.1	2.150	mg/L	0.0245	2.150 mg/L	0.0245	1.14%
K 766.490†	23560.3	10.71	mg/L	0.019	10.71 mg/L	0.019	0.18%
Mg 279.077†	12040.5	10.94	mg/L	0.132	10.94 mg/L	0.132	1.21%
Mn 257.610†	15336.8	0.5062	mg/L	0.00117	0.5062 mg/L	0.00117	0.23%
Mo 202.031†	19.0	0.00091	mg/L	0.000291	0.00091 mg/L	0.000291	32.02%
Na 589.592†	141648.0	10.88	mg/L	0.035	10.88 mg/L	0.035	0.32%
Na 330.237†	236.7	11.16	mg/L	0.300	11.16 mg/L	0.300	2.69%
Ni 231.604†	1848.1	0.5455	mg/L	0.00549	0.5455 mg/L	0.00549	1.01%
Pb 220.353†	17474.4	2.175	mg/L	0.0141	2.175 mg/L	0.0141	0.65%
Sb 206.836†	13.6	-0.00066	mg/L	0.002104	-0.00066 mg/L	0.002104	316.87%
Se 196.026†	3175.1	2.445	mg/L	0.0055	2.445 mg/L	0.0055	0.22%
Si 288.158†	-23.7	-0.01000	mg/L	0.002537	-0.01000 mg/L	0.002537	25.37%
Sn 189.927†	-22.3	-0.00551	mg/L	0.001469	-0.00551 mg/L	0.001469	26.63%
Sr 421.552†	420547.6	0.5256	mg/L	0.00204	0.5256 mg/L	0.00204	0.39%
Ti 334.903†	18.2	0.00026	mg/L	0.000209	0.00026 mg/L	0.000209	81.72%
Tl 190.801†	4399.1	2.145	mg/L	0.0076	2.145 mg/L	0.0076	0.35%
V 292.402†	79649.7	0.5407	mg/L	0.00314	0.5407 mg/L	0.00314	0.58%
Zn 206.200†	1847.8	0.5441	mg/L	0.00663	0.5441 mg/L	0.00663	1.22%

Sequence No.: 94
 Sample ID: YF36 MB2SPK WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 383
 Date Collected: 4/4/2014 4:39:24 PM
 Data Type: Original

Nebulizer Parameters: YF36 MB2SPK WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF36 MB2SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2963622.0	103.5	%	0.25				0.24%
ScR 361.383	254895.2	105.7	%	1.16				1.10%
Ag 328.068†	82484.7	0.4235	mg/L	0.00843	0.4235	mg/L	0.00843	1.99%
Al 308.215†	2548.9	2.027	mg/L	0.0248	2.027	mg/L	0.0248	1.22%
As 188.979†	3554.6	2.190	mg/L	0.0051	2.190	mg/L	0.0051	0.24%
B 249.677†	-1.7	-0.00140	mg/L	0.001191	-0.00140	mg/L	0.001191	85.36%
Ba 233.527†	7946.2	2.042	mg/L	0.0161	2.042	mg/L	0.0161	0.79%
Be 313.042†	226419.4	0.4715	mg/L	0.00337	0.4715	mg/L	0.00337	0.71%
Ca 317.933†	96948.0	10.15	mg/L	0.054	10.15	mg/L	0.054	0.53%
Cd 228.802†	17012.3	0.5411	mg/L	0.00240	0.5411	mg/L	0.00240	0.44%
Co 228.616†	20065.2	0.5142	mg/L	0.00196	0.5142	mg/L	0.00196	0.38%
Cr 267.716†	2545.3	0.5183	mg/L	0.00586	0.5183	mg/L	0.00586	1.13%
Cu 324.752†	140541.3	0.5040	mg/L	0.00253	0.5040	mg/L	0.00253	0.50%
Fe 273.955†	2277.9	2.039	mg/L	0.0349	2.039	mg/L	0.0349	1.71%
K 766.490†	22544.4	10.25	mg/L	0.055	10.25	mg/L	0.055	0.53%
Mg 279.077†	11441.3	10.39	mg/L	0.135	10.39	mg/L	0.135	1.29%
Mn 257.610†	14599.1	0.4818	mg/L	0.00342	0.4818	mg/L	0.00342	0.71%
Mo 202.031†	15.4	0.00071	mg/L	0.000441	0.00071	mg/L	0.000441	61.75%
Na 589.592†	135198.7	10.38	mg/L	0.028	10.38	mg/L	0.028	0.27%
Na 330.237†	225.7	10.64	mg/L	0.266	10.64	mg/L	0.266	2.50%
Ni 231.604†	1750.9	0.5168	mg/L	0.00549	0.5168	mg/L	0.00549	1.06%
Pb 220.353†	16861.7	2.099	mg/L	0.0091	2.099	mg/L	0.0091	0.44%
Sb 206.836†	9.5	-0.00177	mg/L	0.000642	-0.00177	mg/L	0.000642	36.16%
Se 196.026†	3083.0	2.374	mg/L	0.0057	2.374	mg/L	0.0057	0.24%
Si 288.158†	-30.2	-0.01392	mg/L	0.001228	-0.01392	mg/L	0.001228	8.82%
Sn 189.927†	-22.2	-0.00556	mg/L	0.001177	-0.00556	mg/L	0.001177	21.16%
Sr 421.552†	400643.2	0.5008	mg/L	0.00257	0.5008	mg/L	0.00257	0.51%
Ti 334.903†	21.7	0.00052	mg/L	0.000345	0.00052	mg/L	0.000345	66.49%
Tl 190.801†	4249.4	2.072	mg/L	0.0065	2.072	mg/L	0.0065	0.31%
V 292.402†	76304.4	0.5180	mg/L	0.00194	0.5180	mg/L	0.00194	0.38%
Zn 206.200†	1761.1	0.5186	mg/L	0.00763	0.5186	mg/L	0.00763	1.47%

Sequence No.: 95
 Sample ID: CV9
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/4/2014 4:43:24 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2884101.7	100.8 %	0.13			0.13%
ScR 361.383	242730.1	100.7 %	0.46			0.46%
Ag 328.068†	223179.0	1.146 mg/L	0.0032	1.146 mg/L	0.0032	0.28%
Al 308.215†	2626.4	2.064 mg/L	0.0055	2.064 mg/L	0.0055	0.27%
As 188.979†	3290.2	2.060 mg/L	0.0138	2.060 mg/L	0.0138	0.67%
B 249.677†	5748.8	1.041 mg/L	0.0058	1.041 mg/L	0.0058	0.56%
Ba 233.527†	4089.8	1.051 mg/L	0.0015	1.051 mg/L	0.0015	0.14%
Be 313.042†	484141.5	1.008 mg/L	0.0041	1.008 mg/L	0.0041	0.41%
Ca 317.933†	20546.4	2.152 mg/L	0.0135	2.152 mg/L	0.0135	0.63%
Cd 228.802†	32332.3	1.039 mg/L	0.0051	1.039 mg/L	0.0051	0.49%
Co 228.616†	39689.1	1.016 mg/L	0.0044	1.016 mg/L	0.0044	0.43%
Cr 267.716†	5207.3	1.062 mg/L	0.0051	1.062 mg/L	0.0051	0.48%
Cu 324.752†	284059.9	1.018 mg/L	0.0010	1.018 mg/L	0.0010	0.10%
Fe 273.955†	2361.4	2.110 mg/L	0.0182	2.110 mg/L	0.0182	0.86%
K 766.490†	45552.8	20.71 mg/L	0.119	20.71 mg/L	0.119	0.58%
Mg 279.077†	2259.2	2.059 mg/L	0.0156	2.059 mg/L	0.0156	0.76%
Mn 257.610†	30059.3	0.9918 mg/L	0.00437	0.9918 mg/L	0.00437	0.44%
Mo 202.031†	17336.5	0.9787 mg/L	0.00469	0.9787 mg/L	0.00469	0.48%
Na 589.592†	683625.9	52.51 mg/L	0.188	52.51 mg/L	0.188	0.36%
Na 330.237†	1098.2	52.77 mg/L	0.101	52.77 mg/L	0.101	0.19%
Ni 231.604†	3563.3	1.054 mg/L	0.0085	1.054 mg/L	0.0085	0.81%
Pb 220.353†	16394.4	2.041 mg/L	0.0155	2.041 mg/L	0.0155	0.76%
Sb 206.836†	6335.3	2.110 mg/L	0.0072	2.110 mg/L	0.0072	0.34%
Se 196.026†	2653.2	2.042 mg/L	0.0111	2.042 mg/L	0.0111	0.55%
Si 288.158†	3537.4	2.068 mg/L	0.0051	2.068 mg/L	0.0051	0.24%
Sn 189.927†	3229.3	1.003 mg/L	0.0040	1.003 mg/L	0.0040	0.40%
Sr 421.552†	830558.5	1.038 mg/L	0.0043	1.038 mg/L	0.0043	0.42%
Ti 334.903†	16559.6	1.020 mg/L	0.0036	1.020 mg/L	0.0036	0.35%
Tl 190.801†	4149.7	2.020 mg/L	0.0111	2.020 mg/L	0.0111	0.55%
V 292.402†	153237.5	1.040 mg/L	0.0057	1.040 mg/L	0.0057	0.55%
Zn 206.200†	3545.5	1.044 mg/L	0.0055	1.044 mg/L	0.0055	0.53%

Sequence No.: 96
 Sample ID: CB 9
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/4/2014 4:47:28 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2922776.5	102.1 %	0.04			0.04%
ScR 361.383	249149.1	103.3 %	0.80			0.78%
Ag 328.068†	3736.2	0.01917 mg/L	0.004644	0.01917 mg/L	0.004644	24.22%
Al 308.215†	5.8	0.00459 mg/L	0.006707	0.00459 mg/L	0.006707	146.12%
As 188.979†	-1.3	-0.00073 mg/L	0.001836	-0.00073 mg/L	0.001836	250.28%
B 249.677†	11.0	0.00199 mg/L	0.000657	0.00199 mg/L	0.000657	32.95%
Ba 233.527†	2.5	0.00064 mg/L	0.000542	0.00064 mg/L	0.000542	84.84%
Be 313.042†	18.8	0.00004 mg/L	0.000042	0.00004 mg/L	0.000042	107.11%
Ca 317.933†	22.7	0.00238 mg/L	0.000686	0.00238 mg/L	0.000686	28.83%
Cd 228.802†	-1.1	-0.00003 mg/L	0.000109	-0.00003 mg/L	0.000109	357.27%
Co 228.616†	-0.4	-0.00001 mg/L	0.000079	-0.00001 mg/L	0.000079	700.21%
Cr 267.716†	-1.5	-0.00031 mg/L	0.000714	-0.00031 mg/L	0.000714	232.40%
Cu 324.752†	102.7	0.00037 mg/L	0.000112	0.00037 mg/L	0.000112	30.56%
Fe 273.955†	-0.2	-0.00016 mg/L	0.002162	-0.00016 mg/L	0.002162	>999.9%
K 766.490†	1.4	0.00063 mg/L	0.006538	0.00063 mg/L	0.006538	>999.9%
Mg 279.077†	5.5	0.00502 mg/L	0.001882	0.00502 mg/L	0.001882	37.50%
Mn 257.610†	0.2	0.00001 mg/L	0.000073	0.00001 mg/L	0.000073	>999.9%
Mo 202.031†	20.0	0.00113 mg/L	0.000239	0.00113 mg/L	0.000239	21.17%
Na 589.592†	107.1	0.00823 mg/L	0.002293	0.00823 mg/L	0.002293	27.87%
Na 330.237†	4.4	0.2136 mg/L	0.19994	0.2136 mg/L	0.19994	93.62%
Ni 231.604†	0.6	0.00020 mg/L	0.000760	0.00020 mg/L	0.000760	389.24%
Pb 220.353†	-7.2	-0.00090 mg/L	0.000163	-0.00090 mg/L	0.000163	18.22%
Sb 206.836†	26.2	0.00872 mg/L	0.001695	0.00872 mg/L	0.001695	19.42%
Se 196.026†	-0.9	-0.00069 mg/L	0.002479	-0.00069 mg/L	0.002479	360.53%
Si 288.158†	-9.2	-0.00537 mg/L	0.004360	-0.00537 mg/L	0.004360	81.13%
Sn 189.927†	1.7	0.00054 mg/L	0.001037	0.00054 mg/L	0.001037	193.24%
Sr 421.552†	41.2	0.00005 mg/L	0.000038	0.00005 mg/L	0.000038	72.98%
Ti 334.903†	18.4	0.00114 mg/L	0.000581	0.00114 mg/L	0.000581	51.15%
Tl 190.801†	1.0	0.00050 mg/L	0.001800	0.00050 mg/L	0.001800	360.26%
V 292.402†	-22.9	-0.00016 mg/L	0.000050	-0.00016 mg/L	0.000050	32.21%
Zn 206.200†	-1.7	-0.00049 mg/L	0.000015	-0.00049 mg/L	0.000015	3.13%

Metals Data Review Checklist

Method: (ICP) ICP-MS GFA CVA

Analysis Date: 4-7-14

<u>I2</u>	Analyst <u>YE49-14</u>	Peer <u>HA 4-9</u>	Comment
Logbook:			
Analyst, Date, Method info	/	/	
Sample ID's	/	/	
Standard/QC solution ID's recorded	/	/	
Prep codes	/	/	
Dilution factors	/	/	
Crossouts/Corrections/Deletions	/	/	
Calibration:			
Blank & Standard intensities	/	/	
Standard deviations	/	✓	
Curve fit	/	/	
Calibration Verification:			
ICV/CCV	/	✓	
ICB/CCB	/	/	
Samples:			
RSD's & SD's	/	✓	
Internal Standards	/	/	
Carry-over	/	✓	
Method QC:			
CRI/CRA	/	✓	
ICSA/ICSAB	/	✓	
Post Spikes/Serial Dilutions	/	/	
Analytic Spikes	/	/	
Matrix QC:			
SRM/LCS	/	✓	
Matrix Spikes	/	/	
Matrix Duplicates	/	✓	<u>YES</u>
Method Blanks	/	/	
Data Distribution:			
Requested elements/isotope identified	/	/	
Correct samples identified for distribution	/	/	
Raw data match distributed data	/	✓	
Data filename correct	/	/	
Necessary Analysts Notes and CAF's	/	✓	<u>YES</u>



IEC Date: 3-26-14

Analysis Date: 4-7-14

Analyst: gc

LR Date: 1-3-14

Page: 1 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1355
		↓ 2			C1427
		↓ 3			C1428
		↓ 4			C1429
		↓ 5			C1430
		TCU			C1377
		ICB			
		CRT			
		ISA			C532
		IESAB			C533
		CCU1			
		CCB1			
		CCU2			
		CCB2			
		YE51 MB2	SPN		
		YE52 MB2	↓		
		YE58 C	DMN		
		YE51 Ga	SPN		
		↓ Ha	↓		
		↓ Ka	↓		
		↓ La	↓		
		YE49 ADUQ	DMN		✓
		↓ A	↓		
		↓ ASDK	↓		✓ 0.0001 ICP Spk B 0845



IEC Date: Analysis Date: 4-7-14 Analyst: RL
LR Date: Page: 2 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV3			
		CCB3			
		YE51 MB3	LEN	5	
		YF37 MB	SWC	2	
		YE52 Ia	SPU		
		↓ Ha Dup	↓		✓
		↓ Ita	↓		
		↓ Ha SPK	↓		✓
		YE51 Fa Dup			✓
		↓ Fa	↓		
		↓ Fa SPK	↓		✓
		CCV4			
		CCB4			
		YF37 A	SWC	2	
✓		↓ B	↓		Fe > LR
		↓ C	↓		
		↓ D	↓		
		↓ E	↓		
		↓ F	↓		
		YE51 NDup	LEN	5	✓
		↓ N	↓		
		↓ NSPK	↓		✓
		YF37 MBSPK	SWC	2	✓
		CCV5			



IEC Date:

Analysis Date: 4-7-14

Analyst: SL

LR Date:

Page: 3 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCB5			
		YE66 MBI	DMN		
		MB2	WMN		
		MB3	TWC		
		J			
		K			
		L			
		IOUP			✓
		I			
		ISPK			✓
		MB3-DIS			✓
		CCV6			
		CCB6			
		YE83 MBI	JWC	2	
		YE37 B		5	
		YE83 B		2	
		C			
		D			
		E			
		F			
		G			
		MB3-DIS			✓
		CCV7			
		CCB7			



IEC Date:

Analysis Date: 4-7-14

Analyst: EW

LR Date:

Page: 4 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE66B	DMN		
		C	↓		
		D	↓		
		F	DMN		
		G	↓		
		H	↓		
		ADup	DMN		✓
		A	↓		
		ASPK	↓		✓ original ICP SPK B1845
		MBISPK	↓		✓ ↓ ↓
		CCU8			
		CCB8			
		YE21 MB	LEN	5	
		YE83 ADup	SUC	2	✓
		A	↓	↓	✓
		ASPK	↓	↓	✓
		YE66 EDup	DMN		✓
		E	↓		
		ESPK	↓		✓ original ICP SPK B1845
		YE21 ADup	LEN	5	✓
		A	↓	↓	✓
		ASPK	↓	↓	✓
		CCU9			
		CCB9			



IEC Date: _____

Analysis Date: 4-7-14

Analyst: EL

LR Date: _____

Page: 5 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE84 MB	TWC		
		YF00 MB	LEN	5	
		YE84 ADUJ	TWC		✓
		↓ A	↓		
		↓ ASK	↓		✓ 2A SIL
		YF00 ADUJ	LEN	5	✓
		↓ A	↓		
		↓ ASK	↓		✓
		YE84 MBSPK	TWC		✓
		CEV			
		CCB			
		Rise/DI			

Nebulizer Parameters: Hg_ReAlign

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

4/7/2014 9:09:50 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.001 Slit adjustment: 3

Analysis Begun

Start Time: 4/7/2014 9:11:52 AM Plasma On Time: 4/7/2014 8:23:30 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: FAST-Verify-Install
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
IEC File: IEC010314C.iec MSF File:
Method Description: 12Axial Elements

Table with 6 columns: Analyte, Calibration Equation, Processing, View, Internal Standard, IEC. Lists various elements like Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn and their corresponding parameters.

Sequence No.: 1 Autosampler Location: 1
Sample ID: B1 Date Collected: 4/7/2014 9:12:01 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 214.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/7/2014 9:37:41 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/7/2014 8:23:30 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
 Sequence No.: 1

Sample ID: Calib Blank 1

Autosampler Location: 1

Date Collected: 4/7/2014 9:37:42 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
ScA 357.253	2934804.5	3146.41	0.11%	100.0	%
ScR 361.383	248992.6	1455.15	0.58%	100.0	%
Ag 328.068†	6.2	32.63	527.94%	[0.00]	mg/L
Al 308.215†	118.4	7.78	6.57%	[0.00]	mg/L
As 188.979†	-8.2	1.49	18.16%	[0.00]	mg/L
B 249.677†	33.8	6.29	18.58%	[0.00]	mg/L
Ba 233.527†	16.2	1.37	8.42%	[0.00]	mg/L
Be 313.042†	728.4	13.07	1.79%	[0.00]	mg/L
Ca 317.933†	-134.9	5.44	4.03%	[0.00]	mg/L
Cd 228.802†	296.7	6.36	2.14%	[0.00]	mg/L
Co 228.616†	-70.5	1.59	2.25%	[0.00]	mg/L
Cr 267.716†	-86.2	4.41	5.11%	[0.00]	mg/L
Cu 324.752†	4382.8	23.40	0.53%	[0.00]	mg/L
Fe 273.955†	47.3	2.67	5.66%	[0.00]	mg/L
K 766.490†	534.4	40.78	7.63%	[0.00]	mg/L
Mg 279.077†	60.3	3.88	6.43%	[0.00]	mg/L
Mn 257.610†	151.3	6.06	4.01%	[0.00]	mg/L
Mo 202.031†	59.7	3.90	6.53%	[0.00]	mg/L
Na 589.592†	-369.8	53.46	14.45%	[0.00]	mg/L
Na 330.237†	-153.3	4.67	3.05%	[0.00]	mg/L
Ni 231.604†	-11.4	3.26	28.59%	[0.00]	mg/L
Pb 220.353†	43.7	8.31	19.04%	[0.00]	mg/L
Sb 206.836†	74.7	4.50	6.03%	[0.00]	mg/L
Se 196.026†	-29.5	4.20	14.25%	[0.00]	mg/L
Si 288.158†	85.1	10.76	12.65%	[0.00]	mg/L
Sn 189.927†	-7.6	1.26	16.60%	[0.00]	mg/L
Sr 421.552†	103.8	27.08	26.08%	[0.00]	mg/L
Ti 334.903†	-37.2	8.16	21.91%	[0.00]	mg/L
Tl 190.801†	-39.7	1.59	4.00%	[0.00]	mg/L
V 292.402†	76.1	5.31	6.98%	[0.00]	mg/L
Zn 206.200†	11.6	1.22	10.50%	[0.00]	mg/L

=====
 Sequence No.: 2

Sample ID: STD2

Autosampler Location: 2

Date Collected: 4/7/2014 9:41:42 AM

Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected

Calib

Analyte	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2963071.2	8183.31	0.28%	101.0 %
ScR 361.383	250151.8	1190.23	0.48%	100.5 %
Ba 233.527†	39230.4	200.57	0.51%	[10] mg/L
Cd 228.802†	318637.8	1251.78	0.39%	[10] mg/L
Co 228.616†	406875.7	1950.84	0.48%	[10] mg/L
Cr 267.716†	50813.1	66.73	0.13%	[10] mg/L
Cu 324.752†	2857157.0	3905.01	0.14%	[10] mg/L
Mn 257.610†	324448.0	1112.08	0.34%	[10] mg/L
V 292.402†	1500914.9	8066.72	0.54%	[10] mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/7/2014 9:43:29 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected		RSD	Calib
	Intensity	Std.Dev.		
ScA 357.253	2941739.2	7581.03	0.26%	100.2 %
ScR 361.383	252297.6	576.67	0.23%	101.3 %
Ag 328.068†	200392.2	419.21	0.21%	[1.0] mg/L
As 188.979†	16755.5	95.12	0.57%	[10] mg/L
B 249.677†	56952.6	141.20	0.25%	[10] mg/L
Be 313.042†	2513172.4	17879.55	0.71%	[5.0] mg/L
Na 589.592†	664194.7	4589.50	0.69%	[50] mg/L
Ni 231.604†	35077.3	83.05	0.24%	[10] mg/L
Pb 220.353†	84002.5	353.08	0.42%	[10] mg/L
Se 196.026†	13526.5	39.32	0.29%	[10] mg/L
Sr 421.552†	4077211.2	28782.81	0.71%	[5] mg/L
Tl 190.801†	20724.8	63.59	0.31%	[10] mg/L
Zn 206.200†	35693.8	108.16	0.30%	[10] mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/7/2014 9:45:46 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected		RSD	Calib
	Intensity	Std.Dev.		
ScA 357.253	2974817.7	5516.38	0.19%	101.4 %
ScR 361.383	251698.8	2737.71	1.09%	101.1 %
Mo 202.031†	180670.8	724.24	0.40%	[10] mg/L
Sb 206.836†	30643.3	59.32	0.19%	[10] mg/L
Si 288.158†	17845.8	438.55	2.46%	[10] mg/L
Sn 189.927†	33419.9	77.57	0.23%	[10] mg/L
Ti 334.903†	168292.9	2071.27	1.23%	[10] mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/7/2014 9:48:00 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2792021.0	12032.14	0.43%	95.13	%
ScR 361.383	246502.3	1211.28	0.49%	99.00	%
Al 308.215†	38931.0	167.46	0.43%	[30]	mg/L
Ca 317.933†	301223.8	2571.80	0.85%	[30]	mg/L
Fe 273.955†	122973.9	377.39	0.31%	[100]	mg/L
K 766.490†	229517.4	946.51	0.41%	[100]	mg/L
Mg 279.077†	34371.5	123.07	0.36%	[30]	mg/L
Na 330.237†	2192.5	9.02	0.41%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	200400	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1298	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1676	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5695	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3923	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	502600	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	10040	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	31860	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40690	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5081	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	285700	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1230	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2295	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1146	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	32440	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18070	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13280	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	21.92	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3508	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8400	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3064	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1353	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1785	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3342	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	815400	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16830	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2072	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	150100	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3569	0.00000	1.000000	

=====
Analysis Begun

Start Time: 4/7/2014 9:50:52 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/7/2014 8:23:30 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1Sample ID: ~~ICV~~

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/7/2014 9:50:53 AM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2922917.1	99.59	%	0.388			0.39%
ScR 361.383	243096.0	97.63	%	0.169			0.17%
Ag 328.068†	212099.6	1.059	mg/L	0.0080	1.059 mg/L	0.0080	0.76%
Al 308.215†	2632.5	1.996	mg/L	0.0100	1.996 mg/L	0.0100	0.50%
As 188.979†	3362.5	2.039	mg/L	0.0149	2.039 mg/L	0.0149	0.73%
B 249.677†	5797.9	1.017	mg/L	0.0008	1.017 mg/L	0.0008	0.08%
Ba 233.527†	3992.9	1.017	mg/L	0.0034	1.017 mg/L	0.0034	0.34%
Be 313.042†	498777.7	0.9921	mg/L	0.00837	0.9921 mg/L	0.00837	0.84%
Ca 317.933†	20748.6	2.066	mg/L	0.0038	2.066 mg/L	0.0038	0.18%
Cd 228.802†	33367.7	1.038	mg/L	0.0054	1.038 mg/L	0.0054	0.52%
Co 228.616†	40258.8	0.9876	mg/L	0.00597	0.9876 mg/L	0.00597	0.60%
Cr 267.716†	5237.1	1.030	mg/L	0.0027	1.030 mg/L	0.0027	0.26%
Cu 324.752†	283288.7	0.9912	mg/L	0.00702	0.9912 mg/L	0.00702	0.71%
Fe 273.955†	2522.1	2.044	mg/L	0.0017	2.044 mg/L	0.0017	0.08%
K 766.490†	45999.4	20.04	mg/L	0.046	20.04 mg/L	0.046	0.23%
Mg 279.077†	2261.5	1.980	mg/L	0.0140	1.980 mg/L	0.0140	0.71%
Mn 257.610†	31924.4	0.9844	mg/L	0.00743	0.9844 mg/L	0.00743	0.75%
Mo 202.031†	17743.3	0.9820	mg/L	0.00873	0.9820 mg/L	0.00873	0.89%
Na 589.592†	688258.6	51.81	mg/L	0.114	51.81 mg/L	0.114	0.22%
Na 330.237†	1119.2	51.01	mg/L	0.131	51.01 mg/L	0.131	0.26%
Ni 231.604†	3562.3	1.016	mg/L	0.0042	1.016 mg/L	0.0042	0.42%
Pb 220.353†	16906.3	2.014	mg/L	0.0182	2.014 mg/L	0.0182	0.90%
Sb 206.836†	6479.8	2.113	mg/L	0.0137	2.113 mg/L	0.0137	0.65%
Se 196.026†	2734.5	2.020	mg/L	0.0082	2.020 mg/L	0.0082	0.41%
Si 288.158†	3533.7	1.985	mg/L	0.0290	1.985 mg/L	0.0290	1.46%
Sn 189.927†	3371.4	1.010	mg/L	0.0044	1.010 mg/L	0.0044	0.44%
Sr 421.552†	835410.4	1.024	mg/L	0.0029	1.024 mg/L	0.0029	0.28%
Ti 334.903†	16952.9	1.006	mg/L	0.0030	1.006 mg/L	0.0030	0.30%
Tl 190.801†	4132.2	1.986	mg/L	0.0170	1.986 mg/L	0.0170	0.86%
V 292.402†	152242.7	1.019	mg/L	0.0089	1.019 mg/L	0.0089	0.88%
Zn 206.200†	3610.7	1.012	mg/L	0.0038	1.012 mg/L	0.0038	0.38%

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Sequence No.: 2Sample ID: ~~ICV~~

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 1

Date Collected: 4/7/2014 9:54:57 AM

Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2959620.6	100.8	%	0.68				0.67%
ScR 361.383	250322.8	100.5	%	0.94				0.93%
Ag 328.068†	-5.5	-0.00003	mg/L	0.000172	-0.00003	mg/L	0.000172	633.30%
Al 308.215†	3.4	0.00258	mg/L	0.002637	0.00258	mg/L	0.002637	102.04%
As 188.979†	0.2	0.00016	mg/L	0.002204	0.00016	mg/L	0.002204	>999.9%
B 249.677†	11.1	0.00194	mg/L	0.000730	0.00194	mg/L	0.000730	37.53%
Ba 233.527†	0.1	0.00002	mg/L	0.001379	0.00002	mg/L	0.001379	>999.9%
Be 313.042†	14.6	0.00003	mg/L	0.000024	0.00003	mg/L	0.000024	84.31%
Ca 317.933†	-13.4	-0.00134	mg/L	0.001799	-0.00134	mg/L	0.001799	134.64%
Cd 228.802†	-3.0	-0.00010	mg/L	0.000132	-0.00010	mg/L	0.000132	138.88%
Co 228.616†	-1.5	-0.00004	mg/L	0.000036	-0.00004	mg/L	0.000036	97.78%
Cr 267.716†	-3.6	-0.00070	mg/L	0.000434	-0.00070	mg/L	0.000434	61.72%
Cu 324.752†	-98.7	-0.00035	mg/L	0.000186	-0.00035	mg/L	0.000186	53.72%
Fe 273.955†	2.9	0.00235	mg/L	0.000658	0.00235	mg/L	0.000658	28.00%
K 766.490†	12.9	0.00564	mg/L	0.010426	0.00564	mg/L	0.010426	184.88%
Mg 279.077†	-7.5	-0.00657	mg/L	0.004102	-0.00657	mg/L	0.004102	62.42%
Mn 257.610†	-0.2	-0.00001	mg/L	0.000133	-0.00001	mg/L	0.000133	>999.9%
Mo 202.031†	18.3	0.00101	mg/L	0.000442	0.00101	mg/L	0.000442	43.65%
Na 589.592†	90.0	0.00677	mg/L	0.000588	0.00677	mg/L	0.000588	8.68%
Na 330.237†	-1.6	-0.07065	mg/L	0.275633	-0.07065	mg/L	0.275633	390.16%
Ni 231.604†	-2.7	-0.00076	mg/L	0.001111	-0.00076	mg/L	0.001111	145.39%
Pb 220.353†	1.5	0.00017	mg/L	0.000442	0.00017	mg/L	0.000442	253.19%
Sb 206.836†	26.8	0.00877	mg/L	0.001346	0.00877	mg/L	0.001346	15.35%
Se 196.026†	-1.5	-0.00112	mg/L	0.002753	-0.00112	mg/L	0.002753	246.88%
Si 288.158†	-15.6	-0.00876	mg/L	0.000954	-0.00876	mg/L	0.000954	10.90%
Sn 189.927†	3.5	0.00106	mg/L	0.000487	0.00106	mg/L	0.000487	45.90%
Sr 421.552†	46.9	0.00006	mg/L	0.000012	0.00006	mg/L	0.000012	20.11%
Ti 334.903†	11.3	0.00067	mg/L	0.000160	0.00067	mg/L	0.000160	23.86%
Tl 190.801†	6.9	0.00332	mg/L	0.000927	0.00332	mg/L	0.000927	27.93%
V 292.402†	21.9	0.00014	mg/L	0.000089	0.00014	mg/L	0.000089	62.06%
Zn 206.200†	1.6	0.00044	mg/L	0.000290	0.00044	mg/L	0.000290	65.70%

Sequence No.: 3
 Sample ID: CRI
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 301
 Date Collected: 4/7/2014 9:58:57 AM
 Data Type: Original

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2953428.5	100.6	%	0.68				0.68%
ScR 361.383	249535.3	100.2	%	0.28				0.28%
Ag 328.068†	681.9	0.00340	mg/L	0.000102	0.00340	mg/L	0.000102	2.99%
Al 308.215†	65.2	0.05008	mg/L	0.005764	0.05008	mg/L	0.005764	11.51%
As 188.979†	81.3	0.04871	mg/L	0.001023	0.04871	mg/L	0.001023	2.10%
B 249.677†	114.5	0.02010	mg/L	0.001176	0.02010	mg/L	0.001176	5.85%
Ba 233.527†	10.8	0.00274	mg/L	0.000652	0.00274	mg/L	0.000652	23.80%
Be 313.042†	430.7	0.00086	mg/L	0.000021	0.00086	mg/L	0.000021	2.41%
Ca 317.933†	472.8	0.04709	mg/L	0.001999	0.04709	mg/L	0.001999	4.25%
Cd 228.802†	75.0	0.00211	mg/L	0.000118	0.00211	mg/L	0.000118	5.61%
Co 228.616†	124.3	0.00304	mg/L	0.000194	0.00304	mg/L	0.000194	6.39%
Cr 267.716†	20.3	0.00398	mg/L	0.000686	0.00398	mg/L	0.000686	17.22%
Cu 324.752†	478.7	0.00168	mg/L	0.000051	0.00168	mg/L	0.000051	3.03%
Fe 273.955†	63.4	0.05153	mg/L	0.001770	0.05153	mg/L	0.001770	3.43%
K 766.490†	1148.9	0.5006	mg/L	0.01632	0.5006	mg/L	0.01632	3.26%
Mg 279.077†	50.9	0.04443	mg/L	0.004075	0.04443	mg/L	0.004075	9.17%
Mn 257.610†	32.3	0.00100	mg/L	0.000088	0.00100	mg/L	0.000088	8.84%
Mo 202.031†	89.2	0.00494	mg/L	0.000269	0.00494	mg/L	0.000269	5.44%
Na 589.592†	6768.3	0.5095	mg/L	0.00151	0.5095	mg/L	0.00151	0.30%
Na 330.237†	6.4	0.2923	mg/L	0.24806	0.2923	mg/L	0.24806	84.87%
Ni 231.604†	32.7	0.00933	mg/L	0.000232	0.00933	mg/L	0.000232	2.48%
Pb 220.353†	182.1	0.02169	mg/L	0.000231	0.02169	mg/L	0.000231	1.06%

Sb 206.836†	155.4	0.05075 mg/L	0.000941	0.05075 mg/L	0.000941	1.85%
Se 196.026†	64.5	0.04771 mg/L	0.000490	0.04771 mg/L	0.000490	1.03%
Si 288.158†	91.9	0.05153 mg/L	0.002113	0.05153 mg/L	0.002113	4.10%
Sn 189.927†	37.3	0.01120 mg/L	0.000521	0.01120 mg/L	0.000521	4.66%
Sr 421.552†	834.1	0.00102 mg/L	0.000027	0.00102 mg/L	0.000027	2.63%
Ti 334.903†	94.6	0.00561 mg/L	0.000311	0.00561 mg/L	0.000311	5.55%
Tl 190.801†	104.8	0.05054 mg/L	0.001277	0.05054 mg/L	0.001277	2.53%
V 292.402†	467.3	0.00313 mg/L	0.000020	0.00313 mg/L	0.000020	0.63%
Zn 206.200†	34.3	0.00962 mg/L	0.000745	0.00962 mg/L	0.000745	7.75%

Sequence No.: 4
 Sample ID: ICSA
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 4/7/2014 10:02:58 AM
 Data Type: Original

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2860963.4	97.48 %	%	0.480			0.49%
ScR 361.383	244559.4	98.22 %	%	0.233			0.24%
Ag 328.068†	-226.8	-0.00052 mg/L	mg/L	0.000446	-0.00052 mg/L	0.000446	85.28%
Al 308.215†	257393.1	198.3 mg/L	mg/L	0.41	198.3 mg/L	0.41	0.21%
As 188.979†	53.1	0.02316 mg/L	mg/L	0.003289	0.02316 mg/L	0.003289	14.20%
B 249.677†	-33.4	-0.00586 mg/L	mg/L	0.002023	-0.00586 mg/L	0.002023	34.53%
Ba 233.527†	113.6	-0.00171 mg/L	mg/L	0.002470	-0.00171 mg/L	0.002470	144.78%
Be 313.042†	17.2	0.00003 mg/L	mg/L	0.000020	0.00003 mg/L	0.000020	62.45%
Ca 317.933†	1009115.3	100.5 mg/L	mg/L	0.09	100.5 mg/L	0.09	0.09%
Cd 228.802†	42.4	-0.00056 mg/L	mg/L	0.000141	-0.00056 mg/L	0.000141	25.13%
Co 228.616†	76.0	0.00185 mg/L	mg/L	0.000140	0.00185 mg/L	0.000140	7.55%
Cr 267.716†	8.6	-0.00188 mg/L	mg/L	0.000263	-0.00188 mg/L	0.000263	13.99%
Cu 324.752†	-2666.1	-0.00111 mg/L	mg/L	0.000083	-0.00111 mg/L	0.000083	7.50%
Fe 273.955†	244075.9	198.5 mg/L	mg/L	0.95	198.5 mg/L	0.95	0.48%
K 766.490†	20.8	0.00907 mg/L	mg/L	0.013171	0.00907 mg/L	0.013171	145.18%
Mg 279.077†	116364.5	101.4 mg/L	mg/L	0.12	101.4 mg/L	0.12	0.12%
Mn 257.610†	34.5	-0.00139 mg/L	mg/L	0.000276	-0.00139 mg/L	0.000276	19.84%
Mo 202.031†	70.8	0.00236 mg/L	mg/L	0.000249	0.00236 mg/L	0.000249	10.55%
Na 589.592†	161.7	0.01217 mg/L	mg/L	0.001163	0.01217 mg/L	0.001163	9.55%
Na 330.237†	6.9	-0.2959 mg/L	mg/L	0.23360	-0.2959 mg/L	0.23360	78.96%
Ni 231.604†	-1.9	-0.00051 mg/L	mg/L	0.001549	-0.00051 mg/L	0.001549	303.25%
Pb 220.353†	-375.9	-0.00456 mg/L	mg/L	0.000343	-0.00456 mg/L	0.000343	7.53%
Sb 206.836†	67.5	0.02184 mg/L	mg/L	0.000802	0.02184 mg/L	0.000802	3.67%
Se 196.026†	39.1	0.02892 mg/L	mg/L	0.002656	0.02892 mg/L	0.002656	9.19%
Si 288.158†	-33.0	-0.00641 mg/L	mg/L	0.006056	-0.00641 mg/L	0.006056	94.43%
Sn 189.927†	-95.5	-0.01640 mg/L	mg/L	0.001259	-0.01640 mg/L	0.001259	7.68%
Sr 421.552†	4569.5	0.00560 mg/L	mg/L	0.000024	0.00560 mg/L	0.000024	0.44%
Ti 334.903†	158.1	0.00229 mg/L	mg/L	0.000099	0.00229 mg/L	0.000099	4.32%
Tl 190.801†	-41.3	0.00289 mg/L	mg/L	0.001923	0.00289 mg/L	0.001923	66.63%
V 292.402†	1504.0	-0.00117 mg/L	mg/L	0.000316	-0.00117 mg/L	0.000316	26.92%
Zn 206.200†	5.3	0.00148 mg/L	mg/L	0.000982	0.00148 mg/L	0.000982	66.44%

Sequence No.: 5
 Sample ID: ICSAB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 4/7/2014 10:07:13 AM
 Data Type: Original

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
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ScA 357.253	2885436.3	98.32 %	0.510			0.52%
ScR 361.383	245220.4	98.49 %	0.172			0.17%
Ag 328.068†	212778.5	1.063 mg/L	0.0090	1.063 mg/L	0.0090	0.85%
Al 308.215†	256888.9	197.9 mg/L	0.41	197.9 mg/L	0.41	0.21%
As 188.979†	1746.9	1.034 mg/L	0.0097	1.034 mg/L	0.0097	0.94%
B 249.677†	-34.3	-0.00800 mg/L	0.000434	-0.00800 mg/L	0.000434	5.42%
Ba 233.527†	4035.4	0.9979 mg/L	0.00546	0.9979 mg/L	0.00546	0.55%
Be 313.042†	503617.5	1.002 mg/L	0.0027	1.002 mg/L	0.0027	0.27%
Ca 317.933†	1005792.8	100.2 mg/L	0.21	100.2 mg/L	0.21	0.21%
Cd 228.802†	32547.4	1.015 mg/L	0.0047	1.015 mg/L	0.0047	0.46%
Co 228.616†	38187.0	0.9383 mg/L	0.00684	0.9383 mg/L	0.00684	0.73%
Cr 267.716†	5139.4	1.008 mg/L	0.0076	1.008 mg/L	0.0076	0.76%
Cu 324.752†	297058.5	1.048 mg/L	0.0073	1.048 mg/L	0.0073	0.69%
Fe 273.955†	243470.3	198.0 mg/L	0.76	198.0 mg/L	0.76	0.38%
K 766.490†	38.7	0.01685 mg/L	0.014512	0.01685 mg/L	0.014512	86.10%
Mg 279.077†	111755.5	97.41 mg/L	0.148	97.41 mg/L	0.148	0.15%
Mn 257.610†	30986.2	0.9529 mg/L	0.00146	0.9529 mg/L	0.00146	0.15%
Mo 202.031†	68.2	0.00222 mg/L	0.000192	0.00222 mg/L	0.000192	8.65%
Na 589.592†	138.2	0.01040 mg/L	0.002853	0.01040 mg/L	0.002853	27.42%
Na 330.237†	20.0	0.02621 mg/L	0.436432	0.02621 mg/L	0.436432	>999.9%
Ni 231.604†	3376.2	0.9627 mg/L	0.00733	0.9627 mg/L	0.00733	0.76%
Pb 220.353†	7857.7	0.9761 mg/L	0.00574	0.9761 mg/L	0.00574	0.59%
Sb 206.836†	3182.9	1.029 mg/L	0.0025	1.029 mg/L	0.0025	0.24%
Se 196.026†	1403.7	1.037 mg/L	0.0086	1.037 mg/L	0.0086	0.83%
Si 288.158†	-60.1	-0.01758 mg/L	0.002825	-0.01758 mg/L	0.002825	16.07%
Sn 189.927†	-89.2	-0.01395 mg/L	0.001740	-0.01395 mg/L	0.001740	12.47%
Sr 421.552†	4483.0	0.00550 mg/L	0.000047	0.00550 mg/L	0.000047	0.86%
Ti 334.903†	149.4	0.00161 mg/L	0.000098	0.00161 mg/L	0.000098	6.09%
Tl 190.801†	1947.5	0.9530 mg/L	0.00602	0.9530 mg/L	0.00602	0.63%
V 292.402†	147682.0	0.9771 mg/L	0.00782	0.9771 mg/L	0.00782	0.80%
Zn 206.200†	3413.5	0.9566 mg/L	0.00693	0.9566 mg/L	0.00693	0.72%

Sequence No.: 6
 Sample ID: CV
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/7/2014 10:12:17 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2944077.1	100.3 %	0.92			0.92%
ScR 361.383	244398.3	98.15 %	0.715			0.73%
Ag 328.068†	209851.9	1.047 mg/L	0.0126	1.047 mg/L	0.0126	1.20%
Al 308.215†	2623.0	1.989 mg/L	0.0233	1.989 mg/L	0.0233	1.17%
As 188.979†	3354.0	2.034 mg/L	0.0154	2.034 mg/L	0.0154	0.76%
B 249.677†	5763.5	1.011 mg/L	0.0083	1.011 mg/L	0.0083	0.82%
Ba 233.527†	3997.0	1.018 mg/L	0.0100	1.018 mg/L	0.0100	0.99%
Be 313.042†	494822.5	0.9842 mg/L	0.00572	0.9842 mg/L	0.00572	0.58%
Ca 317.933†	20681.7	2.060 mg/L	0.0153	2.060 mg/L	0.0153	0.74%
Cd 228.802†	32992.3	1.026 mg/L	0.0111	1.026 mg/L	0.0111	1.08%
Co 228.616†	40157.2	0.9851 mg/L	0.01268	0.9851 mg/L	0.01268	1.29%
Cr 267.716†	5229.7	1.029 mg/L	0.0053	1.029 mg/L	0.0053	0.52%
Cu 324.752†	280460.6	0.9813 mg/L	0.00128	0.9813 mg/L	0.00128	0.13%
Fe 273.955†	2510.0	2.034 mg/L	0.0136	2.034 mg/L	0.0136	0.67%
K 766.490†	45826.7	19.97 mg/L	0.094	19.97 mg/L	0.094	0.47%
Mg 279.077†	2265.3	1.983 mg/L	0.0215	1.983 mg/L	0.0215	1.08%
Mn 257.610†	31741.2	0.9787 mg/L	0.00383	0.9787 mg/L	0.00383	0.39%
Mo 202.031†	17638.2	0.9762 mg/L	0.01307	0.9762 mg/L	0.01307	1.34%
Na 589.592†	685676.7	51.62 mg/L	0.179	51.62 mg/L	0.179	0.35%
Na 330.237†	1108.4	50.52 mg/L	0.350	50.52 mg/L	0.350	0.69%
Ni 231.604†	3567.6	1.017 mg/L	0.0055	1.017 mg/L	0.0055	0.54%
Pb 220.353†	16779.6	1.999 mg/L	0.0208	1.999 mg/L	0.0208	1.04%
Sb 206.836†	6483.3	2.114 mg/L	0.0213	2.114 mg/L	0.0213	1.01%
Se 196.026†	2728.8	2.016 mg/L	0.0131	2.016 mg/L	0.0131	0.65%
Si 288.158†	3507.0	1.970 mg/L	0.0439	1.970 mg/L	0.0439	2.23%

Sn 189.927†	3362.6	1.008 mg/L	0.0059	1.008 mg/L	0.0059	0.59%
Sr 421.552†	831223.5	1.019 mg/L	0.0033	1.019 mg/L	0.0033	0.32%
Ti 334.903†	16804.4	0.9972 mg/L	0.00246	0.9972 mg/L	0.00246	0.25%
Tl 190.801†	4126.5	1.983 mg/L	0.0212	1.983 mg/L	0.0212	1.07%
V 292.402†	150835.0	1.009 mg/L	0.0129	1.009 mg/L	0.0129	1.28%
Zn 206.200†	3602.3	1.010 mg/L	0.0069	1.010 mg/L	0.0069	0.68%

Sequence No.: 7
 Sample ID: CB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 10:16:22 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2978530.7	101.5	%	0.73				0.72%
ScR 361.383	252791.5	101.5	%	0.73				0.72%
Ag 328.068†	41.8	0.00021	mg/L	0.000258	0.00021	mg/L	0.000258	123.84%
Al 308.215†	8.4	0.00646	mg/L	0.003895	0.00646	mg/L	0.003895	60.28%
As 188.979†	-2.0	-0.00114	mg/L	0.000765	-0.00114	mg/L	0.000765	66.87%
B 249.677†	6.9	0.00121	mg/L	0.000657	0.00121	mg/L	0.000657	54.38%
Ba 233.527†	-0.7	-0.00018	mg/L	0.000177	-0.00018	mg/L	0.000177	97.42%
Be 313.042†	0.0	0.00000	mg/L	0.000010	0.00000	mg/L	0.000010	>999.9%
Ca 317.933†	6.6	0.00065	mg/L	0.001033	0.00065	mg/L	0.001033	157.80%
Cd 228.802†	-3.4	-0.00010	mg/L	0.000128	-0.00010	mg/L	0.000128	127.54%
Co 228.616†	-0.2	-0.00001	mg/L	0.000086	-0.00001	mg/L	0.000086	>999.9%
Cr 267.716†	-2.4	-0.00047	mg/L	0.000059	-0.00047	mg/L	0.000059	12.76%
Cu 324.752†	-72.8	-0.00026	mg/L	0.000217	-0.00026	mg/L	0.000217	85.11%
Fe 273.955†	3.2	0.00258	mg/L	0.000981	0.00258	mg/L	0.000981	38.09%
K 766.490†	17.6	0.00767	mg/L	0.013987	0.00767	mg/L	0.013987	182.36%
Mg 279.077†	-5.4	-0.00474	mg/L	0.004315	-0.00474	mg/L	0.004315	91.05%
Mn 257.610†	-0.8	-0.00002	mg/L	0.000082	-0.00002	mg/L	0.000082	353.39%
Mo 202.031†	13.1	0.00073	mg/L	0.000388	0.00073	mg/L	0.000388	53.47%
Na 589.592†	77.6	0.00584	mg/L	0.001742	0.00584	mg/L	0.001742	29.82%
Na 330.237†	0.4	0.01944	mg/L	0.075981	0.01944	mg/L	0.075981	390.78%
Ni 231.604†	-0.7	-0.00019	mg/L	0.000440	-0.00019	mg/L	0.000440	228.85%
Pb 220.353†	8.0	0.00095	mg/L	0.000528	0.00095	mg/L	0.000528	55.34%
Sb 206.836†	31.2	0.01021	mg/L	0.001422	0.01021	mg/L	0.001422	13.93%
Se 196.026†	-0.0	-0.00002	mg/L	0.002340	-0.00002	mg/L	0.002340	>999.9%
Si 288.158†	-13.2	-0.00737	mg/L	0.002910	-0.00737	mg/L	0.002910	39.46%
Sn 189.927†	3.4	0.00103	mg/L	0.000278	0.00103	mg/L	0.000278	26.91%
Sr 421.552†	46.9	0.00006	mg/L	0.000030	0.00006	mg/L	0.000030	52.19%
Ti 334.903†	14.4	0.00086	mg/L	0.000285	0.00086	mg/L	0.000285	33.28%
Tl 190.801†	1.5	0.00072	mg/L	0.002702	0.00072	mg/L	0.002702	375.24%
V 292.402†	16.9	0.00011	mg/L	0.000142	0.00011	mg/L	0.000142	128.90%
Zn 206.200†	-0.4	-0.00012	mg/L	0.000043	-0.00012	mg/L	0.000043	36.73%

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Analysis Begun

Start Time: 4/7/2014 10:22:56 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/7/2014 8:23:30 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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 Sequence No.: 1

Sample ID: CV2

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/7/2014 10:22:57 AM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSB
ScA 357.253	2954259.4	100.7 %	0.39			0.39%
ScR 361.383	245143.9	98.45 %	0.686			0.70%
Ag 328.068†	208214.3	1.039 mg/L	0.0034	1.039 mg/L	0.0034	0.33%
Al 308.215†	2651.3	2.011 mg/L	0.0189	2.011 mg/L	0.0189	0.94%
As 188.979†	3328.7	2.019 mg/L	0.0090	2.019 mg/L	0.0090	0.44%
B 249.677†	5845.3	1.025 mg/L	0.0083	1.025 mg/L	0.0083	0.81%
Ba 233.527†	4035.1	1.028 mg/L	0.0106	1.028 mg/L	0.0106	1.03%
Be 313.042†	502088.8	0.9987 mg/L	0.00402	0.9987 mg/L	0.00402	0.40%
Ca 317.933†	20998.2	2.091 mg/L	0.0205	2.091 mg/L	0.0205	0.98%
Cd 228.802†	33037.6	1.027 mg/L	0.0022	1.027 mg/L	0.0022	0.21%
Co 228.616†	40147.9	0.9848 mg/L	0.00259	0.9848 mg/L	0.00259	0.26%
Cr 267.716†	5312.4	1.045 mg/L	0.0075	1.045 mg/L	0.0075	0.72%
Cu 324.752†	290827.2	1.018 mg/L	0.0036	1.018 mg/L	0.0036	0.36%
Fe 273.955†	2554.6	2.071 mg/L	0.0189	2.071 mg/L	0.0189	0.91%
K 766.490†	45917.1	20.01 mg/L	0.114	20.01 mg/L	0.114	0.57%
Mg 279.077†	2291.3	2.006 mg/L	0.0222	2.006 mg/L	0.0222	1.11%
Mn 257.610†	32177.3	0.9922 mg/L	0.00802	0.9922 mg/L	0.00802	0.81%
Mo 202.031†	18017.8	0.9972 mg/L	0.00491	0.9972 mg/L	0.00491	0.49%
Na 589.592†	687326.0	51.74 mg/L	0.103	51.74 mg/L	0.103	0.20%
Na 330.237†	1125.0	51.27 mg/L	0.382	51.27 mg/L	0.382	0.75%
Ni 231.604†	3611.5	1.030 mg/L	0.0078	1.030 mg/L	0.0078	0.76%
Pb 220.353†	17215.8	2.051 mg/L	0.0093	2.051 mg/L	0.0093	0.45%
Sb 206.836†	6380.0	2.080 mg/L	0.0105	2.080 mg/L	0.0105	0.51%
Se 196.026†	2720.5	2.010 mg/L	0.0076	2.010 mg/L	0.0076	0.38%
Si 288.158†	3546.9	1.992 mg/L	0.0477	1.992 mg/L	0.0477	2.40%
Sn 189.927†	3340.1	1.001 mg/L	0.0029	1.001 mg/L	0.0029	0.29%
Sr 421.552†	836354.5	1.026 mg/L	0.0036	1.026 mg/L	0.0036	0.35%
Ti 334.903†	17008.0	1.009 mg/L	0.0040	1.009 mg/L	0.0040	0.40%
Tl 190.801†	4111.1	1.976 mg/L	0.0114	1.976 mg/L	0.0114	0.58%
V 292.402†	150214.2	1.005 mg/L	0.0027	1.005 mg/L	0.0027	0.27%
Zn 206.200†	3671.0	1.029 mg/L	0.0091	1.029 mg/L	0.0091	0.89%

Sequence No.: 2
 Sample ID: CB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 10:27:01 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2971885.0	101.3	%	0.22				0.22%
ScR 361.383	250441.9	100.6	%	1.01				1.01%
Ag 328.068†	-13.9	-0.00007	mg/L	0.000183	-0.00007	mg/L	0.000183	262.76%
Al 308.215†	-2.4	-0.00187	mg/L	0.004592	-0.00187	mg/L	0.004592	244.94%
As 188.979†	0.1	0.00008	mg/L	0.001550	0.00008	mg/L	0.001550	>999.9%
B 249.677†	11.1	0.00195	mg/L	0.001257	0.00195	mg/L	0.001257	64.62%
Ba 233.527†	2.8	0.00072	mg/L	0.000517	0.00072	mg/L	0.000517	72.02%
Be 313.042†	-40.5	-0.00008	mg/L	0.000020	-0.00008	mg/L	0.000020	24.45%
Ca 317.933†	5.1	0.00051	mg/L	0.001258	0.00051	mg/L	0.001258	248.93%
Cd 228.802†	-3.2	-0.00010	mg/L	0.000011	-0.00010	mg/L	0.000011	11.27%
Co 228.616†	2.0	0.00005	mg/L	0.000059	0.00005	mg/L	0.000059	119.33%
Cr 267.716†	-9.1	-0.00178	mg/L	0.000743	-0.00178	mg/L	0.000743	41.71%
Cu 324.752†	-42.7	-0.00015	mg/L	0.000152	-0.00015	mg/L	0.000152	101.70%
Fe 273.955†	3.3	0.00270	mg/L	0.002071	0.00270	mg/L	0.002071	76.76%
K 766.490†	38.9	0.01695	mg/L	0.013183	0.01695	mg/L	0.013183	77.77%
Mg 279.077†	-2.7	-0.00238	mg/L	0.009209	-0.00238	mg/L	0.009209	386.71%
Mn 257.610†	4.2	0.00013	mg/L	0.000134	0.00013	mg/L	0.000134	103.60%
Mo 202.031†	13.0	0.00072	mg/L	0.000432	0.00072	mg/L	0.000432	59.91%
Na 589.592†	51.2	0.00385	mg/L	0.001560	0.00385	mg/L	0.001560	40.51%
Na 330.237†	6.4	0.2924	mg/L	0.10589	0.2924	mg/L	0.10589	36.22%
Ni 231.604†	-4.9	-0.00140	mg/L	0.001514	-0.00140	mg/L	0.001514	108.51%
Pb 220.353†	5.2	0.00061	mg/L	0.000631	0.00061	mg/L	0.000631	102.77%
Sb 206.836†	31.3	0.01025	mg/L	0.001973	0.01025	mg/L	0.001973	19.25%
Se 196.026†	2.9	0.00216	mg/L	0.003958	0.00216	mg/L	0.003958	183.26%
Si 288.158†	-13.3	-0.00747	mg/L	0.001875	-0.00747	mg/L	0.001875	25.09%
Sn 189.927†	7.4	0.00222	mg/L	0.000602	0.00222	mg/L	0.000602	27.10%
Sr 421.552†	59.5	0.00007	mg/L	0.000016	0.00007	mg/L	0.000016	21.80%
Ti 334.903†	6.1	0.00036	mg/L	0.000411	0.00036	mg/L	0.000411	113.30%
Tl 190.801†	7.0	0.00336	mg/L	0.001508	0.00336	mg/L	0.001508	44.91%
V 292.402†	19.3	0.00012	mg/L	0.000181	0.00012	mg/L	0.000181	149.69%
Zn 206.200†	0.5	0.00014	mg/L	0.000839	0.00014	mg/L	0.000839	579.13%

Sequence No.: 3
 Sample ID: YE51 MB2 SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 304
 Date Collected: 4/7/2014 10:31:01 AM
 Data Type: Original

Nebulizer Parameters: YE51 MB2 SPN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE51 MB2 SPN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	2937305.7	100.1 %		0.12			0.12%
ScR 361.383	250892.5	100.8 %		0.05			0.05%
Ag 328.068†	21.6	0.00011 mg/L		0.000117	0.00011 mg/L	0.000117	107.85%
Al 308.215†	12.6	0.00971 mg/L		0.003229	0.00971 mg/L	0.003229	33.24%
As 188.979†	-3.0	-0.00178 mg/L		0.001499	-0.00178 mg/L	0.001499	84.17%
B 249.677†	67.9	0.01192 mg/L		0.000383	0.01192 mg/L	0.000383	3.21%
Ba 233.527†	4.0	0.00102 mg/L		0.000061	0.00102 mg/L	0.000061	6.05%
Be 313.042†	-41.3	-0.00008 mg/L		0.000020	-0.00008 mg/L	0.000020	23.82%
Ca 317.933†	1484.7	0.1479 mg/L		0.000070	0.1479 mg/L	0.000070	0.47%
Cd 228.802†	0.9	0.00004 mg/L		0.000222	0.00004 mg/L	0.000222	618.96%
Co 228.616†	-4.4	-0.00011 mg/L		0.000224	-0.00011 mg/L	0.000224	206.79%
Cr 267.716†	-3.5	-0.00070 mg/L		0.000411	-0.00070 mg/L	0.000411	58.65%
Cu 324.752†	-17.9	-0.00006 mg/L		0.000120	-0.00006 mg/L	0.000120	191.09%
Fe 273.955†	4.7	0.00382 mg/L		0.001017	0.00382 mg/L	0.001017	26.61%
K 766.490†	59.7	0.02600 mg/L		0.002596	0.02600 mg/L	0.002596	9.99%
Mg 279.077†	21.5	0.01878 mg/L		0.004801	0.01878 mg/L	0.004801	25.56%
Mn 257.610†	1.9	0.00006 mg/L		0.000094	0.00006 mg/L	0.000094	163.87%
Mo 202.031†	-4.6	-0.00025 mg/L		0.000243	-0.00025 mg/L	0.000243	95.48%
Na 589.592†	22975.8	1.730 mg/L		0.0117	1.730 mg/L	0.0117	0.67%
Na 330.237†	41.2	1.879 mg/L		0.1164	1.879 mg/L	0.1164	6.20%
Ni 231.604†	-2.8	-0.00081 mg/L		0.000979	-0.00081 mg/L	0.000979	120.77%
Pb 220.353†	6.9	0.00082 mg/L		0.000241	0.00082 mg/L	0.000241	29.27%
Sb 206.836†	6.9	0.00228 mg/L		0.000720	0.00228 mg/L	0.000720	31.61%
Se 196.026†	-2.9	-0.00216 mg/L		0.006509	-0.00216 mg/L	0.006509	301.91%
Si 288.158†	296.9	0.1663 mg/L		0.00030	0.1663 mg/L	0.00030	0.18%
Sn 189.927†	5.0	0.00151 mg/L		0.000188	0.00151 mg/L	0.000188	12.48%
Sr 421.552†	156.9	0.00019 mg/L		0.000027	0.00019 mg/L	0.000027	14.29%
Ti 334.903†	1.5	0.00008 mg/L		0.000257	0.00008 mg/L	0.000257	313.98%
Tl 190.801†	3.8	0.00183 mg/L		0.000681	0.00183 mg/L	0.000681	37.11%
V 292.402†	5.3	0.00003 mg/L		0.000067	0.00003 mg/L	0.000067	209.62%
Zn 206.200†	5.0	0.00144 mg/L		0.000635	0.00144 mg/L	0.000635	44.07%

Sequence No.: 4
 Sample ID: YE52 MB2 SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 305
 Date Collected: 4/7/2014 10:35:02 AM
 Data Type: Original

Nebulizer Parameters: YE52 MB2 SPN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE52 MB2 SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2988264.7	101.8	%	0.66				0.65%
ScR 361.383	252573.5	101.4	%	0.69				0.68%
Ag 328.068†	18.0	0.00009	mg/L	0.000095	0.00009	mg/L	0.000095	105.11%
Al 308.215†	16.1	0.01241	mg/L	0.003419	0.01241	mg/L	0.003419	27.54%
As 188.979†	1.9	0.00115	mg/L	0.002502	0.00115	mg/L	0.002502	218.06%
B 249.677†	70.0	0.01229	mg/L	0.001153	0.01229	mg/L	0.001153	9.38%
Ba 233.527†	0.7	0.00019	mg/L	0.000253	0.00019	mg/L	0.000253	136.63%
Be 313.042†	-55.2	-0.00011	mg/L	0.000034	-0.00011	mg/L	0.000034	30.65%
Ca 317.933†	1468.7	0.1463	mg/L	0.00223	0.1463	mg/L	0.00223	1.52%
Cd 228.802†	-4.9	-0.00016	mg/L	0.000145	-0.00016	mg/L	0.000145	91.23%
Co 228.616†	0.5	0.00001	mg/L	0.000059	0.00001	mg/L	0.000059	540.99%
Cr 267.716†	-2.3	-0.00046	mg/L	0.000538	-0.00046	mg/L	0.000538	116.28%
Cu 324.752†	-68.7	-0.00024	mg/L	0.000203	-0.00024	mg/L	0.000203	84.32%
Fe 273.955†	4.7	0.00383	mg/L	0.001964	0.00383	mg/L	0.001964	51.27%
K 766.490†	99.0	0.04313	mg/L	0.013755	0.04313	mg/L	0.013755	31.89%
Mg 279.077†	22.4	0.01954	mg/L	0.002303	0.01954	mg/L	0.002303	11.79%
Mn 257.610†	4.5	0.00014	mg/L	0.000144	0.00014	mg/L	0.000144	103.64%
Mo 202.031†	-3.0	-0.00017	mg/L	0.000248	-0.00017	mg/L	0.000248	144.95%
Na 589.592†	23042.6	1.735	mg/L	0.0110	1.735	mg/L	0.0110	0.64%
Na 330.237†	47.2	2.152	mg/L	0.1663	2.152	mg/L	0.1663	7.73%
Ni 231.604†	-0.5	-0.00015	mg/L	0.000124	-0.00015	mg/L	0.000124	84.39%
Pb 220.353†	1.5	0.00018	mg/L	0.000454	0.00018	mg/L	0.000454	254.06%
Sb 206.836†	0.2	0.00008	mg/L	0.001347	0.00008	mg/L	0.001347	>999.9%
Se 196.026†	-6.3	-0.00465	mg/L	0.004155	-0.00465	mg/L	0.004155	89.28%
Si 288.158†	290.2	0.1626	mg/L	0.00427	0.1626	mg/L	0.00427	2.63%
Sn 189.927†	1.7	0.00051	mg/L	0.000472	0.00051	mg/L	0.000472	91.75%
Sr 421.552†	141.9	0.00017	mg/L	0.000024	0.00017	mg/L	0.000024	13.54%
Ti 334.903†	6.8	0.00039	mg/L	0.000563	0.00039	mg/L	0.000563	143.38%
Tl 190.801†	3.5	0.00170	mg/L	0.000527	0.00170	mg/L	0.000527	31.00%
V 292.402†	17.4	0.00011	mg/L	0.000252	0.00011	mg/L	0.000252	221.23%
Zn 206.200†	2.4	0.00071	mg/L	0.000533	0.00071	mg/L	0.000533	75.28%

Sequence No.: 5
 Sample ID: YE58 C DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 306
 Date Collected: 4/7/2014 10:39:01 AM
 Data Type: Original

Nebulizer Parameters: YE58 C DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE58 C DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2963645.8	101.0 %		0.63			0.63%
ScR 361.383	255328.3	102.5 %		1.47			1.43%
Ag 328.068†	-50.4	0.00012 mg/L		0.000101	0.00012 mg/L	0.000101	86.60%
Al 308.215†	22.5	0.01723 mg/L		0.004732	0.01723 mg/L	0.004732	27.46%
As 188.979†	44.0	0.02104 mg/L		0.003317	0.02104 mg/L	0.003317	15.77%
B 249.677†	133.6	0.02345 mg/L		0.000066	0.02345 mg/L	0.000066	0.28%
Ba 233.527†	24.6	0.00626 mg/L		0.000492	0.00626 mg/L	0.000492	7.85%
Be 313.042†	-23.0	-0.00005 mg/L		0.000003	-0.00005 mg/L	0.000003	6.32%
Ca 317.933†	611044.2	60.86 mg/L		0.534	60.86 mg/L	0.534	0.88%
Cd 228.802†	-13.2	-0.00055 mg/L		0.000063	-0.00055 mg/L	0.000063	11.41%
Co 228.616†	28.2	0.00068 mg/L		0.000132	0.00068 mg/L	0.000132	19.34%
Cr 267.716†	98.3	0.01608 mg/L		0.000999	0.01608 mg/L	0.000999	6.21%
Cu 324.752†	79.8	-0.00009 mg/L		0.000060	-0.00009 mg/L	0.000060	65.39%
Fe 273.955†	11.0	0.00895 mg/L		0.001028	0.00895 mg/L	0.001028	11.49%
K 766.490†	7322.9	3.191 mg/L		0.0105	3.191 mg/L	0.0105	0.33%
Mg 279.077†	35176.4	30.69 mg/L		0.247	30.69 mg/L	0.247	0.80%
Mn 257.610†	52.2	0.00115 mg/L		0.000213	0.00115 mg/L	0.000213	18.59%
Mo 202.031†	82.8	0.00364 mg/L		0.000057	0.00364 mg/L	0.000057	1.56%
Na 589.592†	171114.9	12.88 mg/L		0.070	12.88 mg/L	0.070	0.55%
Na 330.237†	291.4	12.92 mg/L		0.351	12.92 mg/L	0.351	2.71%
Ni 231.604†	10.1	0.00288 mg/L		0.001199	0.00288 mg/L	0.001199	41.62%
Pb 220.353†	-18.6	-0.00218 mg/L		0.001282	-0.00218 mg/L	0.001282	58.81%
Sb 206.836†	-4.3	-0.00177 mg/L		0.001271	-0.00177 mg/L	0.001271	71.89%
Se 196.026†	18.4	0.01360 mg/L		0.002240	0.01360 mg/L	0.002240	16.48%
Si 288.158†	22287.1	12.49 mg/L		0.093	12.49 mg/L	0.093	0.74%
Sn 189.927†	-56.4	-0.00953 mg/L		0.001306	-0.00953 mg/L	0.001306	13.71%
Sr 421.552†	216868.6	0.2660 mg/L		0.00189	0.2660 mg/L	0.00189	0.71%
Ti 334.903†	96.1	0.00141 mg/L		0.000293	0.00141 mg/L	0.000293	20.87%
Tl 190.801†	23.3	0.01122 mg/L		0.002944	0.01122 mg/L	0.002944	26.25%
V 292.402†	573.9	0.00390 mg/L		0.000075	0.00390 mg/L	0.000075	1.91%
Zn 206.200†	-9.9	-0.00044 mg/L		0.000477	-0.00044 mg/L	0.000477	108.90%

Sequence No.: 6
 Sample ID: YE51 Ga SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 307
 Date Collected: 4/7/2014 10:43:16 AM
 Data Type: Original

Nebulizer Parameters: YE51 Ga SPN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE51 Ga SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2957067.0	100.8	%	0.26			0.26%
ScR 361.383	252888.1	101.6	%	0.71			0.70%
Ag 328.068†	-1.1	0.00000	mg/L	0.000180	0.00000	mg/L	0.000180 >999.9%
Al 308.215†	2564.9	1.976	mg/L	0.0104	1.976	mg/L	0.0104 0.53%
As 188.979†	-0.4	0.00218	mg/L	0.000700	0.00218	mg/L	0.000700 32.03%
B 249.677†	176.9	0.03107	mg/L	0.000866	0.03107	mg/L	0.000866 2.79%
Ba 233.527†	44.5	0.01104	mg/L	0.001154	0.01104	mg/L	0.001154 10.45%
Be 313.042†	6.7	0.00001	mg/L	0.000005	0.00001	mg/L	0.000005 47.38%
Ca 317.933†	7659.7	0.7629	mg/L	0.00356	0.7629	mg/L	0.00356 0.47%
Cd 228.802†	-2.8	-0.00010	mg/L	0.000126	-0.00010	mg/L	0.000126 122.21%
Co 228.616†	19.3	0.00035	mg/L	0.000142	0.00035	mg/L	0.000142 40.89%
Cr 267.716†	1.7	0.00036	mg/L	0.001390	0.00036	mg/L	0.001390 390.57%
Cu 324.752†	1574.3	0.00558	mg/L	0.000139	0.00558	mg/L	0.000139 2.49%
Fe 273.955†	2289.0	1.861	mg/L	0.0059	1.861	mg/L	0.0059 0.32%
K 766.490†	958.5	0.4176	mg/L	0.02249	0.4176	mg/L	0.02249 5.39%
Mg 279.077†	451.0	0.3924	mg/L	0.00313	0.3924	mg/L	0.00313 0.80%
Mn 257.610†	203.3	0.00625	mg/L	0.000028	0.00625	mg/L	0.000028 0.44%
Mo 202.031†	5.7	0.00030	mg/L	0.000228	0.00030	mg/L	0.000228 75.28%
Na 589.592†	78319.2	5.896	mg/L	0.0056	5.896	mg/L	0.0056 0.10%
Na 330.237†	133.9	6.118	mg/L	0.0928	6.118	mg/L	0.0928 1.52%
Ni 231.604†	0.2	0.00007	mg/L	0.000977	0.00007	mg/L	0.000977 >999.9%
Pb 220.353†	6.1	0.00113	mg/L	0.000166	0.00113	mg/L	0.000166 14.76%
Sb 206.836†	3.2	0.00113	mg/L	0.002445	0.00113	mg/L	0.002445 216.94%
Se 196.026†	2.0	0.00150	mg/L	0.001849	0.00150	mg/L	0.001849 123.39%
Si 288.158†	7922.6	4.440	mg/L	0.1342	4.440	mg/L	0.1342 3.02%
Sn 189.927†	2.1	0.00073	mg/L	0.000529	0.00073	mg/L	0.000529 72.21%
Sr 421.552†	7620.4	0.00935	mg/L	0.000059	0.00935	mg/L	0.000059 0.63%
Ti 334.903†	1179.7	0.07004	mg/L	0.000625	0.07004	mg/L	0.000625 0.89%
Tl 190.801†	4.2	0.00221	mg/L	0.001322	0.00221	mg/L	0.001322 59.78%
V 292.402†	763.0	0.00494	mg/L	0.000087	0.00494	mg/L	0.000087 1.76%
Zn 206.200†	12.2	0.00424	mg/L	0.000220	0.00424	mg/L	0.000220 5.19%

Sequence No.: 7
 Sample ID: YE51 Ha SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 308
 Date Collected: 4/7/2014 10:47:16 AM
 Data Type: Original

Nebulizer Parameters: YE51 Ha SPN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE51 Ha SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2945123.9	100.4	%	0.24				0.24%
ScR 361.383	251686.8	101.1	%	0.58				0.57%
Ag 328.068†	48.6	0.00025	mg/L	0.000181	0.00025	mg/L	0.000181	73.36%
Al 308.215†	1633.8	1.259	mg/L	0.0108	1.259	mg/L	0.0108	0.86%
As 188.979†	-2.0	0.00033	mg/L	0.000100	0.00033	mg/L	0.000100	29.86%
B 249.677†	161.9	0.02843	mg/L	0.001247	0.02843	mg/L	0.001247	4.38%
Ba 233.527†	35.7	0.00886	mg/L	0.000632	0.00886	mg/L	0.000632	7.13%
Be 313.042†	34.5	0.00007	mg/L	0.000014	0.00007	mg/L	0.000014	21.50%
Ca 317.933†	5337.3	0.5316	mg/L	0.00062	0.5316	mg/L	0.00062	0.12%
Cd 228.802†	-3.5	-0.00012	mg/L	0.000126	-0.00012	mg/L	0.000126	106.83%
Co 228.616†	39.3	0.00089	mg/L	0.000154	0.00089	mg/L	0.000154	17.36%
Cr 267.716†	1.0	0.00022	mg/L	0.000967	0.00022	mg/L	0.000967	448.58%
Cu 324.752†	831.1	0.00297	mg/L	0.000227	0.00297	mg/L	0.000227	7.66%
Fe 273.955†	1891.3	1.538	mg/L	0.0100	1.538	mg/L	0.0100	0.65%
K 766.490†	538.5	0.2346	mg/L	0.01816	0.2346	mg/L	0.01816	7.74%
Mg 279.077†	293.7	0.2553	mg/L	0.00133	0.2553	mg/L	0.00133	0.52%
Mn 257.610†	1971.3	0.06075	mg/L	0.000557	0.06075	mg/L	0.000557	0.92%
Mo 202.031†	5.5	0.00030	mg/L	0.000301	0.00030	mg/L	0.000301	102.01%
Na 589.592†	76526.2	5.761	mg/L	0.0167	5.761	mg/L	0.0167	0.29%
Na 330.237†	127.8	5.835	mg/L	0.2189	5.835	mg/L	0.2189	3.75%
Ni 231.604†	2.1	0.00059	mg/L	0.000996	0.00059	mg/L	0.000996	167.84%
Pb 220.353†	3.2	0.00062	mg/L	0.000687	0.00062	mg/L	0.000687	111.01%
Sb 206.836†	-3.4	-0.00107	mg/L	0.001945	-0.00107	mg/L	0.001945	182.17%
Se 196.026†	0.2	0.00013	mg/L	0.000854	0.00013	mg/L	0.000854	651.26%
Si 288.158†	5316.2	2.979	mg/L	0.0656	2.979	mg/L	0.0656	2.20%
Sn 189.927†	-1.0	-0.00023	mg/L	0.000161	-0.00023	mg/L	0.000161	68.99%
Sr 421.552†	2833.7	0.00348	mg/L	0.000038	0.00348	mg/L	0.000038	1.08%
Ti 334.903†	747.6	0.04438	mg/L	0.001087	0.04438	mg/L	0.001087	2.45%
Tl 190.801†	4.6	0.00238	mg/L	0.002330	0.00238	mg/L	0.002330	98.12%
V 292.402†	878.8	0.00575	mg/L	0.000141	0.00575	mg/L	0.000141	2.45%
Zn 206.200†	15.8	0.00499	mg/L	0.000413	0.00499	mg/L	0.000413	8.28%

Sequence No.: 8
 Sample ID: YE51 Ka SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 309
 Date Collected: 4/7/2014 10:51:15 AM
 Data Type: Original

Nebulizer Parameters: YE51 Ka SPN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE51 Ka SPN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2951115.2	100.6	%	0.29			0.29%
ScR 361.383	253932.7	102.0	%	0.69			0.68%
Ag 328.068†	-114.9	-0.00043	mg/L	0.000159	-0.00043 mg/L	0.000159	36.92%
Al 308.215†	77010.2	59.34	mg/L	0.232	59.34 mg/L	0.232	0.39%
As 188.979†	-56.3	0.03072	mg/L	0.001393	0.03072 mg/L	0.001393	0.48%
B 249.677†	223.5	0.03922	mg/L	0.000188	0.03922 mg/L	0.000188	4.54%
Ba 233.527†	778.3	0.1915	mg/L	0.00278	0.1915 mg/L	0.00278	0.48%
Be 313.042†	458.8	0.00087	mg/L	0.000024	0.00087 mg/L	0.000024	1.45%
Ca 317.933†	193033.8	19.22	mg/L	0.094	19.22 mg/L	0.094	2.74%
Cd 228.802†	3.4	-0.00009	mg/L	0.000068	-0.00009 mg/L	0.000068	0.49%
Co 228.616†	646.2	0.01256	mg/L	0.000108	0.01256 mg/L	0.000108	78.78%
Cr 267.716†	225.5	0.04462	mg/L	0.000410	0.04462 mg/L	0.000410	0.86%
Cu 324.752†	30823.4	0.1094	mg/L	0.00015	0.1094 mg/L	0.00015	0.92%
Fe 273.955†	54542.0	44.35	mg/L	0.254	44.35 mg/L	0.254	0.13%
K 766.490†	17562.4	7.652	mg/L	0.0194	7.652 mg/L	0.0194	0.57%
Mg 279.077†	12346.4	10.75	mg/L	0.049	10.75 mg/L	0.049	0.25%
Mn 257.610†	6750.8	0.2075	mg/L	0.00100	0.2075 mg/L	0.00100	0.46%
Mo 202.031†	74.3	0.00381	mg/L	0.000315	0.00381 mg/L	0.000315	0.48%
Na 589.592†	227042.1	17.09	mg/L	0.078	17.09 mg/L	0.078	8.25%
Na 330.237†	374.2	17.41	mg/L	0.336	17.41 mg/L	0.336	0.46%
Ni 231.604†	97.9	0.02790	mg/L	0.000459	0.02790 mg/L	0.000459	1.93%
Pb 220.353†	2.6	0.01296	mg/L	0.000821	0.01296 mg/L	0.000821	1.65%
Sb 206.836†	6.8	0.00340	mg/L	0.003282	0.00340 mg/L	0.003282	6.34%
Se 196.026†	8.0	0.00583	mg/L	0.001323	0.00583 mg/L	0.001323	96.43%
Si 288.158†	15642.1	8.766	mg/L	0.0562	8.766 mg/L	0.0562	22.71%
Sn 189.927†	-27.0	-0.00539	mg/L	0.001257	-0.00539 mg/L	0.001257	0.64%
Sr 421.552†	257096.2	0.3153	mg/L	0.00129	0.3153 mg/L	0.00129	23.31%
Ti 334.903†	31129.6	1.848	mg/L	0.0080	1.848 mg/L	0.0080	0.41%
Tl 190.801†	1.5	0.00537	mg/L	0.000852	0.00537 mg/L	0.000852	0.44%
V 292.402†	15570.3	0.1004	mg/L	0.00010	0.1004 mg/L	0.00010	15.86%
Zn 206.200†	348.4	0.09925	mg/L	0.000412	0.09925 mg/L	0.000412	0.10%
							0.42%

Sequence No.: 9
 Sample ID: YE51 La SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 310
 Date Collected: 4/7/2014 10:55:15 AM
 Data Type: Original

Nebulizer Parameters: YE51 La SPN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE51 La SPN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2996831.4	102.1 %	%	0.14			0.14%
ScR 361.383	256019.9	102.8 %	%	0.31			0.30%
Ag 328.068†	-7.1	-0.00002 mg/L	mg/L	0.000388	-0.00002 mg/L	0.000388	>999.9%
Al 308.215†	932.5	0.7184 mg/L	mg/L	0.00288	0.7184 mg/L	0.00288	0.40%
As 188.979†	5.5	0.00376 mg/L	mg/L	0.001051	0.00376 mg/L	0.001051	27.98%
B 249.677†	123.2	0.02152 mg/L	mg/L	0.000594	0.02152 mg/L	0.000594	2.76%
Ba 233.527†	26.8	0.00680 mg/L	mg/L	0.000517	0.00680 mg/L	0.000517	7.60%
Be 313.042†	7.6	0.00001 mg/L	mg/L	0.000034	0.00001 mg/L	0.000034	260.97%
Ca 317.933†	25128.9	2.503 mg/L	mg/L	0.0010	2.503 mg/L	0.0010	0.04%
Cd 228.802†	26.1	0.00087 mg/L	mg/L	0.000070	0.00087 mg/L	0.000070	8.05%
Co 228.616†	2282.9	0.05606 mg/L	mg/L	0.000102	0.05606 mg/L	0.000102	0.18%
Cr 267.716†	7.6	0.00140 mg/L	mg/L	0.001065	0.00140 mg/L	0.001065	76.25%
Cu 324.752†	538.1	0.00189 mg/L	mg/L	0.000044	0.00189 mg/L	0.000044	2.34%
Fe 273.955†	300.6	0.2444 mg/L	mg/L	0.00096	0.2444 mg/L	0.00096	0.39%
K 766.490†	1059.3	0.4615 mg/L	mg/L	0.01591	0.4615 mg/L	0.01591	3.45%
Mg 279.077†	946.7	0.8259 mg/L	mg/L	0.00929	0.8259 mg/L	0.00929	1.12%
Mn 257.610†	691.0	0.02128 mg/L	mg/L	0.000109	0.02128 mg/L	0.000109	0.51%
Mo 202.031†	6.9	0.00035 mg/L	mg/L	0.000183	0.00035 mg/L	0.000183	52.94%
Na 589.592†	64868.9	4.883 mg/L	mg/L	0.0060	4.883 mg/L	0.0060	0.12%
Na 330.237†	110.0	4.955 mg/L	mg/L	0.1323	4.955 mg/L	0.1323	2.67%
Ni 231.604†	268.2	0.07644 mg/L	mg/L	0.000520	0.07644 mg/L	0.000520	0.68%
Pb 220.353†	8.1	0.00114 mg/L	mg/L	0.000417	0.00114 mg/L	0.000417	36.58%
Sb 206.836†	-1.7	-0.00052 mg/L	mg/L	0.002248	-0.00052 mg/L	0.002248	429.12%
Se 196.026†	5.2	0.00378 mg/L	mg/L	0.003414	0.00378 mg/L	0.003414	90.32%
Si 288.158†	4798.8	2.689 mg/L	mg/L	0.0416	2.689 mg/L	0.0416	1.55%
Sn 189.927†	-3.5	-0.00073 mg/L	mg/L	0.000390	-0.00073 mg/L	0.000390	53.54%
Sr 421.552†	9501.0	0.01165 mg/L	mg/L	0.000017	0.01165 mg/L	0.000017	0.15%
Ti 334.903†	312.9	0.01841 mg/L	mg/L	0.000782	0.01841 mg/L	0.000782	4.25%
Tl 190.801†	6.1	0.00263 mg/L	mg/L	0.000865	0.00263 mg/L	0.000865	32.88%
V 292.402†	1136.1	0.00755 mg/L	mg/L	0.000119	0.00755 mg/L	0.000119	1.57%
Zn 206.200†	611.0	0.1717 mg/L	mg/L	0.00142	0.1717 mg/L	0.00142	0.82%

Sequence No.: 10
 Sample ID: YE49 ADUP DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 311
 Date Collected: 4/7/2014 10:59:14 AM
 Data Type: Original

Nebulizer Parameters: YE49 ADUP DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 ADUP DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3014961.3	102.7	%	0.46			0.45%
ScR 361.383	257064.9	103.2	%	1.69			1.63%
Ag 328.068†	-25.3	-0.00003	mg/L	0.000186	-0.00003 mg/L	0.000186	639.79%
Al 308.215†	32.5	0.02492	mg/L	0.003913	0.02492 mg/L	0.003913	15.70%
As 188.979†	22.6	0.01214	mg/L	0.000768	0.01214 mg/L	0.000768	6.33%
B 249.677†	237.3	0.04168	mg/L	0.001006	0.04168 mg/L	0.001006	2.41%
Ba 233.527†	27.7	0.00706	mg/L	0.000260	0.00706 mg/L	0.000260	3.69%
Be 313.042†	-27.4	-0.00005	mg/L	0.000008	-0.00005 mg/L	0.000008	14.52%
Cd 317.933†	161243.8	16.06	mg/L	0.105	16.06 mg/L	0.105	0.65%
Ca 228.802†	-11.6	-0.00043	mg/L	0.000090	-0.00043 mg/L	0.000090	20.59%
Co 228.616†	73.2	0.00180	mg/L	0.000110	0.00180 mg/L	0.000110	6.15%
Cr 267.716†	0.7	-0.00082	mg/L	0.000201	-0.00082 mg/L	0.000201	24.39%
Cu 324.752†	-72.7	-0.00036	mg/L	0.000109	-0.00036 mg/L	0.000109	30.42%
Fe 273.955†	20.5	0.01665	mg/L	0.002035	0.01665 mg/L	0.002035	12.22%
K 766.490†	3424.5	1.492	mg/L	0.0288	1.492 mg/L	0.0288	1.93%
Mg 279.077†	10467.0	9.134	mg/L	0.1117	9.134 mg/L	0.1117	1.22%
Mn 257.610†	1856.4	0.05709	mg/L	0.001049	0.05709 mg/L	0.001049	1.84%
Mo 202.031†	76.1	0.00396	mg/L	0.000186	0.00396 mg/L	0.000186	4.70%
Na 589.592†	99229.6	7.470	mg/L	0.0267	7.470 mg/L	0.0267	0.36%
Na 330.237†	165.4	7.445	mg/L	0.3808	7.445 mg/L	0.3808	5.11%
Ni 231.604†	1.6	0.00045	mg/L	0.000395	0.00045 mg/L	0.000395	88.50%
Pb 220.353†	-7.8	-0.00092	mg/L	0.000929	-0.00092 mg/L	0.000929	100.50%
Sb 206.836†	-12.4	-0.00407	mg/L	0.001695	-0.00407 mg/L	0.001695	41.60%
Se 196.026†	10.1	0.00748	mg/L	0.002530	0.00748 mg/L	0.002530	33.81%
Si 288.158†	21190.6	11.88	mg/L	0.130	11.88 mg/L	0.130	1.10%
Sn 189.927†	-19.7	-0.00395	mg/L	0.001074	-0.00395 mg/L	0.001074	27.20%
Sr 421.552†	66865.8	0.08200	mg/L	0.000299	0.08200 mg/L	0.000299	0.36%
Ti 334.903†	38.1	0.00113	mg/L	0.000151	0.00113 mg/L	0.000151	13.39%
Tl 190.801†	16.5	0.00797	mg/L	0.000999	0.00797 mg/L	0.000999	12.53%
V 292.402†	220.7	0.00148	mg/L	0.000095	0.00148 mg/L	0.000095	6.42%
Zn 206.200†	-7.0	0.00025	mg/L	0.000518	0.00025 mg/L	0.000518	208.60%

Sequence No.: 11
Sample ID: YE49 A DMN
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 312
Date Collected: 4/7/2014 11:03:29 AM
Data Type: Original

Nebulizer Parameters: YE49 A DMN
Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YE49 A DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3008418.9	102.5 %	%	1.08			1.06%
ScR 361.383	257703.5	103.5 %	%	1.05			1.01%
Ag 328.068†	-10.6	0.00004 mg/L	mg/L	0.000170	0.00004 mg/L	0.000170	386.48%
Al 308.215†	23.8	0.01822 mg/L	mg/L	0.005193	0.01822 mg/L	0.005193	28.50%
As 188.979†	19.1	0.01002 mg/L	mg/L	0.003069	0.01002 mg/L	0.003069	30.62%
B 249.677†	243.6	0.04278 mg/L	mg/L	0.000184	0.04278 mg/L	0.000184	0.43%
Ba 233.527†	29.7	0.00757 mg/L	mg/L	0.000853	0.00757 mg/L	0.000853	11.26%
Be 313.042†	-23.4	-0.00005 mg/L	mg/L	0.000045	-0.00005 mg/L	0.000045	95.55%
Ca 317.933†	160642.0	16.00 mg/L	mg/L	0.099	16.00 mg/L	0.099	0.62%
Cd 228.802†	-6.5	-0.00026 mg/L	mg/L	0.000116	-0.00026 mg/L	0.000116	44.43%
Co 228.616†	76.1	0.00187 mg/L	mg/L	0.000064	0.00187 mg/L	0.000064	3.43%
Cr 267.716†	-0.1	-0.00096 mg/L	mg/L	0.001360	-0.00096 mg/L	0.001360	141.19%
Cu 324.752†	-51.9	-0.00029 mg/L	mg/L	0.000085	-0.00029 mg/L	0.000085	29.62%
Fe 273.955†	18.6	0.01510 mg/L	mg/L	0.002959	0.01510 mg/L	0.002959	19.60%
K 766.490†	3411.1	1.486 mg/L	mg/L	0.0227	1.486 mg/L	0.0227	1.53%
Mg 279.077†	10377.2	9.055 mg/L	mg/L	0.0990	9.055 mg/L	0.0990	1.09%
Mn 257.610†	1853.4	0.05700 mg/L	mg/L	0.000715	0.05700 mg/L	0.000715	1.25%
Mo 202.031†	76.8	0.00400 mg/L	mg/L	0.000399	0.00400 mg/L	0.000399	9.97%
Na 589.592†	99561.9	7.495 mg/L	mg/L	0.0271	7.495 mg/L	0.0271	0.36%
Na 330.237†	167.3	7.533 mg/L	mg/L	0.4866	7.533 mg/L	0.4866	6.46%
Ni 231.604†	7.6	0.00215 mg/L	mg/L	0.002052	0.00215 mg/L	0.002052	95.27%
Pb 220.353†	-6.4	-0.00076 mg/L	mg/L	0.000251	-0.00076 mg/L	0.000251	32.93%
Sb 206.836†	-8.8	-0.00292 mg/L	mg/L	0.001336	-0.00292 mg/L	0.001336	45.80%
Se 196.026†	9.5	0.00699 mg/L	mg/L	0.001413	0.00699 mg/L	0.001413	20.23%
Si 288.158†	21026.9	11.78 mg/L	mg/L	0.088	11.78 mg/L	0.088	0.74%
Sn 189.927†	-19.7	-0.00395 mg/L	mg/L	0.001493	-0.00395 mg/L	0.001493	37.75%
Sr 421.552†	66808.4	0.08193 mg/L	mg/L	0.000375	0.08193 mg/L	0.000375	0.46%
Ti 334.903†	32.9	0.00082 mg/L	mg/L	0.000424	0.00082 mg/L	0.000424	51.75%
Tl 190.801†	16.9	0.00815 mg/L	mg/L	0.001552	0.00815 mg/L	0.001552	19.04%
V 292.402†	213.4	0.00143 mg/L	mg/L	0.000117	0.00143 mg/L	0.000117	8.16%
Zn 206.200†	-7.9	-0.00000 mg/L	mg/L	0.000611	-0.00000 mg/L	0.000611	>999.9%

Sequence No.: 12
 Sample ID: YE49 ASPK DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 313
 Date Collected: 4/7/2014 11:07:44 AM
 Data Type: Original

 Nebulizer Parameters: YE49 ASPK DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE49 ASPK DMN

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2982806.7	101.6 %	0.77			0.76%
ScR 361.383	251289.1	100.9 %	0.77			0.76%
Ag 328.068†	94174.1	0.4702 mg/L	0.01766	0.4702 mg/L	0.01766	3.76%
Al 308.215†	2748.5	2.110 mg/L	0.0131	2.110 mg/L	0.0131	0.62%
As 188.979†	3799.6	2.265 mg/L	0.0178	2.265 mg/L	0.0178	0.79%
B 249.677†	246.4	0.04216 mg/L	0.001514	0.04216 mg/L	0.001514	3.59%
Ba 233.527†	8416.8	2.145 mg/L	0.0185	2.145 mg/L	0.0185	0.86%
Be 313.042†	256320.5	0.5098 mg/L	0.00384	0.5098 mg/L	0.00384	0.75%
Ca 317.933†	269286.2	26.82 mg/L	0.195	26.82 mg/L	0.195	0.73%
Cd 228.802†	18198.2	0.5599 mg/L	0.00612	0.5599 mg/L	0.00612	1.09%
Co 228.616†	21281.4	0.5227 mg/L	0.00570	0.5227 mg/L	0.00570	1.09%
Cr 267.716†	2767.2	0.5424 mg/L	0.00329	0.5424 mg/L	0.00329	0.61%
Cu 324.752†	148761.6	0.5206 mg/L	0.00490	0.5206 mg/L	0.00490	0.94%
Fe 273.955†	2666.7	2.165 mg/L	0.0198	2.165 mg/L	0.0198	0.92%
K 766.490†	27847.5	12.13 mg/L	0.041	12.13 mg/L	0.041	0.34%
Mg 279.077†	23243.6	20.28 mg/L	0.135	20.28 mg/L	0.135	0.67%
Mn 257.610†	19292.5	0.5948 mg/L	0.00424	0.5948 mg/L	0.00424	0.71%
Mo 202.031†	94.5	0.00482 mg/L	0.000044	0.00482 mg/L	0.000044	0.92%
Na 589.592†	246442.3	18.55 mg/L	0.020	18.55 mg/L	0.020	0.11%
Na 330.237†	405.1	18.16 mg/L	0.163	18.16 mg/L	0.163	0.90%
Ni 231.604†	1872.9	0.5330 mg/L	0.00449	0.5330 mg/L	0.00449	0.84%
Pb 220.353†	18016.3	2.146 mg/L	0.0188	2.146 mg/L	0.0188	0.88%
Sb 206.836†	11.2	-0.00157 mg/L	0.000487	-0.00157 mg/L	0.000487	31.09%
Se 196.026†	3237.7	2.393 mg/L	0.0082	2.393 mg/L	0.0082	0.34%
Si 288.158†	21545.1	12.08 mg/L	0.097	12.08 mg/L	0.097	0.81%
Sn 189.927†	-36.8	-0.00769 mg/L	0.001485	-0.00769 mg/L	0.001485	19.30%
Sr 421.552†	506316.1	0.6209 mg/L	0.00116	0.6209 mg/L	0.00116	0.19%
Ti 334.903†	56.7	0.00137 mg/L	0.000385	0.00137 mg/L	0.000385	28.11%
Tl 190.801†	4433.9	2.134 mg/L	0.0188	2.134 mg/L	0.0188	0.88%
V 292.402†	79406.5	0.5313 mg/L	0.00417	0.5313 mg/L	0.00417	0.78%
Zn 206.200†	1929.3	0.5431 mg/L	0.00386	0.5431 mg/L	0.00386	0.71%

Sequence No.: 13
 Sample ID: CV 3
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/7/2014 11:11:44 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2895361.0	98.66 %	0.330			0.33%
ScR 361.383	245891.5	98.75 %	0.184			0.19%
Ag 328.068†	220058.2	1.098 mg/L	0.0082	1.098 mg/L	0.0082	0.74%
Al 308.215†	2672.7	2.026 mg/L	0.0084	2.026 mg/L	0.0084	0.42%
As 188.979†	3464.4	2.100 mg/L	0.0177	2.100 mg/L	0.0177	0.84%
B 249.677†	5891.9	1.034 mg/L	0.0032	1.034 mg/L	0.0032	0.31%
Ba 233.527†	4037.3	1.029 mg/L	0.0028	1.029 mg/L	0.0028	0.27%
Be 313.042†	508107.1	1.011 mg/L	0.0072	1.011 mg/L	0.0072	0.71%
Ca 317.933†	21261.3	2.117 mg/L	0.0073	2.117 mg/L	0.0073	0.34%
Cd 228.802†	34146.5	1.062 mg/L	0.0050	1.062 mg/L	0.0050	0.47%
Co 228.616†	41466.5	1.017 mg/L	0.0041	1.017 mg/L	0.0041	0.40%
Cr 267.716†	5371.1	1.057 mg/L	0.0026	1.057 mg/L	0.0026	0.24%
Cu 324.752†	290437.6	1.016 mg/L	0.0013	1.016 mg/L	0.0013	0.12%
Fe 273.955†	2596.4	2.104 mg/L	0.0118	2.104 mg/L	0.0118	0.56%
K 766.490†	46441.4	20.23 mg/L	0.086	20.23 mg/L	0.086	0.42%
Mg 279.077†	2310.5	2.023 mg/L	0.0069	2.023 mg/L	0.0069	0.34%
Mn 257.610†	32540.2	1.003 mg/L	0.0103	1.003 mg/L	0.0103	1.03%
Mo 202.031†	18219.4	1.008 mg/L	0.0050	1.008 mg/L	0.0050	0.50%
Na 589.592†	693397.6	52.20 mg/L	0.173	52.20 mg/L	0.173	0.33%
Na 330.237†	1132.1	51.59 mg/L	0.128	51.59 mg/L	0.128	0.25%
Ni 231.604†	3645.9	1.040 mg/L	0.0031	1.040 mg/L	0.0031	0.30%
Pb 220.353†	17372.8	2.069 mg/L	0.0123	2.069 mg/L	0.0123	0.59%
Sb 206.836†	6646.1	2.168 mg/L	0.0062	2.168 mg/L	0.0062	0.28%
Se 196.026†	2828.0	2.090 mg/L	0.0073	2.090 mg/L	0.0073	0.35%
Si 288.158†	3645.1	2.048 mg/L	0.0345	2.048 mg/L	0.0345	1.68%
Sn 189.927†	3481.5	1.043 mg/L	0.0062	1.043 mg/L	0.0062	0.59%
Sr 421.552†	847720.6	1.040 mg/L	0.0057	1.040 mg/L	0.0057	0.55%
Ti 334.903†	17190.0	1.020 mg/L	0.0080	1.020 mg/L	0.0080	0.78%
Tl 190.801†	4246.7	2.041 mg/L	0.0152	2.041 mg/L	0.0152	0.74%
V 292.402†	155670.5	1.042 mg/L	0.0046	1.042 mg/L	0.0046	0.44%
Zn 206.200†	3709.4	1.040 mg/L	0.0024	1.040 mg/L	0.0024	0.24%

Sequence No.: 14
 Sample ID: CB 3
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 11:15:48 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2930683.2	99.86	%	0.137				0.14%
ScR 361.383	248835.5	99.94	%	0.361				0.36%
Ag 328.068†	416.3	0.00208	mg/L	0.000197	0.00208	mg/L	0.000197	9.50%
Al 308.215†	6.6	0.00506	mg/L	0.006150	0.00506	mg/L	0.006150	121.65%
As 188.979†	1.1	0.00067	mg/L	0.001497	0.00067	mg/L	0.001497	224.42%
B 249.677†	5.3	0.00093	mg/L	0.000984	0.00093	mg/L	0.000984	105.73%
Ba 233.527†	2.5	0.00065	mg/L	0.000642	0.00065	mg/L	0.000642	99.44%
Be 313.042†	-27.4	-0.00005	mg/L	0.000023	-0.00005	mg/L	0.000023	42.55%
Ca 317.933†	-11.5	-0.00115	mg/L	0.001373	-0.00115	mg/L	0.001373	119.34%
Cd 228.802†	-2.5	-0.00008	mg/L	0.000144	-0.00008	mg/L	0.000144	172.03%
Co 228.616†	-2.5	-0.00006	mg/L	0.000156	-0.00006	mg/L	0.000156	253.17%
Cr 267.716†	-8.5	-0.00167	mg/L	0.000387	-0.00167	mg/L	0.000387	23.19%
Cu 324.752†	60.6	0.00021	mg/L	0.000194	0.00021	mg/L	0.000194	91.37%
Fe 273.955†	4.7	0.00383	mg/L	0.001192	0.00383	mg/L	0.001192	31.08%
K 766.490†	41.7	0.01818	mg/L	0.022758	0.01818	mg/L	0.022758	125.16%
Mg 279.077†	-3.0	-0.00262	mg/L	0.002267	-0.00262	mg/L	0.002267	86.52%
Mn 257.610†	4.8	0.00015	mg/L	0.000072	0.00015	mg/L	0.000072	49.23%
Mo 202.031†	14.3	0.00079	mg/L	0.000384	0.00079	mg/L	0.000384	48.38%
Na 589.592†	112.3	0.00846	mg/L	0.000911	0.00846	mg/L	0.000911	10.77%
Na 330.237†	-4.3	-0.1964	mg/L	0.15739	-0.1964	mg/L	0.15739	80.15%
Ni 231.604†	-6.2	-0.00175	mg/L	0.000657	-0.00175	mg/L	0.000657	37.43%
Pb 220.353†	6.7	0.00080	mg/L	0.001247	0.00080	mg/L	0.001247	156.71%
Sb 206.836†	32.5	0.01063	mg/L	0.001103	0.01063	mg/L	0.001103	10.37%
Se 196.026†	1.3	0.00093	mg/L	0.001591	0.00093	mg/L	0.001591	170.92%
Si 288.158†	3.9	0.00217	mg/L	0.007278	0.00217	mg/L	0.007278	335.46%
Sn 189.927†	3.6	0.00108	mg/L	0.001170	0.00108	mg/L	0.001170	108.70%
Sr 421.552†	48.1	0.00006	mg/L	0.000050	0.00006	mg/L	0.000050	84.86%
Ti 334.903†	10.3	0.00061	mg/L	0.000425	0.00061	mg/L	0.000425	69.69%
Tl 190.801†	6.6	0.00321	mg/L	0.000516	0.00321	mg/L	0.000516	16.08%
V 292.402†	11.1	0.00007	mg/L	0.000151	0.00007	mg/L	0.000151	226.10%
Zn 206.200†	-1.8	-0.00050	mg/L	0.000638	-0.00050	mg/L	0.000638	127.27%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YE49

HEXAVALENT CHROMIUM BENCHSHEET						Date / Time: 3/27/14 9:40		
Diphenyl carbazide colorimetric (SW-846 7196A)						Analyst: CDE / CC		
REAGENTS				pH METER				
Sulfuric Acid: 10317C				Meter ID: ACCUMET AR60				
Acetone: _____				Electrode ID: SN1320016P 16				
Diphenylcarbazide: C001179								
CALIBRATION								
Cr+6 Curve Standard		ARI ID: C000892		Date Prepared: 3/26/2014				
Stock	0.0709	g K2Cr2O7 to	500	mL =	50.1	mg/L Cr+6		
Intermediate	5	mL Stock to	50	mL =	5.01	mg/L Cr+6		
Standard Curve Data final volume of prepared standards = 50 mL								
TIME: 17:42		Instrument Used: SPEC #1						
ml	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk		Regression Data		
Intermediate		1	2	Corr Abs		Conc = (abs-intercept)/slope		
0.0	0.00	0.000		0.000	= blank abs	intercept = 0.0007		
0.1	0.01	0.008		0.008	0.01	slope = 0.7995		
0.5	0.05	0.040		0.040	0.05	r = 1.000		
1.0	0.10	0.081		0.081	0.10	Comment: Calibration OK!		
5.0	0.50	0.404		0.404	0.50	maxabs = 0.801		
10.0	1.00	0.801		0.801	1.00			
Calibration Verification Standard								
Source	ERA # 160412/ B001620			Stock Conc	1.000 mg/L Cr+6			
DQL Int. =	0.10	ml stock to	10	mL pH2 =	10.00 mg/L Cr+6			
DQL =	0.20	ml DQL Int. to	50	mL pH2 =	0.04 mg/L Cr+6			
CVS =	0.025	ml stock to	100	mL pH2 =	0.25 mg/L Cr+6			
Prep Check Standard								
Dilution	0.50	ml stock to	40.00	mL DI =	0.63 mg/L Cr+6			
SAMPLE DATA Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL								
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)								
SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data				Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm	(mg/L)		
ICB		1.000	1		0.000	-0.001	< 0.01	Blk OK
ICV		1.000	1		0.214	0.267	0.267	106.72%
Prep Blk		1.250	1		-0.001	-0.003	< 0.01	Blk OK
Prep Chk		1.250	1		0.404	0.631	0.631	100.63%
DQL		1.250	1		0.028	0.043	0.043	
YE49 A1		1.250	1	0.015	0.016	0.000	< 0.01	
YE49 A1 dup		1.250	1	0.015	0.011	-0.007	< 0.01	RPD NA
YE49 A1 ms		1.250	1	0.015	0.054	0.060	0.060	% Rec= 95.6
Spike at 0.050		mL stock to 40		mL sample =		0.063	mg/L	Validated
YE49 B1		1.250	1	0.030	0.030	-0.001	-0.001	
YE49 C1		1.250	1	0.015	0.016	0.000	0.000	
CCB		1.000	1		-0.001	-0.002	< 0.01	Blk OK
CCV		1.000	1		0.214	0.267	0.267	106.72%
CCB		1.000	1		-0.002	-0.003	< 0.01	Blk OK
CCV		1.000	1		0.213	0.266	0.266	106.22%

HEXAVALENT CHROMIUM BENCHSHEET

Diphenyl carbazide colorimetric (SW-846 7196A)

Date / Time: 3-27-14 9:40

Analyst: WCL/CL

REAGENTS

Sulfuric Acid: 18317C
 Acetone: _____
 Diphenylcarbazide: 2001149

pH METER

Meter ID: ACCUMET AR60
 Electrode ID: SW1320016 P 16

CALIBRATION

Cr+6 Curve Standard	ARI ID: C000892	Date Prepared: 03/26/14
Stock 0.0709 g K2Cr2O7 to 500 mL = 50.1 mg/L Cr+6		
Intermediate 5 mL Stock to 50 mL = 5.01 mg/L Cr+6		

Standard Curve Data

final volume of prepared standards = 50 mL

TIME: 17.42	Instrument Used: SPEC#1		
ml	Conc (mg/l)	Absorbance @ 540 nm	Avg Blk Corr Abs
Intermediate		1	2
0.0	0.00	0.000	
0.1	0.01	0.005	
0.5	0.05	0.040	
1.0	0.10	0.081	
5.0	0.50	0.404	
10.0	1.00	0.801	

Regression Data	
Conc = (abs-intercept)/slope	
intercept =	
slope =	
r =	
Comment:	
maxabs =	

Calibration Verification Standard

Source	ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6
DQL Int. =	0.10 ml stock to 10	mL pH2 =	10.00 mg/L Cr+6
DQL =	0.20 ml DQL Int. to 50	mL pH2 =	0.04 mg/L Cr+6
CVS =	0.025 ml stock to 100	mL pH2 =	0.25 mg/L Cr+6

Prep Check Standard

Dilution	0.50 ml stock to 40.00 mL DI = 0.63 mg/L Cr+6
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SAMPLE DATA

Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL

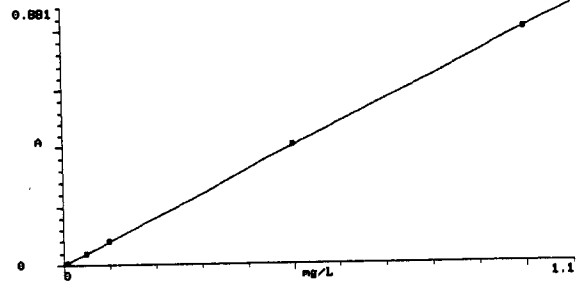
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mL_{final}/mL_{sample} (e.g. 1mL diluted to 5mL = 5/1 = 2.0)

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data			Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm (mg/L)		
ICB		1.000	1		0.000		
ICV		1.000	1		0.214		
Prep Blk		1.250	1		-0.001		
Prep Chk		1.250	1		0.404		
DQL		1.250	1		0.028		
YE49A		1.250	1	0.015	0.016		
A. dp		1.250	1		0.011		
A. ms		1.250	1		0.054		0.05 mL stk
B.		1.250	1	0.030	0.030		
C.		1.250	1	0.015	0.016		
CCB		1.250	1		-0.001		
CCV		1.250	1		0.214		
CCB		1.000	1		-0.002		
CCV		1.000	1		0.213		
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
CCB		1.000	1				
CCV		1.000	1				

YE49:00209

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 17:42 27Mar14
 Test Name CHROME 6
 Date Standards Measured 27Mar14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.802
 Intercept 0.000504
 Std Dev 0.002
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.040
0.100	0.081
0.500	0.404
1.000	0.801

Handwritten: 03/27/14

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-XT-C 17:45 27Mar14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On

ID#	Abs 540nm
1	0.000

2 0.214

3 -0.001

4 0.404

5 0.028

6 0.016

7 0.011

8 0.054

9 0.030

10 0.016

11 0.015 *back. A*

12 0.030 *B*

13 -0.001

14 0.214

15 0.015 *back C*

16 -0.002

17 0.213

Table of Contents: ARI Job YE66

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

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 EC
Signature

April-09-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 11, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job No.: YE66

Dear Ian:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro".

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YE66

Enclosures

Chain of Custody Documentation

ARI Job ID: YE66

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 766 Turn-around Requested: 3/27/2014

ARI Client Company: **GeoEngineers** Phone: **253-383-4940**

Client Contact: **Ian Young**

Client Project Name: **Aladden Plating**

Client Project #: **0504-095-00** Samplers: **Paul Robinette**

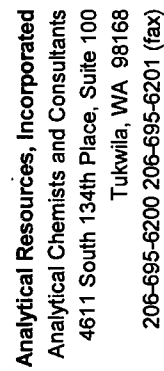
Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C		

S1521-03272014	3/27/14	1035	GW	3	X	X	X		
S1522-03272014		1145			X	X	X		
S1523-03272014		1420			X	X	X		
S1524-03272014		1515			X	X	X		

Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered	Relinquished by: (Signature) <i>[Signature]</i> Printed Name: THUNDERDOG Company: THUNDERDOG Date & Time: 3-28-14 8:07	Received by: (Signature) <i>[Signature]</i> Printed Name: TIM STEMM Company: THUNDERDOG Date & Time: 3-28-14 8:43
	Relinquished by: (Signature) <i>[Signature]</i> Printed Name: TIM STEMM Company: THUNDERDOG Date & Time: 3-28-14 8:43	Received by: (Signature) <i>[Signature]</i> Printed Name: TIM STEMM Company: THUNDERDOG Date & Time: 3-28-14 8:43

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.





Cooler Receipt Form

ARI Client: Geo Eng
 COC No(s) _____ NA
 Assigned ARI Job No: Y66

Project Name: Al addition plating
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? ... YES NO
 Were custody papers properly filled out (ink, signed, etc) ... YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 1.1
 Time: _____
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 50 x 77952
 Cooler Accepted by: TJ Date: 3.28.14 Time: 8:13

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? ... YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? ... NA YES NO
 Were all bottles sealed in individual plastic bags? ... YES NO
 Did all bottles arrive in good condition (unbroken)? ... YES NO
 Were all bottle labels complete and legible? ... YES NO
 Did the number of containers listed on COC match with the number of containers received? ... YES NO
 Did all bottle labels and tags agree with custody papers? ... YES NO
 Were all bottles used correct for the requested analyses? ... YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs). . NA YES NO
 Were all VOC vials free of air bubbles? ... NA YES NO
 Was sufficient amount of sample sent in each bottle? ... YES NO
 Date VOC Trip Blank was made at ARI ... NA
 Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____
 Samples Logged by: TJ Date: 3.28.14 Time: 9:03

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



ARI Job No: YE66
PC: Cheronne
VTSR: 03/28/14

Inquiry Number: NONE
Analysis Requested: 03/28/14
Contact: Young, Ian
Client: GeoEngineers
Logged by: TS
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #: 0504-095-00
Project: Aladden Plating
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET DOC FLT FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
14-5765 YE66A	SB21-03272014						DIS									N		L2	MASSIN	4mL	03/28/14
14-5766 YE66B	SB22-03272014						DIS									N					
14-5767 YE66C	SB23-03272014						DIS									N					
14-5768 YE66D	SB24-03272014						DIS									N					
14-5769 YE66E	SB21-03272014						DIS									Y					
14-5770 YE66F	SB22-03272014						DIS									Y					
14-5771 YE66G	SB23-03272014						DIS									Y					
14-5772 YE66H	SB24-03272014						DIS									Y					
14-5773 YE66I	SB21-03272014						TOT														
14-5774 YE66J	SB22-03272014						TOT														
14-5775 YE66K	SB23-03272014						TOT														
14-5776 YE66L	SB24-03272014						TOT														

Filter A-D
in
1916
CB
3/28/14

P. P. S.
F. Fall

Checked By TS Date 3-28-14

000000

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YE66



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job No.: YE66

Sample Receipt

Four water samples were received on March 28, 2014 under ARI job YE66. The cooler temperature measured by IR thermometer following ARI SOP was 1.1°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Total and Dissolved Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and replicate RPDs were within control limits.

General Chemistry Parameters (Hexavalent Chromium)

The samples and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blank was clean at the reporting limit. The SRM percent recovery was within control limits.

The matrix spike percent recovery and replicate RPD were within control limits.

Sample ID Cross Reference Report



ARI Job No: YE66
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. SB21-03272014	YE66A	14-5765	Water	03/27/14 10:35	03/28/14 08:43
2. SB22-03272014	YE66B	14-5766	Water	03/27/14 11:45	03/28/14 08:43
3. SB23-03272014	YE66C	14-5767	Water	03/27/14 14:20	03/28/14 08:43
4. SB24-03272014	YE66D	14-5768	Water	03/27/14 15:15	03/28/14 08:43
5. SB21-03272014	YE66E	14-5769	Water	03/27/14 10:35	03/28/14 08:43
6. SB22-03272014	YE66F	14-5770	Water	03/27/14 11:45	03/28/14 08:43
7. SB23-03272014	YE66G	14-5771	Water	03/27/14 14:20	03/28/14 08:43
8. SB24-03272014	YE66H	14-5772	Water	03/27/14 15:15	03/28/14 08:43
9. SB21-03272014	YE66I	14-5773	Water	03/27/14 10:35	03/28/14 08:43
10. SB22-03272014	YE66J	14-5774	Water	03/27/14 11:45	03/28/14 08:43
11. SB23-03272014	YE66K	14-5775	Water	03/27/14 14:20	03/28/14 08:43
12. SB24-03272014	YE66L	14-5776	Water	03/27/14 15:15	03/28/14 08:43



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	LCS RPD
Met 6010C (EPA 6010C) in Water							
Preservation: pH<2; HNO₃, Cool <6°C							
Container: HDPE NM, 500 mL		Minimum Sample Volume: 500 mL			Hold Time: 180 days		
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120 20
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120 20
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120 20
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120 20
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120 20
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120 20
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Silica as SiO ₂	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120 20
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120 20
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120 20
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120 20
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120 20
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120 20
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120 20
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120 20
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120 20



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	LCS RPD
Met Diss 6010C (EPA 6010C) in Water							
Preservation: pH<2; HNO3, Cool <6°C							
Container: HDPE NM, 500 mL		Minimum Sample Weight: 500 mL			Hold Time: 180 days		
Aluminum	0.00757	0.0500 mg/L		20	75 - 125	20	80 - 120
Antimony	0.00628	0.0500 mg/L		20	75 - 125	20	80 - 120
Arsenic	0.00333	0.0500 mg/L		20	75 - 125	20	80 - 120
Barium	0.00133	0.00300 mg/L		20	75 - 125	20	80 - 120
Beryllium	0.000160	0.00100 mg/L		20	75 - 125	20	80 - 120
Boron	0.00739	0.0200 mg/L		20	75 - 125	20	80 - 120
Cadmium	0.000180	0.00200 mg/L		20	75 - 125	20	80 - 120
Calcium	0.0113	0.0500 mg/L		20	75 - 125	20	80 - 120
Chromium	0.00124	0.00500 mg/L		20	75 - 125	20	80 - 120
Cobalt	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Copper	0.000920	0.00200 mg/L		20	75 - 125	20	80 - 120
Iron	0.00750	0.0500 mg/L		20	75 - 125	20	80 - 120
Lead	0.00155	0.0200 mg/L		20	75 - 125	20	80 - 120
Magnesium	0.00961	0.0500 mg/L		20	75 - 125	20	80 - 120
Manganese	0.000280	0.00100 mg/L		20	75 - 125	20	80 - 120
Molybdenum	0.000790	0.00500 mg/L		20	75 - 125	20	80 - 120
Nickel	0.00386	0.0100 mg/L		20	75 - 125	20	80 - 120
Potassium	0.0657	0.500 mg/L		20	75 - 125	20	80 - 120
Selenium	0.00499	0.0500 mg/L		20	75 - 125	20	80 - 120
Silica as SiO2	0.00817	0.0600 mg/L		20	75 - 125	20	80 - 120
Silver	0.000430	0.00300 mg/L		20	75 - 125	20	80 - 120
Sodium	0.0114	0.500 mg/L		20	75 - 125	20	80 - 120
Sodium-1	1.14	50.0 mg/L		20	75 - 125	20	80 - 120
Strontium	0.0000900	0.00100 mg/L		20	75 - 125	20	80 - 120
Thallium	0.00310	0.0500 mg/L		20	75 - 125	20	80 - 120
Tin	0.00141	0.0100 mg/L		20	75 - 125	20	80 - 120
Titanium	0.00211	0.00500 mg/L		20	75 - 125	20	80 - 120
Vanadium	0.000270	0.00300 mg/L		20	75 - 125	20	80 - 120
Zinc	0.00145	0.0100 mg/L		20	75 - 125	20	80 - 120



Spike Recovery Control Limits for Conventional Wet Chemistry Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
<i>Matrix Spike Recoveries</i>	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
<i>Duplicate RPDs</i>		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YE66

Cover Page
INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE66

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
SB21-03272014	YE66A	14-5765	
SB21-03272014D	YE66ADUP	14-5765	
SB21-03272014S	YE66ASPK	14-5765	
SB22-03272014	YE66B	14-5766	
PBW	YE66MB1	14-5766	
LCSW	YE66MB1SPK	14-5766	
SB23-03272014	YE66C	14-5767	
SB24-03272014	YE66D	14-5768	
SB21-03272014	YE66E	14-5769	
SB21-03272014D	YE66EDUP	14-5769	
SB21-03272014S	YE66ESPK	14-5769	
SB22-03272014	YE66F	14-5770	
PBW	YE66MB2	14-5770	
LCSW	YE66MB2SPK	14-5770	
SB23-03272014	YE66G	14-5771	
SB24-03272014	YE66H	14-5772	
SB21-03272014	YE66I	14-5773	
SB21-03272014D	YE66IDUP	14-5773	
SB21-03272014S	YE66ISPK	14-5773	
SB22-03272014	YE66J	14-5774	
PBW	YE66MB3	14-5774	

Were ICP interelement corrections applied ? Yes/No YES
 Were ICP background corrections applied ? Yes/No YES
 If yes - were raw data generated before
 application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn
 Date: 4/9/14 Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
LCSW	YE66MB3SPK	14-5774	
SB23-03272014	YE66K	14-5775	
SB24-03272014	YE66L	14-5776	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn

Name: Jay Kuhn

Date: 4/9/14

Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB21-03272014

SAMPLE

Lab Sample ID: YE66A

LIMS ID: 14-5765

Matrix: Water

Data Release Authorized 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB22-03272014

SAMPLE

Lab Sample ID: YE66B

LIMS ID: 14-5766

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB23-03272014

SAMPLE

Lab Sample ID: YE66C

LIMS ID: 14-5767

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB24-03272014

SAMPLE

Lab Sample ID: YE66D

LIMS ID: 14-5768

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB21-03272014

SAMPLE

Lab Sample ID: YE66E

LIMS ID: 14-5769

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB22-03272014

SAMPLE

Lab Sample ID: YE66F

LIMS ID: 14-5770

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: SB23-03272014
SAMPLE

Lab Sample ID: YE66G
LIMS ID: 14-5771
Matrix: Water
Data Release Authorized
Reported: 04/09/14



QC Report No: YE66-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/27/14
Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U

Reported in mg/L (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB24-03272014

SAMPLE

Lab Sample ID: YE66H

LIMS ID: 14-5772

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
6010C	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U


Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quatitation

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: SB21-03272014
MATRIX SPIKE

Lab Sample ID: YE66A
LIMS ID: 14-5765
Matrix: Water
Data Release Authorized: 
Reported: 04/09/14

QC Report No: YE66-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/27/14
Date Received: 03/28/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Nickel	6010C	0.01 U	0.51	0.500	102%	


Reported in mg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: SB21-03272014
DUPLICATE

Lab Sample ID: YE66A
LIMS ID: 14-5765
Matrix: Water
Data Release Authorized: 
Reported: 04/09/14

QC Report No: YE66-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/27/14
Date Received: 03/28/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE66LCS

LIMS ID: 14-5766

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Nickel	6010C	0.52	0.50	104%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE66MB

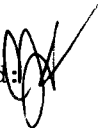
QC Report No: YE66-GeoEngineers

LIMS ID: 14-5766

Project: Aladden Plating

Matrix: Water

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 04/09/14

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0100	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: SB21-03272014

MATRIX SPIKE

Lab Sample ID: YE66E

LIMS ID: 14-5769

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.516	0.500	103%	
Lead	6010C	0.02 U	2.06	2.00	103%	

Reported in mg/L

N-Control Limit Not Met


H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: **SB21-03272014**
DUPLICATE

Lab Sample ID: YE66E
LIMS ID: 14-5769
Matrix: Water
Data Release Authorized: 
Reported: 04/09/14

QC Report No: YE66-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/27/14
Date Received: 03/28/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE66LCS
LIMS ID: 14-5770
Matrix: Water
Data Release Authorized:
Reported: 04/09/14



QC Report No: YE66-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.528	0.500	106%	
Lead	6010C	2.09	2.00	104%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YE66MB

LIMS ID: 14-5770

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
6010C	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00500	0.005	0.005	U
6010C	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0200	0.02	0.02	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: SB21-03272014

SAMPLE

Lab Sample ID: YE66I

LIMS ID: 14-5773

Matrix: Water

Data Release Authorized. 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
3010A	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: SB22-03272014

SAMPLE

Lab Sample ID: YE66J

LIMS ID: 14-5774

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
3010A	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: SB23-03272014
SAMPLE**

Lab Sample ID: YE66K

LIMS ID: 14-5775

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
3010A	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: SB24-03272014

SAMPLE

Lab Sample ID: YE66L

LIMS ID: 14-5776

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
3010A	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: SB21-03272014

MATRIX SPIKE

Lab Sample ID: YE66I

LIMS ID: 14-5773

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Chromium	6010C	0.005 U	0.533	0.500	107%	
Lead	6010C	0.02 U	2.07	2.00	104%	
Nickel	6010C	0.01 U	0.53	0.50	106%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: SB21-03272014

DUPLICATE

Lab Sample ID: YE66I

LIMS ID: 14-5773

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/27/14

Date Received: 03/28/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Chromium	6010C	0.005 U	0.005 U	0.0%	+/- 0.005	L
Lead	6010C	0.02 U	0.02 U	0.0%	+/- 0.02	L
Nickel	6010C	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YE66LCS

LIMS ID: 14-5774

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Chromium	6010C	0.534	0.500	107%	
Lead	6010C	2.09	2.00	104%	
Nickel	6010C	0.53	0.50	106%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: YE66MB

LIMS ID: 14-5774

Matrix: Water

Data Release Authorized: 

Reported: 04/09/14

QC Report No: YE66-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	DL	LOQ	Result	Q
3010A	03/31/14	6010C	04/07/14	7440-47-3	Chromium	0.00124	0.005	0.005	U
3010A	03/31/14	6010C	04/07/14	7439-92-1	Lead	0.0016	0.02	0.02	U
3010A	03/31/14	6010C	04/07/14	7440-02-0	Nickel	0.0039	0.01	0.01	U

Reported in mg/L (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040771	1000.0	1030.15	103.0	1000.0	1028.70	102.9	1044.97	104.5	1056.53	105.7	1042.55	104.3	1040.04	104.0
Lead	PB	ICP	IP040771	2000.0	2013.72	100.7	2000.0	1998.65	99.9	2050.57	102.5	2069.28	103.5	2049.75	102.5	2052.73	102.6
Nickel	NI	ICP	IP040771	1000.0	1015.83	101.6	1000.0	1017.32	101.7	1029.84	103.0	1039.66	104.0	1029.39	102.9	1031.30	103.1

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

YE66 : 00039

Calibration Verification

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66



UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Chromium	CR	ICP	IP040771	1000.0	1043.44	104.3	1040.74	104.1	1053.01	105.3	1030.77	103.1				
Lead	PB	ICP	IP040771	2000.0	2008.49	100.4	2043.00	102.2	2033.64	101.7	1980.11	99.0				
Nickel	NI	ICP	IP040771	1000.0	1032.94	103.3	1029.53	103.0	1039.19	103.9	1017.18	101.7				

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Chromium	CR	ICP	IP040872	1000.0	1032.11	103.2	1000.0	1019.93	102.0	1030.74	103.1						
Lead	PB	ICP	IP040872	2000.0	2006.14	100.3	2000.0	2014.70	100.7	1995.67	99.8						

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66



UNITS:ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Chromium	CR	ICP	IP040771	5.0		3.98	79.6										
Lead	PB	ICP	IP040771	20.0		21.69	108.5										
Nickel	NI	ICP	IP040771	10.0		9.33	93.3										
Chromium	CR	ICP	IP040872	5.0		5.89	117.8										
Lead	PB	ICP	IP040872	20.0		20.37	101.9										

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE66

UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	CCB1	CCB2	CCB3	CCB4	CCB5	C
Chromium	CR ICP	IP040771	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB ICP	IP040771	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI ICP	IP040771	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

YE66 : 00043

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Chromium	CR	ICP	IP040771	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	U
Lead	PB	ICP	IP040771	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP040771	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

YE66 : 00044

Calibration Blanks



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE66

UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	ICB C	CCB1	CCB1 C	CCB2	CCB2 C	CCB3	CCB3 C	CCB4	CCB4 C	CCB5	CCB5 C
Chromium	CR ICP	IP040872	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0						
Lead	PB ICP	IP040872	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0						

YE66 : 00045

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040771

SDG: YE66

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	198345.2	197942.3	99.0						
Antimony	1000	1000	21.8	1028.9	102.9						
Arsenic	1000	1000	23.2	1033.7	103.4						
Barium	1000	1000	-1.7	997.9	99.8						
Beryllium	1000	1000	0.0	1001.7	100.2						
Boron			-5.9	-8.0							
Cadmium	1000	1000	-0.6	1015.1	101.5						
Calcium	100000	100000	100501.5	100170.6	100.2						
Chromium	1000	1000	-1.9	1007.8	100.8						
Cobalt	1000	1000	1.8	938.3	93.8						
Copper	1000	1000	-1.1	1048.1	104.8						
Iron	200000	200000	198477.7	197978.8	99.0						
Lead	1000	1000	-4.6	976.1	97.6						
Magnesium	100000	100000	101427.2	97407.4	97.4						
Manganese	1000	1000	-1.4	952.9	95.3						
Molybdenum			2.4	2.2							
Nickel	1000	1000	-0.5	962.7	96.3						
Potassium			9.1	16.9							
Selenium	1000	1000	28.9	1036.7	103.7						
Silicon			-6.4	-17.6							
Silver	1000	1000	-0.5	1062.7	106.3						
Sodium			12.2	10.4							
Strontium			5.6	5.5							
Thallium	1000	1000	2.9	953.0	95.3						
Tin			-16.4	-14.0							
Titanium			2.3	1.6							
Vanadium	1000	1000	-1.2	977.1	97.7						
Zinc	1000	1000	1.5	956.6	95.7						

YE66 : 00046

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP040872

SDG: YE66

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	199273.5	201729.5	100.9						
Antimony	1000	1000	21.7	1036.3	103.6						
Arsenic	1000	1000	24.9	1025.4	102.5						
Barium	1000	1000	-1.1	1022.8	102.3						
Beryllium	1000	1000	0.1	1003.5	100.4						
Boron			-11.1		-10.4						
Cadmium	1000	1000	-0.7	1029.6	103.0						
Calcium	100000	100000	100847.2	102005.8	102.0						
Chromium	1000	1000	1.1	1023.4	102.3						
Cobalt	1000	1000	2.0	958.5	95.9						
Copper	1000	1000	-0.5	1073.8	107.4						
Iron	200000	200000	198061.9	200935.4	100.5						
Lead	1000	1000	-4.1	981.1	98.1						
Magnesium	100000	100000	101249.1	99012.2	99.0						
Manganese	1000	1000	-1.4	960.9	96.1						
Molybdenum			1.1	1.5							
Nickel	1000	1000	1.0	989.3	98.9						
Potassium			0.9	2.8							
Selenium	1000	1000	35.9	1027.9	102.8						
Silicon			0.1	-11.2							
Silver	1000	1000	-0.8	1084.5	108.5						
Sodium			3.2	2.7							
Strontium			5.6	5.6							
Thallium	1000	1000	2.8	953.5	95.4						
Tin			-15.7	-14.3							
Titanium			1.6	0.8							
Vanadium	1000	1000	-0.4	993.5	99.4						
Zinc	1000	1000	2.9	971.2	97.1						

YE66 : 00047

FORM IV

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2012	100000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1504760	0.000000	-1.1418810	1.4701580	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1186830
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0105370	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	0.0956050	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.0031370	0.000000	-0.1731660	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572290	0.000000	0.000000
Lead	220.35	-0.3197610	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	-0.0574840
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.6154620	-1.2018020	0.000000	0.9787120
Manganese	257.61	0.0085510	0.000000	0.000000	0.000000	0.0051490	0.000000	0.000000	0.000000	0.000000	-0.0059760
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0154460	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.8483140	0.000000	-0.6009380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0065610	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.0801700	0.000000	5.8939530	0.4135750	0.000000	-0.1258020
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1855780	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.1006900	0.000000	0.000000	0.1910190	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0674860
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.0126620	0.000000	0.000000	-0.2680380	0.000000	0.000000

FORM XI

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.000000	0.000000	0.000000	2.0154950	0.000000	14.6504130	0.0000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.7865220	0.000000	-3.6308690	0.0000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.000000	0.000000	0.000000	-35.7069030	0.000000	0.0000000	0.0000000
Barium	233.53	0.000000	0.000000	0.000000	0.1263190	0.000000	0.000000	0.000000	0.000000	0.2049710	0.0000000
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0109650	0.000000	0.2471980	0.0000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Cadmium	228.80	0.000000	0.000000	0.000000	-0.9924980	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0519140	0.0000000
Chromium	267.72	0.0714330	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Cobalt	228.62	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.3711990	0.0000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.000000	0.000000	0.000000	1.7865010	0.000000	0.0000000	0.0000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.1968290	0.000000	0.0000000	0.0000000
Lead	220.35	0.000000	0.000000	0.000000	0.1183620	0.000000	0.000000	0.000000	0.000000	8.0715790	0.0000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Manganese	257.61	0.0068080	0.000000	0.000000	0.000000	-0.2132560	0.000000	0.000000	0.000000	-0.0238460	0.0000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	-0.5233870	0.000000	0.423640	0.0000000	0.0000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.6221340	0.0000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2593400	0.0000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	155.0683530	0.000000	0.0000000	88.8015530
Thallium	190.80	0.000000	0.000000	-1.6229180	0.000000	0.000000	0.000000	0.000000	0.000000	3.6063050	0.0000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.0356520	-0.5555490	-0.1890930	0.000000	0.0000000	0.0000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000000	0.0000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.000000	0.000000	0.000000	0.5783020	0.000000	0.0000000	0.0000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.000000	-0.0717780	0.000000	0.000000	0.000000	0.0000000	0.0000000

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: DMN

SDG: YE66

PREPDATE: 3/31/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
SB21-03272014	YE66A	0.000	50.0	50.0
SB21-03272014D	YE66ADUP	0.000	50.0	50.0
SB21-03272014S	YE66ASPK	0.000	50.0	50.0
SB22-03272014	YE66B	0.000	50.0	50.0
SB23-03272014	YE66C	0.000	50.0	50.0
SB24-03272014	YE66D	0.000	50.0	50.0
PBW	YE66MB1	0.000	50.0	50.0
LCSW	YE66MB1SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YE66

ANALYSIS METHOD: ICP
ARI PREP CODE: TWC
PREPDATE: 3/31/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
SB21-03272014	YE66I	0.000	50.0	50.0
SB21-03272014D	YE66IDUP	0.000	50.0	50.0
SB21-03272014S	YE66ISPK	0.000	50.0	50.0
SB22-03272014	YE66J	0.000	50.0	50.0
SB23-03272014	YE66K	0.000	50.0	50.0
SB24-03272014	YE66L	0.000	50.0	50.0
PBW	YE66MB3	0.000	50.0	50.0
LCSW	YE66MB3SPK	0.000	50.0	50.0

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: WMN

SDG: YE66

PREPDATE: 3/31/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
SB21-03272014	YE66E	0.000	50.0	50.0
SB21-03272014D	YE66EDUP	0.000	50.0	50.0
SB21-03272014S	YE66ESPK	0.000	50.0	50.0
SB22-03272014	YE66F	0.000	50.0	50.0
SB23-03272014	YE66G	0.000	50.0	50.0
SB24-03272014	YE66H	0.000	50.0	50.0
PBW	YE66MB2	0.000	50.0	50.0
LCSW	YE66MB2SPK	0.000	50.0	50.0

Analysis Run Log



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040771 METHOD: ICP

START DATE: 4/7/2014

END DATE: 4/7/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN		
S0		1.00	09374												X										X										
S2		1.00	09414											X																					
S3		1.00	09432											X											X										
S4		1.00	09454																																
S5		1.00	09480																																
ICV		1.00	09505											X										X											
ICB		1.00	09545											X										X											
CRI		1.00	09585											X										X											
ICSAI		1.00	10025											X										X											
ICSABI		1.00	10071											X										X											
CCV1		1.00	10121											X										X											
CCB1		1.00	10162											X										X											
CCV2		1.00	10225											X										X											
CCB2		1.00	10270											X										X											
YE51MB2		1.00	10310																																
YE52MB2		1.00	10350																																
YE58C		1.00	10390																																
YE51Ga		1.00	10431																																
YE51Ha		1.00	10471																																
YE51Ka		1.00	10511																																
YE51La		1.00	10551																																
YE49ADUP		1.00	10591																																
YE49A		1.00	11032																																
YE49ASPK		1.00	11074																																
CCV3		1.00	11114																						X										
CCB3		1.00	11154																					X											
YE51MB3		5.00	11194																																
YF37MB		2.00	11240																																
YE521a		1.00	11280																																
YE52HadUP		1.00	11320																																
YE52Ha		1.00	11360																																
YE52HaSPK		1.00	11400																																
YE51FadUP		1.00	11440																																
YE51Fa		1.00	11480																																
YE51FaSPK		1.00	11522																																

YE66 : 00054

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040771 METHOD: ICP

START DATE: 4/7/2014

END DATE: 4/7/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN					
CCV	CCV4	1.00	11562												X																			X				
CCB	CCB4	1.00	12002												X																				X			
ZZZZZ	YF37A	2.00	12050												X																				X			
ZZZZZ	YF37B	2.00	12091																																			
ZZZZZ	YF37C	2.00	12131																																			
ZZZZZ	YF37D	2.00	12171																																			
ZZZZZ	YF37E	2.00	12211																																			
ZZZZZ	YF37F	2.00	12251																																			
ZZZZZ	YE51NDUP	5.00	12291																																			
ZZZZZ	YE51N	5.00	12333																																			
ZZZZZ	YE51NSPK	5.00	12374																																			
ZZZZZ	YF37MBSPK	2.00	12420																																			
CCV	CCV5	1.00	12460												X																				X			
CCB	CCB5	1.00	12501												X																					X		
PBW	YE66MB1	1.00	12541												X																					X		
PBW	YE66MB2	1.00	12581												X																						X	
PBW	YE66MB3	1.00	13021												X																						X	
SB22-03272014	YE66J	1.00	13060												X																					X		
SB23-03272014	YE66K	1.00	13102												X																						X	
SB24-03272014	YE66L	1.00	13143												X																						X	
SB21-03272014D	YE66IDUP	1.00	13185												X																						X	
SB21-03272014	YE66I	1.00	13230												X																						X	
SB21-03272014S	YE66ISPK	1.00	13272												X																						X	
LCSW	YE66MB3SPK	1.00	13312												X																						X	
CCV	CCV6	1.00	13352												X																						X	
CCB	CCB6	1.00	13392												X																							X
ZZZZZ	YE83MB1	2.00	13432												X																							X
ZZZZZ	YF37B	5.00	13472																																			
ZZZZZ	YE83B	2.00	13512																																			
ZZZZZ	YE83C	2.00	13552																																			
ZZZZZ	YE83D	2.00	13593																																			
ZZZZZ	YE83E	2.00	14033																																			
ZZZZZ	YE83F	2.00	14073																																			
ZZZZZ	YE83G	2.00	14113																																			
ZZZZZ	YE83MB1SPK	2.00	14153																																			

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YE66
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP040771
 METHOD: ICP
 START DATE: 4/7/2014
 END DATE: 4/7/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN						
CCV	CCV7	1.00	14193																															X	X				
CCB	CCB7	1.00	14233																																X	X			
SB22-03272014	YE66B	1.00	14302																																X	X			
SB23-03272014	YE66C	1.00	14344																																	X	X		
SB24-03272014	YE66D	1.00	14385																																	X	X		
SB22-03272014	YE66F	1.00	14431																																	X	X		
SB23-03272014	YE66G	1.00	14472																																	X	X		
SB24-03272014	YE66H	1.00	14514																																	X	X		
SB21-03272014D	YE66ADUP	1.00	14555																																	X	X		
SB21-03272014	YE66A	1.00	15001																																	X	X		
SB21-03272014S	YE66ASPK	1.00	15042																																	X	X		
LCSW	YE66MB1SPK	1.00	15082																																	X	X		
CCV	CCV8	1.00	15122																																	X	X		
CCB	CCB8	1.00	15163																																		X	X	
ZZZZZZ	YF21MB	5.00	15203																																		X	X	
ZZZZZZ	YE83ADUP	2.00	15245																																		X	X	
ZZZZZZ	YE83A	2.00	15285																																			X	X
ZZZZZZ	YE83ASPK	2.00	15325																																			X	X
SB21-03272014D	YE66EDUP	1.00	15365																																		X	X	
SB21-03272014	YE66E	1.00	15410																																		X	X	
SB21-03272014S	YE66ESPK	1.00	15452																																		X	X	
ZZZZZZ	YF21ADUP	5.00	15492																																			X	X
ZZZZZZ	YF21A	5.00	15533																																			X	X
ZZZZZZ	YF21ASPK	5.00	15575																																			X	X
CCV	CCV9	1.00	16021																																		X	X	
CCB	CCB9	1.00	16061																																		X	X	

YE66 : 00056

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YE66



INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP040872 METHOD: ICP

START DATE: 4/8/2014

END DATE: 4/8/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN				
S0			1.00	09483																					X												
S2			1.00	09523										X																							
S3			1.00	09542									X												X												
S4			1.00	09564																																	
S5			1.00	09585																					X												
ICV			1.00	10282									X												X												
ICB			1.00	10382									X												X												
CRI			1.00	10422									X												X												
ICSA			1.00	10463									X												X												
ICSAB			1.00	10504									X												X												
CCV			1.00	10544									X												X												
CCB			1.00	11001									X												X												
ZZZZZ	YE70MB1		1.00	11041									X																								
ZZZZZ	YE70MB2		1.00	11081																																	
ZZZZZ	YE70B		1.00	11121																																	
ZZZZZ	YE70C		1.00	11162																																	
ZZZZZ	YE70ADUP		1.00	11204																																	
ZZZZZ	YE70A		1.00	11245																																	
ZZZZZ	YE70ASPK		1.00	11291																																	
ZZZZZ	YE70MB1SPK		1.00	11331																																	
LCSW	YE66MB2SPK		1.00	11371											X										X												
ZZZZZ	B1		1.00	11411																																	
CCV	CCV2		1.00	11451											X										X												
CCB	CCB2		1.00	11491											X										X												

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YE66

INORGANICS ANALYSIS DATA SHEET
Hexavalent Chromium by Method SM3500Cr-D



Data Release Authorized: *[Signature]*
Reported: 04/01/14
Date Received: 03/28/14
Page 1 of 1

QC Report No: YE66-GeoEngineers
Project: Aladden Plating
0504-095-00

Client/ ARI ID	Date Sampled	Matrix	Analysis Date & Batch	RL	Result
SB21-03272014 YE66A 14-5765	03/27/14	Water	03/28/14 032814#1	0.010	< 0.010 U
SB22-03272014 YE66B 14-5766	03/27/14	Water	03/28/14 032814#1	0.010	< 0.010 U
SB23-03272014 YE66C 14-5767	03/27/14	Water	03/28/14 032814#1	0.010	< 0.010 U
SB24-03272014 YE66D 14-5768	03/27/14	Water	03/28/14 032814#1	0.010	< 0.010 U

Reported in mg/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
YE66-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 04/01/14

A handwritten signature in black ink, appearing to be 'M. J.', written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/27/14
Date Received: 03/28/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YE66A Client ID: SB21-03272014						
Hexavalent Chromium	03/28/14	mg/L	< 0.010	0.061	0.063	96.8%

REPLICATE RESULTS-CONVENTIONALS
YE66-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 04/01/14

A handwritten signature in black ink, appearing to be 'JL' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/27/14
Date Received: 03/28/14

Analyte	Date	Units	Sample	Replicate (s)	RPD/RSD
ARI ID: YE66A Client ID: SB21-03272014					
Hexavalent Chromium	03/28/14	mg/L	< 0.010	< 0.010	NA

METHOD BLANK RESULTS-CONVENTIONALS
YE66-GeoEngineers



Matrix: Water
Data Release Authorized:
Reported: 04/01/14


A handwritten signature in black ink, appearing to be 'AS', written over the 'Data Release Authorized:' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	Blank
Hexavalent Chromium	03/28/14 09:15	mg/L	< 0.010 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
YE66-GeoEngineers



Matrix: Water
Data Release Authorized: 
Reported: 04/01/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date/Time	Units	SRM	True Value	Recovery
Hexavalent Chromium ERA #160412	03/28/14 09:15	mg/L	0.628	0.630	99.7%

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YE66



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Sample ID 7EBL ISOF / MS / SCL

Final Volume 20.0

Analyst: LB

Date: 3-31-14

Final Volume (Hg): _____

Element	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		500
Al			
As	25		
Ba	25		
Be	25		500
Ca	25		
Cd	25		
Co	25		
Cr	25		
Cu	25		500
Fe			500
K			500
Mg			
Mn	25	25	
Mo			500
Na			
Ni	25		
Pb	25	25	
Sb			
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc	Stock Added	Std No
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No

Prepcode	T _{ICP} ICP Routine 60645	ICP No GFA	GFA
Vol Added (mL):	6.50		2.0
Ag	50		
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50	50	
Pb	200	200	10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

S T O C K C O N C E N T R A T I O N



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: CB Date: 3-31-14 Time: 0940
Matrix: WATER Block ID: H3 Block Temp: 954 Thermometer: mp6-1

ARI Sample ID	Btl #	pH<2	Prep Code: <u>Twi</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YE70 A	10	↓	50.0	50.0			
" AWD	10	↓					
" ASD	10	↓					
" B	10	↓					
" C	10	↓					
" D	10	↓					
" MB1	-	-					
" MB5M	-	-					
YE66 I	1	↓					
" ID0	1	↓					
" ISnt	1	↓					
" J	1	↓					
" K	1	↓					
" L	1	↓					
" MB3	-	-					
" MB3K	-	-					
YE74 A	1	-					Preserved tube
" MB	-	-					
" MB0K	-	-	50.0	50.0			

Chemical/Reagent ID: HR03 100932
MB2510
5061F

File 11274

Tube 104 B
13040-1
Version 005
1/10/12



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: CS Date: 3-31-14 Time: 0945
Matrix: WATER Block ID: - Block Temp: - Thermometer: -

ARI Sample ID	Btl #	pH<2	Prep Code: <i>Vim</i>		Prep Code: <i>Dm</i>		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
YED0 F	1	↓	-	-			
" F00	1	↓	-	-			
" F0K	1	↓	-	-			
" G	1	↓	-	-			
" H	1	↓	-	-			
" E	1	↓	-	-			
YELK E	1	↓	-	-		CS	
" F000	1	↓	-	-		3-31-14	
" F00R	1	↓	-	-			
" F	1	↓	-	-			
" G	1	↓	-	-			
" H	1	↓	-	-			
" A	1	-	-	-			. Filler in (g)
" A00	1	-	-	-			
" A00K	1	-	-	-			
" B	1	-	-	-		3-31-14	
" C	1	-	-	-			
" D	1	-	-	-			
" MBi	-	-	-	-			
" MBISPK	-	-	-	-			
						CS 3-31-14	

Chemical/Reagent ID: *flint3: mp2.5-2*

5061F

Tube lot #:

1309271

Version 005

1/10/12

YES6 : 00067

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YE66

Metals Data Review Checklist

Method: (ICP) ICP-MS GFA CVA

Analysis Date: 4-7-14

<u>Iz</u>	Analyst <u>4-8-14</u>	Peer <u>4-9</u>	Comment
Logbook:			
Analyst, Date, Method info	/	/	
Sample ID's	/	/	
Standard/QC solution ID's recorded	/	/	
Prep codes	/	/	
Dilution factors	/	/	
Crossouts/Corrections/Deletions	/	/	
Calibration:			
Blank & Standard intensities	/	/	
Standard deviations	/	✓	
Curve fit	/	/	
Calibration Verification:			
ICV/CCV	/	✓	
ICB/CCB	/	/	
Samples:			
RSD's & SD's	/	✓	
Internal Standards	/	/	
Carry-over	/	✓	
Method QC:			
CRI/CRA	/	✓	
ICSA/ICSAB	/	✓	
Post Spikes/Serial Dilutions	/	/	
Analytic Spikes	/	/	
Matrix QC:			
SRM/LCS	/	✓	
Matrix Spikes	/	/	
Matrix Duplicates	/	/	<u>YES</u>
Method Blanks	/	/	
Data Distribution:			
Requested elements/isotope identified	/	/	
Correct samples identified for distribution	/	/	
Raw data match distributed data	/	✓	
Data filename correct	/	/	
Necessary Analysts Notes and CAF's	/	✓	<u>YES</u>



IEC Date: 3-26-14

Analysis Date: 4-7-14

Analyst: RL

LR Date: 1-3-14

Page: 1 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1355
		↓ 2			C1427
		3			C1428
		4			C1429
		↓ 5			C1430
		TCV			C1377
		ICB			
		CRT			
		IBF			C532
		IESAB			C533
		CCV1			
		CCB1			
		CCV2			
		CCB2			
		YE51 MB2	SPN		
		YE52 MB2	↓		
		YE58 C	DMN		
		YE51 Ga	SPN		
		↓ Ha	↓		
		↓ Ka	↓		
		↓ La	↓		
		YE49 Adup	DMN		✓
		↓ A	↓		
		↓ ASPK	↓		✓ OUBON ICP SPK B 0845



IEC Date: _____

Analysis Date: 4-7-14

Analyst: RL

LR Date: _____

Page: 2 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV3			
		CCB3			
		YE51 MB3	LEN	5	
		YF37 MB	SWC	2	
		YE52 Ia	SPU		
		↓ Ha Dup	↓		✓
		↓ Ita	↓		
		↓ Ha SPK	↓		✓
		YE51 Fa Dup			✓
		↓ Fa	↓		
		↓ Fa SPK	↓		✓
		CCV4			
		CCB4			
		YF37 A	SWC	2	
✓		↓ B	↓		Fe > LR
		↓ C	↓		
		↓ D	↓		
		↓ E	↓		
		↓ F	↓		
		YE51 NDup	LEN	5	✓
		↓ N	↓		
		↓ NSPK	↓		✓
		YF37 MB SPK	SWC	2	✓
		CCV5			



IEC Date: Analysis Date: 4-7-14 Analyst: SL
LR Date: Page: 3 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCB5			
		YE66 MBI	DMN		
		MB2	WMN		
		MB3	TWC		
		J			
		K			
		L			
		IOup			✓
		I			
		Ispk			✓
		MB3spk			✓
		CCV6			
		CCB6			
		YE83 MBI	JWC	2	
		YE37 B		5	
		YE83 B		2	
		C			
		D			
		E			
		F			
		G			
		MB1spk			✓
		CCV7			
		CCB7			



IEC Date:

Analysis Date: 4-7-14

Analyst: EW

LR Date:

Page: 4 of 5

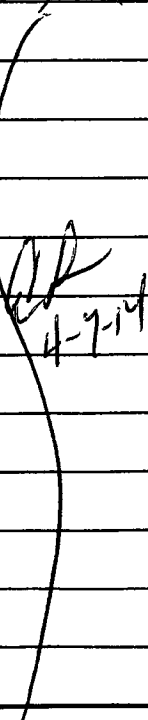
All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE66 B	DMN		
		↓ C	↓		
		↓ D	↓		
		↓ F	WMN		
		↓ G	↓		
		↓ H	↓		
		↓ ADup	DMN		✓
		↓ A	↓		
		↓ ASpk	↓		✓ original ICP Spk B1845
		↓ MBISpk	↓		✓ ↓ ↓
		CCU8			
		CCB8			
		YE21 MB	LEN	5	
		YE83 ADup	SUC	2	✓
		↓ A	↓	↓	✓
		↓ ASpk	↓	↓	✓
		YE66 EDup	WMN		✓
		↓ E	↓		
		↓ ESpk	↓		✓ original ICP Spk B1845
		YE21 ADup	LEN	5	✓
		↓ A	↓	↓	
		↓ ASpk	↓	↓	✓
		CCU9			
		CCB9			



IEC Date: _____ Analysis Date: 4-7-14 Analyst: EL
LR Date: _____ Page: 5 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE84 MB	TWC		
		YF00 MB	LEN	5	
		YE84 ADUJ	TWC		✓
		↓ A	↓		
		↓ ASK	↓		✓ 2A SIL
		YF00 ADUJ	LEN	5	✓
		↓ A	↓	↓	
		↓ ASK	↓	↓	✓
		YE84 MBSPIC	TWC		✓
		CCV			
		CCB			
		Rise/DI			
					

Nebulizer Parameters: Hg ReAlign

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

4/7/2014 9:09:50 AM Hg ReAlign... Actual peak offset (nm): 0.003
 Drift (nm): 0.001 Slit adjustment: 3

Analysis Begun

Start Time: 4/7/2014 9:11:52 AM	Plasma On Time: 4/7/2014 8:23:30 AM
Logged In Analyst: Metals	Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202	Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif

Batch ID:

Results Data Set: FAST-Verify-Install

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST

Method Last Saved: 8/13/2012 7:13:22 AM

IEC File: IEC010314C.iec

MSF File:

Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1

Autosampler Location: 1

Sample ID: B1

Date Collected: 4/7/2014 9:12:01 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: B1

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

=====
Analysis Begun

Start Time: 4/7/2014 9:37:41 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/7/2014 8:23:30 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 4/7/2014 9:37:42 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2934804.5	3146.41	0.11%	100.0	%
ScR 361.383	248992.6	1455.15	0.58%	100.0	%
Ag 328.068†	6.2	32.63	527.94%	[0.00]	mg/L
Al 308.215†	118.4	7.78	6.57%	[0.00]	mg/L
As 188.979†	-8.2	1.49	18.16%	[0.00]	mg/L
B 249.677†	33.8	6.29	18.58%	[0.00]	mg/L
Ba 233.527†	16.2	1.37	8.42%	[0.00]	mg/L
Be 313.042†	728.4	13.07	1.79%	[0.00]	mg/L
Ca 317.933†	-134.9	5.44	4.03%	[0.00]	mg/L
Cd 228.802†	296.7	6.36	2.14%	[0.00]	mg/L
Co 228.616†	-70.5	1.59	2.25%	[0.00]	mg/L
Cr 267.716†	-86.2	4.41	5.11%	[0.00]	mg/L
Cu 324.752†	4382.8	23.40	0.53%	[0.00]	mg/L
Fe 273.955†	47.3	2.67	5.66%	[0.00]	mg/L
K 766.490†	534.4	40.78	7.63%	[0.00]	mg/L
Mg 279.077†	60.3	3.88	6.43%	[0.00]	mg/L
Mn 257.610†	151.3	6.06	4.01%	[0.00]	mg/L
Mo 202.031†	59.7	3.90	6.53%	[0.00]	mg/L
Na 589.592†	-369.8	53.46	14.45%	[0.00]	mg/L
Na 330.237†	-153.3	4.67	3.05%	[0.00]	mg/L
Ni 231.604†	-11.4	3.26	28.59%	[0.00]	mg/L
Pb 220.353†	43.7	8.31	19.04%	[0.00]	mg/L
Sb 206.836†	74.7	4.50	6.03%	[0.00]	mg/L
Se 196.026†	-29.5	4.20	14.25%	[0.00]	mg/L
Si 288.158†	85.1	10.76	12.65%	[0.00]	mg/L
Sn 189.927†	-7.6	1.26	16.60%	[0.00]	mg/L
Sr 421.552†	103.8	27.08	26.08%	[0.00]	mg/L
Ti 334.903†	-37.2	8.16	21.91%	[0.00]	mg/L
Tl 190.801†	-39.7	1.59	4.00%	[0.00]	mg/L
V 292.402†	76.1	5.31	6.98%	[0.00]	mg/L
Zn 206.200†	11.6	1.22	10.50%	[0.00]	mg/L

=====
Sequence No.: 2
Sample ID: STD2

Autosampler Location: 2
 Date Collected: 4/7/2014 9:41:42 AM
 Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected

Calib

YE66:00076

Analyte	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2963071.2	8183.31	0.28%	101.0 %
ScR 361.383	250151.8	1190.23	0.48%	100.5 %
Ba 233.527†	39230.4	200.57	0.51%	[10] mg/L
Cd 228.802†	318637.8	1251.78	0.39%	[10] mg/L
Co 228.616†	406875.7	1950.84	0.48%	[10] mg/L
Cr 267.716†	50813.1	66.73	0.13%	[10] mg/L
Cu 324.752†	2857157.0	3905.01	0.14%	[10] mg/L
Mn 257.610†	324448.0	1112.08	0.34%	[10] mg/L
V 292.402†	1500914.9	8066.72	0.54%	[10] mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/7/2014 9:43:29 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected			Calib
	Intensity	Std.Dev.	RSD	
ScA 357.253	2941739.2	7581.03	0.26%	100.2 %
ScR 361.383	252297.6	576.67	0.23%	101.3 %
Ag 328.068†	200392.2	419.21	0.21%	[1.0] mg/L
As 188.979†	16755.5	95.12	0.57%	[10] mg/L
B 249.677†	56952.6	141.20	0.25%	[10] mg/L
Be 313.042†	2513172.4	17879.55	0.71%	[5.0] mg/L
Na 589.592†	664194.7	4589.50	0.69%	[50] mg/L
Ni 231.604†	35077.3	83.05	0.24%	[10] mg/L
Pb 220.353†	84002.5	353.08	0.42%	[10] mg/L
Se 196.026†	13526.5	39.32	0.29%	[10] mg/L
Sr 421.552†	4077211.2	28782.81	0.71%	[5] mg/L
Tl 190.801†	20724.8	63.59	0.31%	[10] mg/L
Zn 206.200†	35693.8	108.16	0.30%	[10] mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/7/2014 9:45:46 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected			Calib
	Intensity	Std.Dev.	RSD	
ScA 357.253	2974817.7	5516.38	0.19%	101.4 %
ScR 361.383	251698.8	2737.71	1.09%	101.1 %
Mo 202.031†	180670.8	724.24	0.40%	[10] mg/L
Sb 206.836†	30643.3	59.32	0.19%	[10] mg/L
Si 288.158†	17845.8	438.55	2.46%	[10] mg/L
Sn 189.927†	33419.9	77.57	0.23%	[10] mg/L
Ti 334.903†	168292.9	2071.27	1.23%	[10] mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/7/2014 9:48:00 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2792021.0	12032.14	0.43%	95.13	%
ScR 361.383	246502.3	1211.28	0.49%	99.00	%
Al 308.215†	38931.0	167.46	0.43%	[30]	mg/L
Ca 317.933†	301223.8	2571.80	0.85%	[30]	mg/L
Fe 273.955†	122973.9	377.39	0.31%	[100]	mg/L
K 766.490†	229517.4	946.51	0.41%	[100]	mg/L
Mg 279.077†	34371.5	123.07	0.36%	[30]	mg/L
Na 330.237†	2192.5	9.02	0.41%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	200400	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1298	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1676	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5695	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3923	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	502600	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	10040	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	31860	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40690	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5081	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	285700	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1230	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2295	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1146	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	32440	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18070	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13280	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	21.92	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3508	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8400	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3064	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1353	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1785	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3342	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	815400	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16830	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2072	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	150100	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3569	0.00000	1.000000	

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Analysis Begun

Start Time: 4/7/2014 9:50:52 AM

Plasma On Time: 4/7/2014 8:23:30 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 7

Sample ID: CV

Date Collected: 4/7/2014 9:50:53 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2922917.1	99.59	%	0.388			0.39%
ScR 361.383	243096.0	97.63	%	0.169			0.17%
Ag 328.068†	212099.6	1.059	mg/L	0.0080	1.059 mg/L	0.0080	0.76%
Al 308.215†	2632.5	1.996	mg/L	0.0100	1.996 mg/L	0.0100	0.50%
As 188.979†	3362.5	2.039	mg/L	0.0149	2.039 mg/L	0.0149	0.73%
B 249.677†	5797.9	1.017	mg/L	0.0008	1.017 mg/L	0.0008	0.08%
Ba 233.527†	3992.9	1.017	mg/L	0.0034	1.017 mg/L	0.0034	0.34%
Be 313.042†	498777.7	0.9921	mg/L	0.00837	0.9921 mg/L	0.00837	0.84%
Ca 317.933†	20748.6	2.066	mg/L	0.0038	2.066 mg/L	0.0038	0.18%
Cd 228.802†	33367.7	1.038	mg/L	0.0054	1.038 mg/L	0.0054	0.52%
Co 228.616†	40258.8	0.9876	mg/L	0.00597	0.9876 mg/L	0.00597	0.60%
Cr 267.716†	5237.1	1.030	mg/L	0.0027	1.030 mg/L	0.0027	0.26%
Cu 324.752†	283288.7	0.9912	mg/L	0.00702	0.9912 mg/L	0.00702	0.71%
Fe 273.955†	2522.1	2.044	mg/L	0.0017	2.044 mg/L	0.0017	0.08%
K 766.490†	45999.4	20.04	mg/L	0.046	20.04 mg/L	0.046	0.23%
Mg 279.077†	2261.5	1.980	mg/L	0.0140	1.980 mg/L	0.0140	0.71%
Mn 257.610†	31924.4	0.9844	mg/L	0.00743	0.9844 mg/L	0.00743	0.75%
Mo 202.031†	17743.3	0.9820	mg/L	0.00873	0.9820 mg/L	0.00873	0.89%
Na 589.592†	688258.6	51.81	mg/L	0.114	51.81 mg/L	0.114	0.22%
Na 330.237†	1119.2	51.01	mg/L	0.131	51.01 mg/L	0.131	0.26%
Ni 231.604†	3562.3	1.016	mg/L	0.0042	1.016 mg/L	0.0042	0.42%
Pb 220.353†	16906.3	2.014	mg/L	0.0182	2.014 mg/L	0.0182	0.90%
Sb 206.836†	6479.8	2.113	mg/L	0.0137	2.113 mg/L	0.0137	0.65%
Se 196.026†	2734.5	2.020	mg/L	0.0082	2.020 mg/L	0.0082	0.41%
Si 288.158†	3533.7	1.985	mg/L	0.0290	1.985 mg/L	0.0290	1.46%
Sn 189.927†	3371.4	1.010	mg/L	0.0044	1.010 mg/L	0.0044	0.44%
Sr 421.552†	835410.4	1.024	mg/L	0.0029	1.024 mg/L	0.0029	0.28%
Ti 334.903†	16952.9	1.006	mg/L	0.0030	1.006 mg/L	0.0030	0.30%
Tl 190.801†	4132.2	1.986	mg/L	0.0170	1.986 mg/L	0.0170	0.86%
V 292.402†	152242.7	1.019	mg/L	0.0089	1.019 mg/L	0.0089	0.88%
Zn 206.200†	3610.7	1.012	mg/L	0.0038	1.012 mg/L	0.0038	0.38%

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Sequence No.: 2

Autosampler Location: 1

Sample ID: CB

Date Collected: 4/7/2014 9:54:57 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2959620.6	100.8	%	0.68				0.67%
ScR 361.383	250322.8	100.5	%	0.94				0.93%
Ag 328.068†	-5.5	-0.00003	mg/L	0.000172	-0.00003	mg/L	0.000172	633.30%
Al 308.215†	3.4	0.00258	mg/L	0.002637	0.00258	mg/L	0.002637	102.04%
As 188.979†	0.2	0.00016	mg/L	0.002204	0.00016	mg/L	0.002204	>999.9%
B 249.677†	11.1	0.00194	mg/L	0.000730	0.00194	mg/L	0.000730	37.53%
Ba 233.527†	0.1	0.00002	mg/L	0.001379	0.00002	mg/L	0.001379	>999.9%
Be 313.042†	14.6	0.00003	mg/L	0.000024	0.00003	mg/L	0.000024	84.31%
Ca 317.933†	-13.4	-0.00134	mg/L	0.001799	-0.00134	mg/L	0.001799	134.64%
Cd 228.802†	-3.0	-0.00010	mg/L	0.000132	-0.00010	mg/L	0.000132	138.88%
Co 228.616†	-1.5	-0.00004	mg/L	0.000036	-0.00004	mg/L	0.000036	97.78%
Cr 267.716†	-3.6	-0.00070	mg/L	0.000434	-0.00070	mg/L	0.000434	61.72%
Cu 324.752†	-98.7	-0.00035	mg/L	0.000186	-0.00035	mg/L	0.000186	53.72%
Fe 273.955†	2.9	0.00235	mg/L	0.000658	0.00235	mg/L	0.000658	28.00%
K 766.490†	12.9	0.00564	mg/L	0.010426	0.00564	mg/L	0.010426	184.88%
Mg 279.077†	-7.5	-0.00657	mg/L	0.004102	-0.00657	mg/L	0.004102	62.42%
Mn 257.610†	-0.2	-0.00001	mg/L	0.000133	-0.00001	mg/L	0.000133	>999.9%
Mo 202.031†	18.3	0.00101	mg/L	0.000442	0.00101	mg/L	0.000442	43.65%
Na 589.592†	90.0	0.00677	mg/L	0.000588	0.00677	mg/L	0.000588	8.68%
Na 330.237†	-1.6	-0.07065	mg/L	0.275633	-0.07065	mg/L	0.275633	390.16%
Ni 231.604†	-2.7	-0.00076	mg/L	0.001111	-0.00076	mg/L	0.001111	145.39%
Pb 220.353†	1.5	0.00017	mg/L	0.000442	0.00017	mg/L	0.000442	253.19%
Sb 206.836†	26.8	0.00877	mg/L	0.001346	0.00877	mg/L	0.001346	15.35%
Se 196.026†	-1.5	-0.00112	mg/L	0.002753	-0.00112	mg/L	0.002753	246.88%
Si 288.158†	-15.6	-0.00876	mg/L	0.000954	-0.00876	mg/L	0.000954	10.90%
Sn 189.927†	3.5	0.00106	mg/L	0.000487	0.00106	mg/L	0.000487	45.90%
Sr 421.552†	46.9	0.00006	mg/L	0.000012	0.00006	mg/L	0.000012	20.11%
Ti 334.903†	11.3	0.00067	mg/L	0.000160	0.00067	mg/L	0.000160	23.86%
Tl 190.801†	6.9	0.00332	mg/L	0.000927	0.00332	mg/L	0.000927	27.93%
V 292.402†	21.9	0.00014	mg/L	0.000089	0.00014	mg/L	0.000089	62.06%
Zn 206.200†	1.6	0.00044	mg/L	0.000290	0.00044	mg/L	0.000290	65.70%

Sequence No.: 3
 Sample ID: CRI
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 301
 Date Collected: 4/7/2014 9:58:57 AM
 Data Type: Original

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2953428.5	100.6	%	0.68				0.68%
ScR 361.383	249535.3	100.2	%	0.28				0.28%
Ag 328.068†	681.9	0.00340	mg/L	0.000102	0.00340	mg/L	0.000102	2.99%
Al 308.215†	65.2	0.05008	mg/L	0.005764	0.05008	mg/L	0.005764	11.51%
As 188.979†	81.3	0.04871	mg/L	0.001023	0.04871	mg/L	0.001023	2.10%
B 249.677†	114.5	0.02010	mg/L	0.001176	0.02010	mg/L	0.001176	5.85%
Ba 233.527†	10.8	0.00274	mg/L	0.000652	0.00274	mg/L	0.000652	23.80%
Be 313.042†	430.7	0.00086	mg/L	0.000021	0.00086	mg/L	0.000021	2.41%
Ca 317.933†	472.8	0.04709	mg/L	0.001999	0.04709	mg/L	0.001999	4.25%
Cd 228.802†	75.0	0.00211	mg/L	0.000118	0.00211	mg/L	0.000118	5.61%
Co 228.616†	124.3	0.00304	mg/L	0.000194	0.00304	mg/L	0.000194	6.39%
Cr 267.716†	20.3	0.00398	mg/L	0.000686	0.00398	mg/L	0.000686	17.22%
Cu 324.752†	478.7	0.00168	mg/L	0.000051	0.00168	mg/L	0.000051	3.03%
Fe 273.955†	63.4	0.05153	mg/L	0.001770	0.05153	mg/L	0.001770	3.43%
K 766.490†	1148.9	0.5006	mg/L	0.01632	0.5006	mg/L	0.01632	3.26%
Mg 279.077†	50.9	0.04443	mg/L	0.004075	0.04443	mg/L	0.004075	9.17%
Mn 257.610†	32.3	0.00100	mg/L	0.000088	0.00100	mg/L	0.000088	8.84%
Mo 202.031†	89.2	0.00494	mg/L	0.000269	0.00494	mg/L	0.000269	5.44%
Na 589.592†	6768.3	0.5095	mg/L	0.00151	0.5095	mg/L	0.00151	0.30%
Na 330.237†	6.4	0.2923	mg/L	0.24806	0.2923	mg/L	0.24806	84.87%
Ni 231.604†	32.7	0.00933	mg/L	0.000232	0.00933	mg/L	0.000232	2.48%
Pb 220.353†	182.1	0.02169	mg/L	0.000231	0.02169	mg/L	0.000231	1.06%

Sb 206.836†	155.4	0.05075 mg/L	0.000941	0.05075 mg/L	0.000941	1.85%
Se 196.026†	64.5	0.04771 mg/L	0.000490	0.04771 mg/L	0.000490	1.03%
Si 288.158†	91.9	0.05153 mg/L	0.002113	0.05153 mg/L	0.002113	4.10%
Sn 189.927†	37.3	0.01120 mg/L	0.000521	0.01120 mg/L	0.000521	4.66%
Sr 421.552†	834.1	0.00102 mg/L	0.000027	0.00102 mg/L	0.000027	2.63%
Ti 334.903†	94.6	0.00561 mg/L	0.000311	0.00561 mg/L	0.000311	5.55%
Tl 190.801†	104.8	0.05054 mg/L	0.001277	0.05054 mg/L	0.001277	2.53%
V 292.402†	467.3	0.00313 mg/L	0.000020	0.00313 mg/L	0.000020	0.63%
Zn 206.200†	34.3	0.00962 mg/L	0.000745	0.00962 mg/L	0.000745	7.75%

Sequence No.: 4
 Sample ID: ICSA
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 4/7/2014 10:02:58 AM
 Data Type: Original

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2860963.4	97.48 %	0.480			0.49%
ScR 361.383	244559.4	98.22 %	0.233			0.24%
Ag 328.068†	-226.8	-0.00052 mg/L	0.000446	-0.00052 mg/L	0.000446	85.28%
Al 308.215†	257393.1	198.3 mg/L	0.41	198.3 mg/L	0.41	0.21%
As 188.979†	53.1	0.02316 mg/L	0.003289	0.02316 mg/L	0.003289	14.20%
B 249.677†	-33.4	-0.00586 mg/L	0.002023	-0.00586 mg/L	0.002023	34.53%
Ba 233.527†	113.6	-0.00171 mg/L	0.002470	-0.00171 mg/L	0.002470	144.78%
Be 313.042†	17.2	0.00003 mg/L	0.000020	0.00003 mg/L	0.000020	62.45%
Ca 317.933†	1009115.3	100.5 mg/L	0.09	100.5 mg/L	0.09	0.09%
Cd 228.802†	42.4	-0.00056 mg/L	0.000141	-0.00056 mg/L	0.000141	25.13%
Co 228.616†	76.0	0.00185 mg/L	0.000140	0.00185 mg/L	0.000140	7.55%
Cr 267.716†	8.6	-0.00188 mg/L	0.000263	-0.00188 mg/L	0.000263	13.99%
Cu 324.752†	-2666.1	-0.00111 mg/L	0.000083	-0.00111 mg/L	0.000083	7.50%
Fe 273.955†	244075.9	198.5 mg/L	0.95	198.5 mg/L	0.95	0.48%
K 766.490†	20.8	0.00907 mg/L	0.013171	0.00907 mg/L	0.013171	145.18%
Mg 279.077†	116364.5	101.4 mg/L	0.12	101.4 mg/L	0.12	0.12%
Mn 257.610†	34.5	-0.00139 mg/L	0.000276	-0.00139 mg/L	0.000276	19.84%
Mo 202.031†	70.8	0.00236 mg/L	0.000249	0.00236 mg/L	0.000249	10.55%
Na 589.592†	161.7	0.01217 mg/L	0.001163	0.01217 mg/L	0.001163	9.55%
Na 330.237†	6.9	-0.2959 mg/L	0.23360	-0.2959 mg/L	0.23360	78.96%
Ni 231.604†	-1.9	-0.00051 mg/L	0.001549	-0.00051 mg/L	0.001549	303.25%
Pb 220.353†	-375.9	-0.00456 mg/L	0.000343	-0.00456 mg/L	0.000343	7.53%
Sb 206.836†	67.5	0.02184 mg/L	0.000802	0.02184 mg/L	0.000802	3.67%
Se 196.026†	39.1	0.02892 mg/L	0.002656	0.02892 mg/L	0.002656	9.19%
Si 288.158†	-33.0	-0.00641 mg/L	0.006056	-0.00641 mg/L	0.006056	94.43%
Sn 189.927†	-95.5	-0.01640 mg/L	0.001259	-0.01640 mg/L	0.001259	7.68%
Sr 421.552†	4569.5	0.00560 mg/L	0.000024	0.00560 mg/L	0.000024	0.44%
Ti 334.903†	158.1	0.00229 mg/L	0.000099	0.00229 mg/L	0.000099	4.32%
Tl 190.801†	-41.3	0.00289 mg/L	0.001923	0.00289 mg/L	0.001923	66.63%
V 292.402†	1504.0	-0.00117 mg/L	0.000316	-0.00117 mg/L	0.000316	26.92%
Zn 206.200†	5.3	0.00148 mg/L	0.000982	0.00148 mg/L	0.000982	66.44%

Sequence No.: 5
 Sample ID: ICSAB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 4/7/2014 10:07:13 AM
 Data Type: Original

Nebulizer Parameters: ICSAB

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
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ScA 357.253	2885436.3	98.32 %	0.510			0.52%
ScR 361.383	245220.4	98.49 %	0.172			0.17%
Ag 328.068†	212778.5	1.063 mg/L	0.0090	1.063 mg/L	0.0090	0.85%
Al 308.215†	256888.9	197.9 mg/L	0.41	197.9 mg/L	0.41	0.21%
As 188.979†	1746.9	1.034 mg/L	0.0097	1.034 mg/L	0.0097	0.94%
B 249.677†	-34.3	-0.00800 mg/L	0.000434	-0.00800 mg/L	0.000434	5.42%
Ba 233.527†	4035.4	0.9979 mg/L	0.00546	0.9979 mg/L	0.00546	0.55%
Be 313.042†	503617.5	1.002 mg/L	0.0027	1.002 mg/L	0.0027	0.27%
Ca 317.933†	1005792.8	100.2 mg/L	0.21	100.2 mg/L	0.21	0.21%
Cd 228.802†	32547.4	1.015 mg/L	0.0047	1.015 mg/L	0.0047	0.46%
Co 228.616†	38187.0	0.9383 mg/L	0.00684	0.9383 mg/L	0.00684	0.73%
Cr 267.716†	5139.4	1.008 mg/L	0.0076	1.008 mg/L	0.0076	0.76%
Cu 324.752†	297058.5	1.048 mg/L	0.0073	1.048 mg/L	0.0073	0.69%
Fe 273.955†	243470.3	198.0 mg/L	0.76	198.0 mg/L	0.76	0.38%
K 766.490†	38.7	0.01685 mg/L	0.014512	0.01685 mg/L	0.014512	86.10%
Mg 279.077†	111755.5	97.41 mg/L	0.148	97.41 mg/L	0.148	0.15%
Mn 257.610†	30986.2	0.9529 mg/L	0.00146	0.9529 mg/L	0.00146	0.15%
Mo 202.031†	68.2	0.00222 mg/L	0.000192	0.00222 mg/L	0.000192	8.65%
Na 589.592†	138.2	0.01040 mg/L	0.002853	0.01040 mg/L	0.002853	27.42%
Na 330.237†	20.0	0.02621 mg/L	0.436432	0.02621 mg/L	0.436432	>999.9%
Ni 231.604†	3376.2	0.9627 mg/L	0.00733	0.9627 mg/L	0.00733	0.76%
Pb 220.353†	7857.7	0.9761 mg/L	0.00574	0.9761 mg/L	0.00574	0.59%
Sb 206.836†	3182.9	1.029 mg/L	0.0025	1.029 mg/L	0.0025	0.24%
Se 196.026†	1403.7	1.037 mg/L	0.0086	1.037 mg/L	0.0086	0.83%
Si 288.158†	-60.1	-0.01758 mg/L	0.002825	-0.01758 mg/L	0.002825	16.07%
Sn 189.927†	-89.2	-0.01395 mg/L	0.001740	-0.01395 mg/L	0.001740	12.47%
Sr 421.552†	4483.0	0.00550 mg/L	0.000047	0.00550 mg/L	0.000047	0.86%
Ti 334.903†	149.4	0.00161 mg/L	0.000098	0.00161 mg/L	0.000098	6.09%
Tl 190.801†	1947.5	0.9530 mg/L	0.00602	0.9530 mg/L	0.00602	0.63%
V 292.402†	147682.0	0.9771 mg/L	0.00782	0.9771 mg/L	0.00782	0.80%
Zn 206.200†	3413.5	0.9566 mg/L	0.00693	0.9566 mg/L	0.00693	0.72%

Sequence No.: 6
Sample ID: CV
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 7
Date Collected: 4/7/2014 10:12:17 AM
Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2944077.1	100.3 %		0.92			0.92%
ScR 361.383	244398.3	98.15 %		0.715			0.73%
Ag 328.068†	209851.9	1.047 mg/L		0.0126	1.047 mg/L	0.0126	1.20%
Al 308.215†	2623.0	1.989 mg/L		0.0233	1.989 mg/L	0.0233	1.17%
As 188.979†	3354.0	2.034 mg/L		0.0154	2.034 mg/L	0.0154	0.76%
B 249.677†	5763.5	1.011 mg/L		0.0083	1.011 mg/L	0.0083	0.82%
Ba 233.527†	3997.0	1.018 mg/L		0.0100	1.018 mg/L	0.0100	0.99%
Be 313.042†	494822.5	0.9842 mg/L		0.00572	0.9842 mg/L	0.00572	0.58%
Ca 317.933†	20681.7	2.060 mg/L		0.0153	2.060 mg/L	0.0153	0.74%
Cd 228.802†	32992.3	1.026 mg/L		0.0111	1.026 mg/L	0.0111	1.08%
Co 228.616†	40157.2	0.9851 mg/L		0.01268	0.9851 mg/L	0.01268	1.29%
Cr 267.716†	5229.7	1.029 mg/L		0.0053	1.029 mg/L	0.0053	0.52%
Cu 324.752†	280460.6	0.9813 mg/L		0.00128	0.9813 mg/L	0.00128	0.13%
Fe 273.955†	2510.0	2.034 mg/L		0.0136	2.034 mg/L	0.0136	0.67%
K 766.490†	45826.7	19.97 mg/L		0.094	19.97 mg/L	0.094	0.47%
Mg 279.077†	2265.3	1.983 mg/L		0.0215	1.983 mg/L	0.0215	1.08%
Mn 257.610†	31741.2	0.9787 mg/L		0.00383	0.9787 mg/L	0.00383	0.39%
Mo 202.031†	17638.2	0.9762 mg/L		0.01307	0.9762 mg/L	0.01307	1.34%
Na 589.592†	685676.7	51.62 mg/L		0.179	51.62 mg/L	0.179	0.35%
Na 330.237†	1108.4	50.52 mg/L		0.350	50.52 mg/L	0.350	0.69%
Ni 231.604†	3567.6	1.017 mg/L		0.0055	1.017 mg/L	0.0055	0.54%
Pb 220.353†	16779.6	1.999 mg/L		0.0208	1.999 mg/L	0.0208	1.04%
Sb 206.836†	6483.3	2.114 mg/L		0.0213	2.114 mg/L	0.0213	1.01%
Se 196.026†	2728.8	2.016 mg/L		0.0131	2.016 mg/L	0.0131	0.65%
Si 288.158†	3507.0	1.970 mg/L		0.0439	1.970 mg/L	0.0439	2.23%

Sn 189.927†	3362.6	1.008 mg/L	0.0059	1.008 mg/L	0.0059	0.59%
Sr 421.552†	831223.5	1.019 mg/L	0.0033	1.019 mg/L	0.0033	0.32%
Ti 334.903†	16804.4	0.9972 mg/L	0.00246	0.9972 mg/L	0.00246	0.25%
Tl 190.801†	4126.5	1.983 mg/L	0.0212	1.983 mg/L	0.0212	1.07%
V 292.402†	150835.0	1.009 mg/L	0.0129	1.009 mg/L	0.0129	1.28%
Zn 206.200†	3602.3	1.010 mg/L	0.0069	1.010 mg/L	0.0069	0.68%

Sequence No.: 7

Sample ID: CB

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 1

Date Collected: 4/7/2014 10:16:22 AM

Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2978530.7	101.5	%	0.73			0.72%
ScR 361.383	252791.5	101.5	%	0.73			0.72%
Ag 328.068†	41.8	0.00021	mg/L	0.000258	0.00021 mg/L	0.000258	123.84%
Al 308.215†	8.4	0.00646	mg/L	0.003895	0.00646 mg/L	0.003895	60.28%
As 188.979†	-2.0	-0.00114	mg/L	0.000765	-0.00114 mg/L	0.000765	66.87%
B 249.677†	6.9	0.00121	mg/L	0.000657	0.00121 mg/L	0.000657	54.38%
Ba 233.527†	-0.7	-0.00018	mg/L	0.000177	-0.00018 mg/L	0.000177	97.42%
Be 313.042†	0.0	0.00000	mg/L	0.000010	0.00000 mg/L	0.000010	>999.9%
Ca 317.933†	6.6	0.00065	mg/L	0.001033	0.00065 mg/L	0.001033	157.80%
Cd 228.802†	-3.4	-0.00010	mg/L	0.000128	-0.00010 mg/L	0.000128	127.54%
Co 228.616†	-0.2	-0.00001	mg/L	0.000086	-0.00001 mg/L	0.000086	>999.9%
Cr 267.716†	-2.4	-0.00047	mg/L	0.000059	-0.00047 mg/L	0.000059	12.76%
Cu 324.752†	-72.8	-0.00026	mg/L	0.000217	-0.00026 mg/L	0.000217	85.11%
Fe 273.955†	3.2	0.00258	mg/L	0.000981	0.00258 mg/L	0.000981	38.09%
K 766.490†	17.6	0.00767	mg/L	0.013987	0.00767 mg/L	0.013987	182.36%
Mg 279.077†	-5.4	-0.00474	mg/L	0.004315	-0.00474 mg/L	0.004315	91.05%
Mn 257.610†	-0.8	-0.00002	mg/L	0.000082	-0.00002 mg/L	0.000082	353.39%
Mo 202.031†	13.1	0.00073	mg/L	0.000388	0.00073 mg/L	0.000388	53.47%
Na 589.592†	77.6	0.00584	mg/L	0.001742	0.00584 mg/L	0.001742	29.82%
Na 330.237†	0.4	0.01944	mg/L	0.075981	0.01944 mg/L	0.075981	390.78%
Ni 231.604†	-0.7	-0.00019	mg/L	0.000440	-0.00019 mg/L	0.000440	228.85%
Pb 220.353†	8.0	0.00095	mg/L	0.000528	0.00095 mg/L	0.000528	55.34%
Sb 206.836†	31.2	0.01021	mg/L	0.001422	0.01021 mg/L	0.001422	13.93%
Se 196.026†	-0.0	-0.00002	mg/L	0.002340	-0.00002 mg/L	0.002340	>999.9%
Si 288.158†	-13.2	-0.00737	mg/L	0.002910	-0.00737 mg/L	0.002910	39.46%
Sn 189.927†	3.4	0.00103	mg/L	0.000278	0.00103 mg/L	0.000278	26.91%
Sr 421.552†	46.9	0.00006	mg/L	0.000030	0.00006 mg/L	0.000030	52.19%
Ti 334.903†	14.4	0.00086	mg/L	0.000285	0.00086 mg/L	0.000285	33.28%
Tl 190.801†	1.5	0.00072	mg/L	0.002702	0.00072 mg/L	0.002702	375.24%
V 292.402†	16.9	0.00011	mg/L	0.000142	0.00011 mg/L	0.000142	128.90%
Zn 206.200†	-0.4	-0.00012	mg/L	0.000043	-0.00012 mg/L	0.000043	36.73%

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Analysis Begun

Start Time: 4/7/2014 10:22:56 AM

Plasma On Time: 4/7/2014 8:23:30 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: CV2

Date Collected: 4/7/2014 10:22:57 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2954259.4	100.7 %	0.39			0.39%
ScR 361.383	245143.9	98.45 %	0.686			0.70%
Ag 328.068†	208214.3	1.039 mg/L	0.0034	1.039 mg/L	0.0034	0.33%
Al 308.215†	2651.3	2.011 mg/L	0.0189	2.011 mg/L	0.0189	0.94%
As 188.979†	3328.7	2.019 mg/L	0.0090	2.019 mg/L	0.0090	0.44%
B 249.677†	5845.3	1.025 mg/L	0.0083	1.025 mg/L	0.0083	0.81%
Ba 233.527†	4035.1	1.028 mg/L	0.0106	1.028 mg/L	0.0106	1.03%
Be 313.042†	502088.8	0.9987 mg/L	0.00402	0.9987 mg/L	0.00402	0.40%
Ca 317.933†	20998.2	2.091 mg/L	0.0205	2.091 mg/L	0.0205	0.98%
Cd 228.802†	33037.6	1.027 mg/L	0.0022	1.027 mg/L	0.0022	0.21%
Co 228.616†	40147.9	0.9848 mg/L	0.00259	0.9848 mg/L	0.00259	0.26%
Cr 267.716†	5312.4	1.045 mg/L	0.0075	1.045 mg/L	0.0075	0.72%
Cu 324.752†	290827.2	1.018 mg/L	0.0036	1.018 mg/L	0.0036	0.36%
Fe 273.955†	2554.6	2.071 mg/L	0.0189	2.071 mg/L	0.0189	0.91%
K 766.490†	45917.1	20.01 mg/L	0.114	20.01 mg/L	0.114	0.57%
Mg 279.077†	2291.3	2.006 mg/L	0.0222	2.006 mg/L	0.0222	1.11%
Mn 257.610†	32177.3	0.9922 mg/L	0.00802	0.9922 mg/L	0.00802	0.81%
Mo 202.031†	18017.8	0.9972 mg/L	0.00491	0.9972 mg/L	0.00491	0.49%
Na 589.592†	687326.0	51.74 mg/L	0.103	51.74 mg/L	0.103	0.20%
Na 330.237†	1125.0	51.27 mg/L	0.382	51.27 mg/L	0.382	0.75%
Ni 231.604†	3611.5	1.030 mg/L	0.0078	1.030 mg/L	0.0078	0.76%
Pb 220.353†	17215.8	2.051 mg/L	0.0093	2.051 mg/L	0.0093	0.45%
Sb 206.836†	6380.0	2.080 mg/L	0.0105	2.080 mg/L	0.0105	0.51%
Se 196.026†	2720.5	2.010 mg/L	0.0076	2.010 mg/L	0.0076	0.38%
Si 288.158†	3546.9	1.992 mg/L	0.0477	1.992 mg/L	0.0477	2.40%
Sn 189.927†	3340.1	1.001 mg/L	0.0029	1.001 mg/L	0.0029	0.29%
Sr 421.552†	836354.5	1.026 mg/L	0.0036	1.026 mg/L	0.0036	0.35%
Ti 334.903†	17008.0	1.009 mg/L	0.0040	1.009 mg/L	0.0040	0.40%
Tl 190.801†	4111.1	1.976 mg/L	0.0114	1.976 mg/L	0.0114	0.58%
V 292.402†	150214.2	1.005 mg/L	0.0027	1.005 mg/L	0.0027	0.27%
Zn 206.200†	3671.0	1.029 mg/L	0.0091	1.029 mg/L	0.0091	0.89%

Sequence No.: 2
 Sample ID: CB **L**
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 10:27:01 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2971885.0	101.3	%	0.22				0.22%
ScR 361.383	250441.9	100.6	%	1.01				1.01%
Ag 328.068†	-13.9	-0.00007	mg/L	0.000183	-0.00007	mg/L	0.000183	262.76%
Al 308.215†	-2.4	-0.00187	mg/L	0.004592	-0.00187	mg/L	0.004592	244.94%
As 188.979†	0.1	0.00008	mg/L	0.001550	0.00008	mg/L	0.001550	>999.9%
B 249.677†	11.1	0.00195	mg/L	0.001257	0.00195	mg/L	0.001257	64.62%
Ba 233.527†	2.8	0.00072	mg/L	0.000517	0.00072	mg/L	0.000517	72.02%
Be 313.042†	-40.5	-0.00008	mg/L	0.000020	-0.00008	mg/L	0.000020	24.45%
Ca 317.933†	5.1	0.00051	mg/L	0.001258	0.00051	mg/L	0.001258	248.93%
Cd 228.802†	-3.2	-0.00010	mg/L	0.000011	-0.00010	mg/L	0.000011	11.27%
Co 228.616†	2.0	0.00005	mg/L	0.000059	0.00005	mg/L	0.000059	119.33%
Cr 267.716†	-9.1	-0.00178	mg/L	0.000743	-0.00178	mg/L	0.000743	41.71%
Cu 324.752†	-42.7	-0.00015	mg/L	0.000152	-0.00015	mg/L	0.000152	101.70%
Fe 273.955†	3.3	0.00270	mg/L	0.002071	0.00270	mg/L	0.002071	76.76%
K 766.490†	38.9	0.01695	mg/L	0.013183	0.01695	mg/L	0.013183	77.77%
Mg 279.077†	-2.7	-0.00238	mg/L	0.009209	-0.00238	mg/L	0.009209	386.71%
Mn 257.610†	4.2	0.00013	mg/L	0.000134	0.00013	mg/L	0.000134	103.60%
Mo 202.031†	13.0	0.00072	mg/L	0.000432	0.00072	mg/L	0.000432	59.91%
Na 589.592†	51.2	0.00385	mg/L	0.001560	0.00385	mg/L	0.001560	40.51%
Na 330.237†	6.4	0.2924	mg/L	0.10589	0.2924	mg/L	0.10589	36.22%
Ni 231.604†	-4.9	-0.00140	mg/L	0.001514	-0.00140	mg/L	0.001514	108.51%
Pb 220.353†	5.2	0.00061	mg/L	0.000631	0.00061	mg/L	0.000631	102.77%
Sb 206.836†	31.3	0.01025	mg/L	0.001973	0.01025	mg/L	0.001973	19.25%
Se 196.026†	2.9	0.00216	mg/L	0.003958	0.00216	mg/L	0.003958	183.26%
Si 288.158†	-13.3	-0.00747	mg/L	0.001875	-0.00747	mg/L	0.001875	25.09%
Sn 189.927†	7.4	0.00222	mg/L	0.000602	0.00222	mg/L	0.000602	27.10%
Sr 421.552†	59.5	0.00007	mg/L	0.000016	0.00007	mg/L	0.000016	21.80%
Ti 334.903†	6.1	0.00036	mg/L	0.000411	0.00036	mg/L	0.000411	113.30%
Tl 190.801†	7.0	0.00336	mg/L	0.001508	0.00336	mg/L	0.001508	44.91%
V 292.402†	19.3	0.00012	mg/L	0.000181	0.00012	mg/L	0.000181	149.69%
Zn 206.200†	0.5	0.00014	mg/L	0.000839	0.00014	mg/L	0.000839	579.13%

Sequence No.: 3

Sample ID: YE51 MB2 SPN

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 304

Date Collected: 4/7/2014 10:31:01 AM

Data Type: Original

Nebulizer Parameters: YE51 MB2 SPN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE51 MB2 SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2937305.7	100.1	%	0.12				0.12%
ScR 361.383	250892.5	100.8	%	0.05				0.05%
Ag 328.068†	21.6	0.00011	mg/L	0.000117	0.00011	mg/L	0.000117	107.85%
Al 308.215†	12.6	0.00971	mg/L	0.003229	0.00971	mg/L	0.003229	33.24%
As 188.979†	-3.0	-0.00178	mg/L	0.001499	-0.00178	mg/L	0.001499	84.17%
B 249.677†	67.9	0.01192	mg/L	0.000383	0.01192	mg/L	0.000383	3.21%
Ba 233.527†	4.0	0.00102	mg/L	0.000061	0.00102	mg/L	0.000061	6.05%
Be 313.042†	-41.3	-0.00008	mg/L	0.000020	-0.00008	mg/L	0.000020	23.82%
Ca 317.933†	1484.7	0.1479	mg/L	0.000070	0.1479	mg/L	0.000070	0.47%
Cd 228.802†	0.9	0.00004	mg/L	0.000222	0.00004	mg/L	0.000222	618.96%
Co 228.616†	-4.4	-0.00011	mg/L	0.000224	-0.00011	mg/L	0.000224	206.79%
Cr 267.716†	-3.5	-0.00070	mg/L	0.000411	-0.00070	mg/L	0.000411	58.65%
Cu 324.752†	-17.9	-0.00006	mg/L	0.000120	-0.00006	mg/L	0.000120	191.09%
Fe 273.955†	4.7	0.00382	mg/L	0.001017	0.00382	mg/L	0.001017	26.61%
K 766.490†	59.7	0.02600	mg/L	0.002596	0.02600	mg/L	0.002596	9.99%
Mg 279.077†	21.5	0.01878	mg/L	0.004801	0.01878	mg/L	0.004801	25.56%
Mn 257.610†	1.9	0.00006	mg/L	0.000094	0.00006	mg/L	0.000094	163.87%
Mo 202.031†	-4.6	-0.00025	mg/L	0.000243	-0.00025	mg/L	0.000243	95.48%
Na 589.592†	22975.8	1.730	mg/L	0.0117	1.730	mg/L	0.0117	0.67%
Na 330.237†	41.2	1.879	mg/L	0.1164	1.879	mg/L	0.1164	6.20%
Ni 231.604†	-2.8	-0.00081	mg/L	0.000979	-0.00081	mg/L	0.000979	120.77%
Pb 220.353†	6.9	0.00082	mg/L	0.000241	0.00082	mg/L	0.000241	29.27%
Sb 206.836†	6.9	0.00228	mg/L	0.000720	0.00228	mg/L	0.000720	31.61%
Se 196.026†	-2.9	-0.00216	mg/L	0.006509	-0.00216	mg/L	0.006509	301.91%
Si 288.158†	296.9	0.1663	mg/L	0.00030	0.1663	mg/L	0.00030	0.18%
Sn 189.927†	5.0	0.00151	mg/L	0.000188	0.00151	mg/L	0.000188	12.48%
Sr 421.552†	156.9	0.00019	mg/L	0.000027	0.00019	mg/L	0.000027	14.29%
Ti 334.903†	1.5	0.00008	mg/L	0.000257	0.00008	mg/L	0.000257	313.98%
Tl 190.801†	3.8	0.00183	mg/L	0.000681	0.00183	mg/L	0.000681	37.11%
V 292.402†	5.3	0.00003	mg/L	0.000067	0.00003	mg/L	0.000067	209.62%
Zn 206.200†	5.0	0.00144	mg/L	0.000635	0.00144	mg/L	0.000635	44.07%

Sequence No.: 4
 Sample ID: YE52 MB2 SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 305
 Date Collected: 4/7/2014 10:35:02 AM
 Data Type: Original

Nebulizer Parameters: YE52 MB2 SPN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE52 MB2 SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2988264.7	101.8	%	0.66				0.65%
ScR 361.383	252573.5	101.4	%	0.69				0.68%
Ag 328.068†	18.0	0.00009	mg/L	0.000095	0.00009	mg/L	0.000095	105.11%
Al 308.215†	16.1	0.01241	mg/L	0.003419	0.01241	mg/L	0.003419	27.54%
As 188.979†	1.9	0.00115	mg/L	0.002502	0.00115	mg/L	0.002502	218.06%
B 249.677†	70.0	0.01229	mg/L	0.001153	0.01229	mg/L	0.001153	9.38%
Ba 233.527†	0.7	0.00019	mg/L	0.000253	0.00019	mg/L	0.000253	136.63%
Be 313.042†	-55.2	-0.00011	mg/L	0.000034	-0.00011	mg/L	0.000034	30.65%
Ca 317.933†	1468.7	0.1463	mg/L	0.00223	0.1463	mg/L	0.00223	1.52%
Cd 228.802†	-4.9	-0.00016	mg/L	0.000145	-0.00016	mg/L	0.000145	91.23%
Co 228.616†	0.5	0.00001	mg/L	0.000059	0.00001	mg/L	0.000059	540.99%
Cr 267.716†	-2.3	-0.00046	mg/L	0.000538	-0.00046	mg/L	0.000538	116.28%
Cu 324.752†	-68.7	-0.00024	mg/L	0.000203	-0.00024	mg/L	0.000203	84.32%
Fe 273.955†	4.7	0.00383	mg/L	0.001964	0.00383	mg/L	0.001964	51.27%
K 766.490†	99.0	0.04313	mg/L	0.013755	0.04313	mg/L	0.013755	31.89%
Mg 279.077†	22.4	0.01954	mg/L	0.002303	0.01954	mg/L	0.002303	11.79%
Mn 257.610†	4.5	0.00014	mg/L	0.000144	0.00014	mg/L	0.000144	103.64%
Mo 202.031†	-3.0	-0.00017	mg/L	0.000248	-0.00017	mg/L	0.000248	144.95%
Na 589.592†	23042.6	1.735	mg/L	0.0110	1.735	mg/L	0.0110	0.64%
Na 330.237†	47.2	2.152	mg/L	0.1663	2.152	mg/L	0.1663	7.73%
Ni 231.604†	-0.5	-0.00015	mg/L	0.000124	-0.00015	mg/L	0.000124	84.39%
Pb 220.353†	1.5	0.00018	mg/L	0.000454	0.00018	mg/L	0.000454	254.06%
Sb 206.836†	0.2	0.00008	mg/L	0.001347	0.00008	mg/L	0.001347	>999.9%
Se 196.026†	-6.3	-0.00465	mg/L	0.004155	-0.00465	mg/L	0.004155	89.28%
Si 288.158†	290.2	0.1626	mg/L	0.00427	0.1626	mg/L	0.00427	2.63%
Sn 189.927†	1.7	0.00051	mg/L	0.000472	0.00051	mg/L	0.000472	91.75%
Sr 421.552†	141.9	0.00017	mg/L	0.000024	0.00017	mg/L	0.000024	13.54%
Ti 334.903†	6.8	0.00039	mg/L	0.000563	0.00039	mg/L	0.000563	143.38%
Tl 190.801†	3.5	0.00170	mg/L	0.000527	0.00170	mg/L	0.000527	31.00%
V 292.402†	17.4	0.00011	mg/L	0.000252	0.00011	mg/L	0.000252	221.23%
Zn 206.200†	2.4	0.00071	mg/L	0.000533	0.00071	mg/L	0.000533	75.28%

Sequence No.: 5
 Sample ID: YE58 C DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 306
 Date Collected: 4/7/2014 10:39:01 AM
 Data Type: Original

 Nebulizer Parameters: YE58 C DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

 Mean Data: YE58 C DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2963645.8	101.0 %		0.63			0.63%
ScR 361.383	255328.3	102.5 %		1.47			1.43%
Ag 328.068†	-50.4	0.00012 mg/L		0.000101	0.00012 mg/L	0.000101	86.60%
Al 308.215†	22.5	0.01723 mg/L		0.004732	0.01723 mg/L	0.004732	27.46%
As 188.979†	44.0	0.02104 mg/L		0.003317	0.02104 mg/L	0.003317	15.77%
B 249.677†	133.6	0.02345 mg/L		0.000066	0.02345 mg/L	0.000066	0.28%
Ba 233.527†	24.6	0.00626 mg/L		0.000492	0.00626 mg/L	0.000492	7.85%
Be 313.042†	-23.0	-0.00005 mg/L		0.000003	-0.00005 mg/L	0.000003	6.32%
Ca 317.933†	611044.2	60.86 mg/L		0.534	60.86 mg/L	0.534	0.88%
Cd 228.802†	-13.2	-0.00055 mg/L		0.000063	-0.00055 mg/L	0.000063	11.41%
Co 228.616†	28.2	0.00068 mg/L		0.000132	0.00068 mg/L	0.000132	19.34%
Cr 267.716†	98.3	0.01608 mg/L		0.000999	0.01608 mg/L	0.000999	6.21%
Cu 324.752†	79.8	-0.00009 mg/L		0.000060	-0.00009 mg/L	0.000060	65.39%
Fe 273.955†	11.0	0.00895 mg/L		0.001028	0.00895 mg/L	0.001028	11.49%
K 766.490†	7322.9	3.191 mg/L		0.0105	3.191 mg/L	0.0105	0.33%
Mg 279.077†	35176.4	30.69 mg/L		0.247	30.69 mg/L	0.247	0.80%
Mn 257.610†	52.2	0.00115 mg/L		0.000213	0.00115 mg/L	0.000213	18.59%
Mo 202.031†	82.8	0.00364 mg/L		0.000057	0.00364 mg/L	0.000057	1.56%
Na 589.592†	171114.9	12.88 mg/L		0.070	12.88 mg/L	0.070	0.55%
Na 330.237†	291.4	12.92 mg/L		0.351	12.92 mg/L	0.351	2.71%
Ni 231.604†	10.1	0.00288 mg/L		0.001199	0.00288 mg/L	0.001199	41.62%
Pb 220.353†	-18.6	-0.00218 mg/L		0.001282	-0.00218 mg/L	0.001282	58.81%
Sb 206.836†	-4.3	-0.00177 mg/L		0.001271	-0.00177 mg/L	0.001271	71.89%
Se 196.026†	18.4	0.01360 mg/L		0.002240	0.01360 mg/L	0.002240	16.48%
Si 288.158†	22287.1	12.49 mg/L		0.093	12.49 mg/L	0.093	0.74%
Sn 189.927†	-56.4	-0.00953 mg/L		0.001306	-0.00953 mg/L	0.001306	13.71%
Sr 421.552†	216868.6	0.2660 mg/L		0.00189	0.2660 mg/L	0.00189	0.71%
Ti 334.903†	96.1	0.00141 mg/L		0.000293	0.00141 mg/L	0.000293	20.87%
Tl 190.801†	23.3	0.01122 mg/L		0.002944	0.01122 mg/L	0.002944	26.25%
V 292.402†	573.9	0.00390 mg/L		0.000075	0.00390 mg/L	0.000075	1.91%
Zn 206.200†	-9.9	-0.00044 mg/L		0.000477	-0.00044 mg/L	0.000477	108.90%

Sequence No.: 6
 Sample ID: YE51 Ga SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 307
 Date Collected: 4/7/2014 10:43:16 AM
 Data Type: Original

Nebulizer Parameters: YE51 Ga SPN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE51 Ga SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2957067.0	100.8	%	0.26				0.26%
ScR 361.383	252888.1	101.6	%	0.71				0.70%
Ag 328.068†	-1.1	0.00000	mg/L	0.000180	0.00000	mg/L	0.000180	>999.9%
Al 308.215†	2564.9	1.976	mg/L	0.0104	1.976	mg/L	0.0104	0.53%
As 188.979†	-0.4	0.00218	mg/L	0.000700	0.00218	mg/L	0.000700	32.03%
B 249.677†	176.9	0.03107	mg/L	0.000866	0.03107	mg/L	0.000866	2.79%
Ba 233.527†	44.5	0.01104	mg/L	0.001154	0.01104	mg/L	0.001154	10.45%
Be 313.042†	6.7	0.00001	mg/L	0.000005	0.00001	mg/L	0.000005	47.38%
Ca 317.933†	7659.7	0.7629	mg/L	0.00356	0.7629	mg/L	0.00356	0.47%
Cd 228.802†	-2.8	-0.00010	mg/L	0.000126	-0.00010	mg/L	0.000126	122.21%
Co 228.616†	19.3	0.00035	mg/L	0.000142	0.00035	mg/L	0.000142	40.89%
Cr 267.716†	1.7	0.00036	mg/L	0.001390	0.00036	mg/L	0.001390	390.57%
Cu 324.752†	1574.3	0.00558	mg/L	0.000139	0.00558	mg/L	0.000139	2.49%
Fe 273.955†	2289.0	1.861	mg/L	0.0059	1.861	mg/L	0.0059	0.32%
K 766.490†	958.5	0.4176	mg/L	0.02249	0.4176	mg/L	0.02249	5.39%
Mg 279.077†	451.0	0.3924	mg/L	0.00313	0.3924	mg/L	0.00313	0.80%
Mn 257.610†	203.3	0.00625	mg/L	0.000028	0.00625	mg/L	0.000028	0.44%
Mo 202.031†	5.7	0.00030	mg/L	0.000228	0.00030	mg/L	0.000228	75.28%
Na 589.592†	78319.2	5.896	mg/L	0.0056	5.896	mg/L	0.0056	0.10%
Na 330.237†	133.9	6.118	mg/L	0.0928	6.118	mg/L	0.0928	1.52%
Ni 231.604†	0.2	0.00007	mg/L	0.000977	0.00007	mg/L	0.000977	>999.9%
Pb 220.353†	6.1	0.00113	mg/L	0.000166	0.00113	mg/L	0.000166	14.76%
Sb 206.836†	3.2	0.00113	mg/L	0.002445	0.00113	mg/L	0.002445	216.94%
Se 196.026†	2.0	0.00150	mg/L	0.001849	0.00150	mg/L	0.001849	123.39%
Si 288.158†	7922.6	4.440	mg/L	0.1342	4.440	mg/L	0.1342	3.02%
Sn 189.927†	2.1	0.00073	mg/L	0.000529	0.00073	mg/L	0.000529	72.21%
Sr 421.552†	7620.4	0.00935	mg/L	0.000059	0.00935	mg/L	0.000059	0.63%
Ti 334.903†	1179.7	0.07004	mg/L	0.000625	0.07004	mg/L	0.000625	0.89%
Tl 190.801†	4.2	0.00221	mg/L	0.001322	0.00221	mg/L	0.001322	59.78%
V 292.402†	763.0	0.00494	mg/L	0.000087	0.00494	mg/L	0.000087	1.76%
Zn 206.200†	12.2	0.00424	mg/L	0.000220	0.00424	mg/L	0.000220	5.19%

Sequence No.: 7
 Sample ID: YE51 Ha SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 308
 Date Collected: 4/7/2014 10:47:16 AM
 Data Type: Original

Nebulizer Parameters: YE51 Ha SPN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE51 Ha SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2945123.9	100.4	%	0.24				0.24%
ScR 361.383	251686.8	101.1	%	0.58				0.57%
Ag 328.068†	48.6	0.00025	mg/L	0.000181	0.00025	mg/L	0.000181	73.36%
Al 308.215†	1633.8	1.259	mg/L	0.0108	1.259	mg/L	0.0108	0.86%
As 188.979†	-2.0	0.00033	mg/L	0.000100	0.00033	mg/L	0.000100	29.86%
B 249.677†	161.9	0.02843	mg/L	0.001247	0.02843	mg/L	0.001247	4.38%
Ba 233.527†	35.7	0.00886	mg/L	0.000632	0.00886	mg/L	0.000632	7.13%
Be 313.042†	34.5	0.00007	mg/L	0.000014	0.00007	mg/L	0.000014	21.50%
Ca 317.933†	5337.3	0.5316	mg/L	0.00062	0.5316	mg/L	0.00062	0.12%
Cd 228.802†	-3.5	-0.00012	mg/L	0.000126	-0.00012	mg/L	0.000126	106.83%
Co 228.616†	39.3	0.00089	mg/L	0.000154	0.00089	mg/L	0.000154	17.36%
Cr 267.716†	1.0	0.00022	mg/L	0.000967	0.00022	mg/L	0.000967	448.58%
Cu 324.752†	831.1	0.00297	mg/L	0.000227	0.00297	mg/L	0.000227	7.66%
Fe 273.955†	1891.3	1.538	mg/L	0.0100	1.538	mg/L	0.0100	0.65%
K 766.490†	538.5	0.2346	mg/L	0.01816	0.2346	mg/L	0.01816	7.74%
Mg 279.077†	293.7	0.2553	mg/L	0.00133	0.2553	mg/L	0.00133	0.52%
Mn 257.610†	1971.3	0.06075	mg/L	0.000557	0.06075	mg/L	0.000557	0.92%
Mo 202.031†	5.5	0.00030	mg/L	0.000301	0.00030	mg/L	0.000301	102.01%
Na 589.592†	76526.2	5.761	mg/L	0.0167	5.761	mg/L	0.0167	0.29%
Na 330.237†	127.8	5.835	mg/L	0.2189	5.835	mg/L	0.2189	3.75%
Ni 231.604†	2.1	0.00059	mg/L	0.000996	0.00059	mg/L	0.000996	167.84%
Pb 220.353†	3.2	0.00062	mg/L	0.000687	0.00062	mg/L	0.000687	111.01%
Sb 206.836†	-3.4	-0.00107	mg/L	0.001945	-0.00107	mg/L	0.001945	182.17%
Se 196.026†	0.2	0.00013	mg/L	0.000854	0.00013	mg/L	0.000854	651.26%
Si 288.158†	5316.2	2.979	mg/L	0.0656	2.979	mg/L	0.0656	2.20%
Sn 189.927†	-1.0	-0.00023	mg/L	0.000161	-0.00023	mg/L	0.000161	68.99%
Sr 421.552†	2833.7	0.00348	mg/L	0.000038	0.00348	mg/L	0.000038	1.08%
Ti 334.903†	747.6	0.04438	mg/L	0.001087	0.04438	mg/L	0.001087	2.45%
Tl 190.801†	4.6	0.00238	mg/L	0.002330	0.00238	mg/L	0.002330	98.12%
V 292.402†	878.8	0.00575	mg/L	0.000141	0.00575	mg/L	0.000141	2.45%
Zn 206.200†	15.8	0.00499	mg/L	0.000413	0.00499	mg/L	0.000413	8.28%

Sequence No.: 8
 Sample ID: YE51 Ka SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 309
 Date Collected: 4/7/2014 10:51:15 AM
 Data Type: Original

Nebulizer Parameters: YE51 Ka SPN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE51 Ka SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2951115.2	100.6	%	0.29				0.29%
ScR 361.383	253932.7	102.0	%	0.69				0.68%
Ag 328.068†	-114.9	-0.00043	mg/L	0.000159	-0.00043	mg/L	0.000159	36.92%
Al 308.215†	77010.2	59.34	mg/L	0.232	59.34	mg/L	0.232	0.39%
As 188.979†	-56.3	0.03072	mg/L	0.001393	0.03072	mg/L	0.001393	4.54%
B 249.677†	223.5	0.03922	mg/L	0.000188	0.03922	mg/L	0.000188	0.48%
Ba 233.527†	778.3	0.1915	mg/L	0.00278	0.1915	mg/L	0.00278	1.45%
Be 313.042†	458.8	0.00087	mg/L	0.000024	0.00087	mg/L	0.000024	2.74%
Ca 317.933†	193033.8	19.22	mg/L	0.094	19.22	mg/L	0.094	0.49%
Cd 228.802†	3.4	-0.00009	mg/L	0.000068	-0.00009	mg/L	0.000068	78.78%
Co 228.616†	646.2	0.01256	mg/L	0.000108	0.01256	mg/L	0.000108	0.86%
Cr 267.716†	225.5	0.04462	mg/L	0.000410	0.04462	mg/L	0.000410	0.92%
Cu 324.752†	30823.4	0.1094	mg/L	0.00015	0.1094	mg/L	0.00015	0.13%
Fe 273.955†	54542.0	44.35	mg/L	0.254	44.35	mg/L	0.254	0.57%
K 766.490†	17562.4	7.652	mg/L	0.0194	7.652	mg/L	0.0194	0.25%
Mg 279.077†	12346.4	10.75	mg/L	0.049	10.75	mg/L	0.049	0.46%
Mn 257.610†	6750.8	0.2075	mg/L	0.00100	0.2075	mg/L	0.00100	0.48%
Mo 202.031†	74.3	0.00381	mg/L	0.000315	0.00381	mg/L	0.000315	8.25%
Na 589.592†	227042.1	17.09	mg/L	0.078	17.09	mg/L	0.078	0.46%
Na 330.237†	374.2	17.41	mg/L	0.336	17.41	mg/L	0.336	1.93%
Ni 231.604†	97.9	0.02790	mg/L	0.000459	0.02790	mg/L	0.000459	1.65%
Pb 220.353†	2.6	0.01296	mg/L	0.000821	0.01296	mg/L	0.000821	6.34%
Sb 206.836†	6.8	0.00340	mg/L	0.003282	0.00340	mg/L	0.003282	96.43%
Se 196.026†	8.0	0.00583	mg/L	0.001323	0.00583	mg/L	0.001323	22.71%
Si 288.158†	15642.1	8.766	mg/L	0.0562	8.766	mg/L	0.0562	0.64%
Sn 189.927†	-27.0	-0.00539	mg/L	0.001257	-0.00539	mg/L	0.001257	23.31%
Sr 421.552†	257096.2	0.3153	mg/L	0.00129	0.3153	mg/L	0.00129	0.41%
Ti 334.903†	31129.6	1.848	mg/L	0.0080	1.848	mg/L	0.0080	0.44%
Tl 190.801†	1.5	0.00537	mg/L	0.000852	0.00537	mg/L	0.000852	15.86%
V 292.402†	15570.3	0.1004	mg/L	0.00010	0.1004	mg/L	0.00010	0.10%
Zn 206.200†	348.4	0.09925	mg/L	0.000412	0.09925	mg/L	0.000412	0.42%

Sequence No.: 9
 Sample ID: YE51 La SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 310
 Date Collected: 4/7/2014 10:55:15 AM
 Data Type: Original

Nebulizer Parameters: YE51 La SPN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE51 La SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2996831.4	102.1	%	0.14				0.14%
ScR 361.383	256019.9	102.8	%	0.31				0.30%
Ag 328.068†	-7.1	-0.00002	mg/L	0.000388	-0.00002	mg/L	0.000388	>999.9%
Al 308.215†	932.5	0.7184	mg/L	0.00288	0.7184	mg/L	0.00288	0.40%
As 188.979†	5.5	0.00376	mg/L	0.001051	0.00376	mg/L	0.001051	27.98%
B 249.677†	123.2	0.02152	mg/L	0.000594	0.02152	mg/L	0.000594	2.76%
Ba 233.527†	26.8	0.00680	mg/L	0.000517	0.00680	mg/L	0.000517	7.60%
Be 313.042†	7.6	0.00001	mg/L	0.000034	0.00001	mg/L	0.000034	260.97%
Ca 317.933†	25128.9	2.503	mg/L	0.0010	2.503	mg/L	0.0010	0.04%
Cd 228.802†	26.1	0.00087	mg/L	0.000070	0.00087	mg/L	0.000070	8.05%
Co 228.616†	2282.9	0.05606	mg/L	0.000102	0.05606	mg/L	0.000102	0.18%
Cr 267.716†	7.6	0.00140	mg/L	0.001065	0.00140	mg/L	0.001065	76.25%
Cu 324.752†	538.1	0.00189	mg/L	0.000044	0.00189	mg/L	0.000044	2.34%
Fe 273.955†	300.6	0.2444	mg/L	0.00096	0.2444	mg/L	0.00096	0.39%
K 766.490†	1059.3	0.4615	mg/L	0.01591	0.4615	mg/L	0.01591	3.45%
Mg 279.077†	946.7	0.8259	mg/L	0.00929	0.8259	mg/L	0.00929	1.12%
Mn 257.610†	691.0	0.02128	mg/L	0.000109	0.02128	mg/L	0.000109	0.51%
Mo 202.031†	6.9	0.00035	mg/L	0.000183	0.00035	mg/L	0.000183	52.94%
Na 589.592†	64868.9	4.883	mg/L	0.0060	4.883	mg/L	0.0060	0.12%
Na 330.237†	110.0	4.955	mg/L	0.1323	4.955	mg/L	0.1323	2.67%
Ni 231.604†	268.2	0.07644	mg/L	0.000520	0.07644	mg/L	0.000520	0.68%
Pb 220.353†	8.1	0.00114	mg/L	0.000417	0.00114	mg/L	0.000417	36.58%
Sb 206.836†	-1.7	-0.00052	mg/L	0.002248	-0.00052	mg/L	0.002248	429.12%
Se 196.026†	5.2	0.00378	mg/L	0.003414	0.00378	mg/L	0.003414	90.32%
Si 288.158†	4798.8	2.689	mg/L	0.0416	2.689	mg/L	0.0416	1.55%
Sn 189.927†	-3.5	-0.00073	mg/L	0.000390	-0.00073	mg/L	0.000390	53.54%
Sr 421.552†	9501.0	0.01165	mg/L	0.000017	0.01165	mg/L	0.000017	0.15%
Ti 334.903†	312.9	0.01841	mg/L	0.000782	0.01841	mg/L	0.000782	4.25%
Tl 190.801†	6.1	0.00263	mg/L	0.000865	0.00263	mg/L	0.000865	32.88%
V 292.402†	1136.1	0.00755	mg/L	0.000119	0.00755	mg/L	0.000119	1.57%
Zn 206.200†	611.0	0.1717	mg/L	0.00142	0.1717	mg/L	0.00142	0.82%

Sequence No.: 10
 Sample ID: YE49 ADUP DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 311
 Date Collected: 4/7/2014 10:59:14 AM
 Data Type: Original

Nebulizer Parameters: YE49 ADUP DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 ADUP DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3014961.3	102.7	%	0.46				0.45%
ScR 361.383	257064.9	103.2	%	1.69				1.63%
Ag 328.068†	-25.3	-0.00003	mg/L	0.000186	-0.00003	mg/L	0.000186	639.79%
Al 308.215†	32.5	0.02492	mg/L	0.003913	0.02492	mg/L	0.003913	15.70%
As 188.979†	22.6	0.01214	mg/L	0.000768	0.01214	mg/L	0.000768	6.33%
B 249.677†	237.3	0.04168	mg/L	0.001006	0.04168	mg/L	0.001006	2.41%
Ba 233.527†	27.7	0.00706	mg/L	0.000260	0.00706	mg/L	0.000260	3.69%
Be 313.042†	-27.4	-0.00005	mg/L	0.000008	-0.00005	mg/L	0.000008	14.52%
Ca 317.933†	161243.8	16.06	mg/L	0.105	16.06	mg/L	0.105	0.65%
Cd 228.802†	-11.6	-0.00043	mg/L	0.000090	-0.00043	mg/L	0.000090	20.59%
Co 228.616†	73.2	0.00180	mg/L	0.000110	0.00180	mg/L	0.000110	6.15%
Cr 267.716†	0.7	-0.00082	mg/L	0.000201	-0.00082	mg/L	0.000201	24.39%
Cu 324.752†	-72.7	-0.00036	mg/L	0.000109	-0.00036	mg/L	0.000109	30.42%
Fe 273.955†	20.5	0.01665	mg/L	0.002035	0.01665	mg/L	0.002035	12.22%
K 766.490†	3424.5	1.492	mg/L	0.0288	1.492	mg/L	0.0288	1.93%
Mg 279.077†	10467.0	9.134	mg/L	0.1117	9.134	mg/L	0.1117	1.22%
Mn 257.610†	1856.4	0.05709	mg/L	0.001049	0.05709	mg/L	0.001049	1.84%
Mo 202.031†	76.1	0.00396	mg/L	0.000186	0.00396	mg/L	0.000186	4.70%
Na 589.592†	99229.6	7.470	mg/L	0.0267	7.470	mg/L	0.0267	0.36%
Na 330.237†	165.4	7.445	mg/L	0.3808	7.445	mg/L	0.3808	5.11%
Ni 231.604†	1.6	0.00045	mg/L	0.000395	0.00045	mg/L	0.000395	88.50%
Pb 220.353†	-7.8	-0.00092	mg/L	0.000929	-0.00092	mg/L	0.000929	100.50%
Sb 206.836†	-12.4	-0.00407	mg/L	0.001695	-0.00407	mg/L	0.001695	41.60%
Se 196.026†	10.1	0.00748	mg/L	0.002530	0.00748	mg/L	0.002530	33.81%
Si 288.158†	21190.6	11.88	mg/L	0.130	11.88	mg/L	0.130	1.10%
Sn 189.927†	-19.7	-0.00395	mg/L	0.001074	-0.00395	mg/L	0.001074	27.20%
Sr 421.552†	66865.8	0.08200	mg/L	0.000299	0.08200	mg/L	0.000299	0.36%
Ti 334.903†	38.1	0.00113	mg/L	0.000151	0.00113	mg/L	0.000151	13.39%
Tl 190.801†	16.5	0.00797	mg/L	0.000999	0.00797	mg/L	0.000999	12.53%
V 292.402†	220.7	0.00148	mg/L	0.000095	0.00148	mg/L	0.000095	6.42%
Zn 206.200†	-7.0	0.00025	mg/L	0.000518	0.00025	mg/L	0.000518	208.60%

Sequence No.: 11
 Sample ID: YE49 A DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 312
 Date Collected: 4/7/2014 11:03:29 AM
 Data Type: Original

Nebulizer Parameters: YE49 A DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE49 A DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3008418.9	102.5 %	1.08			1.06%
ScR 361.383	257703.5	103.5 %	1.05			1.01%
Ag 328.068†	-10.6	0.00004 mg/L	0.000170	0.00004 mg/L	0.000170	386.48%
Al 308.215†	23.8	0.01822 mg/L	0.005193	0.01822 mg/L	0.005193	28.50%
As 188.979†	19.1	0.01002 mg/L	0.003069	0.01002 mg/L	0.003069	30.62%
B 249.677†	243.6	0.04278 mg/L	0.000184	0.04278 mg/L	0.000184	0.43%
Ba 233.527†	29.7	0.00757 mg/L	0.000853	0.00757 mg/L	0.000853	11.26%
Be 313.042†	-23.4	-0.00005 mg/L	0.000045	-0.00005 mg/L	0.000045	95.55%
Ca 317.933†	160642.0	16.00 mg/L	0.099	16.00 mg/L	0.099	0.62%
Cd 228.802†	-6.5	-0.00026 mg/L	0.000116	-0.00026 mg/L	0.000116	44.43%
Co 228.616†	76.1	0.00187 mg/L	0.000064	0.00187 mg/L	0.000064	3.43%
Cr 267.716†	-0.1	-0.00096 mg/L	0.001360	-0.00096 mg/L	0.001360	141.19%
Cu 324.752†	-51.9	-0.00029 mg/L	0.000085	-0.00029 mg/L	0.000085	29.62%
Fe 273.955†	18.6	0.01510 mg/L	0.002959	0.01510 mg/L	0.002959	19.60%
K 766.490†	3411.1	1.486 mg/L	0.0227	1.486 mg/L	0.0227	1.53%
Mg 279.077†	10377.2	9.055 mg/L	0.0990	9.055 mg/L	0.0990	1.09%
Mn 257.610†	1853.4	0.05700 mg/L	0.000715	0.05700 mg/L	0.000715	1.25%
Mo 202.031†	76.8	0.00400 mg/L	0.000399	0.00400 mg/L	0.000399	9.97%
Na 589.592†	99561.9	7.495 mg/L	0.0271	7.495 mg/L	0.0271	0.36%
Na 330.237†	167.3	7.533 mg/L	0.4866	7.533 mg/L	0.4866	6.46%
Ni 231.604†	7.6	0.00215 mg/L	0.002052	0.00215 mg/L	0.002052	95.27%
Pb 220.353†	-6.4	-0.00076 mg/L	0.000251	-0.00076 mg/L	0.000251	32.93%
Sb 206.836†	-8.8	-0.00292 mg/L	0.001336	-0.00292 mg/L	0.001336	45.80%
Se 196.026†	9.5	0.00699 mg/L	0.001413	0.00699 mg/L	0.001413	20.23%
Si 288.158†	21026.9	11.78 mg/L	0.088	11.78 mg/L	0.088	0.74%
Sr 189.927†	-19.7	-0.00395 mg/L	0.001493	-0.00395 mg/L	0.001493	37.75%
Sr 421.552†	66808.4	0.08193 mg/L	0.000375	0.08193 mg/L	0.000375	0.46%
Ti 334.903†	32.9	0.00082 mg/L	0.000424	0.00082 mg/L	0.000424	51.75%
Tl 190.801†	16.9	0.00815 mg/L	0.001552	0.00815 mg/L	0.001552	19.04%
V 292.402†	213.4	0.00143 mg/L	0.000117	0.00143 mg/L	0.000117	8.16%
Zn 206.200†	-7.9	-0.00000 mg/L	0.000611	-0.00000 mg/L	0.000611	>999.9%

Sequence No.: 12
 Sample ID: YE49 ASPK DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 313
 Date Collected: 4/7/2014 11:07:44 AM
 Data Type: Original

Nebulizer Parameters: YE49 ASPK DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE49 ASPK DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2982806.7	101.6	%	0.77				0.76%
ScR 361.383	251289.1	100.9	%	0.77				0.76%
Ag 328.068†	94174.1	0.4702	mg/L	0.01766	0.4702	mg/L	0.01766	3.76%
Al 308.215†	2748.5	2.110	mg/L	0.0131	2.110	mg/L	0.0131	0.62%
As 188.979†	3799.6	2.265	mg/L	0.0178	2.265	mg/L	0.0178	0.79%
B 249.677†	246.4	0.04216	mg/L	0.001514	0.04216	mg/L	0.001514	3.59%
Ba 233.527†	8416.8	2.145	mg/L	0.0185	2.145	mg/L	0.0185	0.86%
Be 313.042†	256320.5	0.5098	mg/L	0.00384	0.5098	mg/L	0.00384	0.75%
Ca 317.933†	269286.2	26.82	mg/L	0.195	26.82	mg/L	0.195	0.73%
Cd 228.802†	18198.2	0.5599	mg/L	0.00612	0.5599	mg/L	0.00612	1.09%
Co 228.616†	21281.4	0.5227	mg/L	0.00570	0.5227	mg/L	0.00570	1.09%
Cr 267.716†	2767.2	0.5424	mg/L	0.00329	0.5424	mg/L	0.00329	0.61%
Cu 324.752†	148761.6	0.5206	mg/L	0.00490	0.5206	mg/L	0.00490	0.94%
Fe 273.955†	2666.7	2.165	mg/L	0.0198	2.165	mg/L	0.0198	0.92%
K 766.490†	27847.5	12.13	mg/L	0.041	12.13	mg/L	0.041	0.34%
Mg 279.077†	23243.6	20.28	mg/L	0.135	20.28	mg/L	0.135	0.67%
Mn 257.610†	19292.5	0.5948	mg/L	0.00424	0.5948	mg/L	0.00424	0.71%
Mo 202.031†	94.5	0.00482	mg/L	0.000044	0.00482	mg/L	0.000044	0.92%
Na 589.592†	246442.3	18.55	mg/L	0.020	18.55	mg/L	0.020	0.11%
Na 330.237†	405.1	18.16	mg/L	0.163	18.16	mg/L	0.163	0.90%
Ni 231.604†	1872.9	0.5330	mg/L	0.00449	0.5330	mg/L	0.00449	0.84%
Pb 220.353†	18016.3	2.146	mg/L	0.0188	2.146	mg/L	0.0188	0.88%
Sb 206.836†	11.2	-0.00157	mg/L	0.000487	-0.00157	mg/L	0.000487	31.09%
Se 196.026†	3237.7	2.393	mg/L	0.0082	2.393	mg/L	0.0082	0.34%
Si 288.158†	21545.1	12.08	mg/L	0.097	12.08	mg/L	0.097	0.81%
Sn 189.927†	-36.8	-0.00769	mg/L	0.001485	-0.00769	mg/L	0.001485	19.30%
Sr 421.552†	506316.1	0.6209	mg/L	0.00116	0.6209	mg/L	0.00116	0.19%
Ti 334.903†	56.7	0.00137	mg/L	0.000385	0.00137	mg/L	0.000385	28.11%
Tl 190.801†	4433.9	2.134	mg/L	0.0188	2.134	mg/L	0.0188	0.88%
V 292.402†	79406.5	0.5313	mg/L	0.00417	0.5313	mg/L	0.00417	0.78%
Zn 206.200†	1929.3	0.5431	mg/L	0.00386	0.5431	mg/L	0.00386	0.71%

Sequence No.: 13

Sample ID: CV 3

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/7/2014 11:11:44 AM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2895361.0	98.66	%	0.330			0.33%
ScR 361.383	245891.5	98.75	%	0.184			0.19%
Ag 328.068†	220058.2	1.098	mg/L	0.0082	1.098	mg/L	0.74%
Al 308.215†	2672.7	2.026	mg/L	0.0084	2.026	mg/L	0.42%
As 188.979†	3464.4	2.100	mg/L	0.0177	2.100	mg/L	0.84%
B 249.677†	5891.9	1.034	mg/L	0.0032	1.034	mg/L	0.31%
Ba 233.527†	4037.3	1.029	mg/L	0.0028	1.029	mg/L	0.27%
Be 313.042†	508107.1	1.011	mg/L	0.0072	1.011	mg/L	0.71%
Ca 317.933†	21261.3	2.117	mg/L	0.0073	2.117	mg/L	0.34%
Cd 228.802†	34146.5	1.062	mg/L	0.0050	1.062	mg/L	0.47%
Co 228.616†	41466.5	1.017	mg/L	0.0041	1.017	mg/L	0.40%
Cr 267.716†	5371.1	1.057	mg/L	0.0026	1.057	mg/L	0.24%
Cu 324.752†	290437.6	1.016	mg/L	0.0013	1.016	mg/L	0.12%
Fe 273.955†	2596.4	2.104	mg/L	0.0118	2.104	mg/L	0.56%
K 766.490†	46441.4	20.23	mg/L	0.086	20.23	mg/L	0.42%
Mg 279.077†	2310.5	2.023	mg/L	0.0069	2.023	mg/L	0.34%
Mn 257.610†	32540.2	1.003	mg/L	0.0103	1.003	mg/L	1.03%
Mo 202.031†	18219.4	1.008	mg/L	0.0050	1.008	mg/L	0.50%
Na 589.592†	693397.6	52.20	mg/L	0.173	52.20	mg/L	0.33%
Na 330.237†	1132.1	51.59	mg/L	0.128	51.59	mg/L	0.25%
Ni 231.604†	3645.9	1.040	mg/L	0.0031	1.040	mg/L	0.30%
Pb 220.353†	17372.8	2.069	mg/L	0.0123	2.069	mg/L	0.59%
Sb 206.836†	6646.1	2.168	mg/L	0.0062	2.168	mg/L	0.28%
Se 196.026†	2828.0	2.090	mg/L	0.0073	2.090	mg/L	0.35%
Si 288.158†	3645.1	2.048	mg/L	0.0345	2.048	mg/L	1.68%
Sn 189.927†	3481.5	1.043	mg/L	0.0062	1.043	mg/L	0.59%
Sr 421.552†	847720.6	1.040	mg/L	0.0057	1.040	mg/L	0.55%
Ti 334.903†	17190.0	1.020	mg/L	0.0080	1.020	mg/L	0.78%
Tl 190.801†	4246.7	2.041	mg/L	0.0152	2.041	mg/L	0.74%
V 292.402†	155670.5	1.042	mg/L	0.0046	1.042	mg/L	0.44%
Zn 206.200†	3709.4	1.040	mg/L	0.0024	1.040	mg/L	0.24%

Sequence No.: 14
 Sample ID: CB 3
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 11:15:48 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2930683.2	99.86	%	0.137				0.14%
ScR 361.383	248835.5	99.94	%	0.361				0.36%
Ag 328.068†	416.3	0.00208	mg/L	0.000197	0.00208	mg/L	0.000197	9.50%
Al 308.215†	6.6	0.00506	mg/L	0.006150	0.00506	mg/L	0.006150	121.65%
As 188.979†	1.1	0.00067	mg/L	0.001497	0.00067	mg/L	0.001497	224.42%
B 249.677†	5.3	0.00093	mg/L	0.000984	0.00093	mg/L	0.000984	105.73%
Ba 233.527†	2.5	0.00065	mg/L	0.000642	0.00065	mg/L	0.000642	99.44%
Be 313.042†	-27.4	-0.00005	mg/L	0.000023	-0.00005	mg/L	0.000023	42.55%
Ca 317.933†	-11.5	-0.00115	mg/L	0.001373	-0.00115	mg/L	0.001373	119.34%
Cd 228.802†	-2.5	-0.00008	mg/L	0.000144	-0.00008	mg/L	0.000144	172.03%
Co 228.616†	-2.5	-0.00006	mg/L	0.000156	-0.00006	mg/L	0.000156	253.17%
Cr 267.716†	-8.5	-0.00167	mg/L	0.000387	-0.00167	mg/L	0.000387	23.19%
Cu 324.752†	60.6	0.00021	mg/L	0.000194	0.00021	mg/L	0.000194	91.37%
Fe 273.955†	4.7	0.00383	mg/L	0.001192	0.00383	mg/L	0.001192	31.08%
K 766.490†	41.7	0.01818	mg/L	0.022758	0.01818	mg/L	0.022758	125.16%
Mg 279.077†	-3.0	-0.00262	mg/L	0.002267	-0.00262	mg/L	0.002267	86.52%
Mn 257.610†	4.8	0.00015	mg/L	0.000072	0.00015	mg/L	0.000072	49.23%
Mo 202.031†	14.3	0.00079	mg/L	0.000384	0.00079	mg/L	0.000384	48.38%
Na 589.592†	112.3	0.00846	mg/L	0.000911	0.00846	mg/L	0.000911	10.77%
Na 330.237†	-4.3	-0.1964	mg/L	0.15739	-0.1964	mg/L	0.15739	80.15%
Ni 231.604†	-6.2	-0.00175	mg/L	0.000657	-0.00175	mg/L	0.000657	37.43%
Pb 220.353†	6.7	0.00080	mg/L	0.001247	0.00080	mg/L	0.001247	156.71%
Sb 206.836†	32.5	0.01063	mg/L	0.001103	0.01063	mg/L	0.001103	10.37%
Se 196.026†	1.3	0.00093	mg/L	0.001591	0.00093	mg/L	0.001591	170.92%
Si 288.158†	3.9	0.00217	mg/L	0.007278	0.00217	mg/L	0.007278	335.46%
Sn 189.927†	3.6	0.00108	mg/L	0.001170	0.00108	mg/L	0.001170	108.70%
Sr 421.552†	48.1	0.00006	mg/L	0.000050	0.00006	mg/L	0.000050	84.86%
Ti 334.903†	10.3	0.00061	mg/L	0.000425	0.00061	mg/L	0.000425	69.69%
Tl 190.801†	6.6	0.00321	mg/L	0.000516	0.00321	mg/L	0.000516	16.08%
V 292.402†	11.1	0.00007	mg/L	0.000151	0.00007	mg/L	0.000151	226.10%
Zn 206.200†	-1.8	-0.00050	mg/L	0.000638	-0.00050	mg/L	0.000638	127.27%

Sequence No.: 15
 Sample ID: YE51 MB3 LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 314
 Date Collected: 4/7/2014 11:19:48 AM
 Data Type: Original

Nebulizer Parameters: YE51 MB3 LEN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE51 MB3 LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2846934.1	97.01	%	0.438				0.45%
ScR 361.383	249265.9	100.1	%	0.60				0.60%
Ag 328.068†	20.7	0.00010	mg/L	0.000228	0.00052	mg/L	0.001139	219.33%
Al 308.215†	13.3	0.01028	mg/L	0.000917	0.05141	mg/L	0.004587	8.92%
As 188.979†	0.3	0.00020	mg/L	0.001741	0.00101	mg/L	0.008703	861.20%
B 249.677†	20.1	0.00353	mg/L	0.000129	0.01765	mg/L	0.000644	3.65%
Ba 233.527†	3.9	0.00099	mg/L	0.000221	0.00495	mg/L	0.001107	22.38%
Be 313.042†	-32.8	-0.00007	mg/L	0.000036	-0.00033	mg/L	0.000180	55.26%
Ca 317.933†	566.8	0.05645	mg/L	0.001024	0.2823	mg/L	0.00512	1.81%
Cd 228.802†	7.2	0.00022	mg/L	0.000175	0.00112	mg/L	0.000876	78.01%
Co 228.616†	-3.7	-0.00009	mg/L	0.000084	-0.00046	mg/L	0.000421	92.35%
Cr 267.716†	-4.9	-0.00097	mg/L	0.000644	-0.00485	mg/L	0.003218	66.42%
Cu 324.752†	141.0	0.00049	mg/L	0.000232	0.00247	mg/L	0.001162	47.12%
Fe 273.955†	6.8	0.00551	mg/L	0.000589	0.02754	mg/L	0.002947	10.70%
K 766.490†	54.5	0.02374	mg/L	0.020437	0.1187	mg/L	0.10218	86.09%
Mg 279.077†	5.7	0.00493	mg/L	0.002339	0.02463	mg/L	0.011694	47.48%
Mn 257.610†	5.0	0.00015	mg/L	0.000063	0.00076	mg/L	0.000313	41.04%
Mo 202.031†	0.7	0.00004	mg/L	0.000118	0.00019	mg/L	0.000589	317.63%
Na 589.592†	3914460.4	294.7	mg/L	7.35	1473	mg/L	36.73	2.49%
Na 330.237†	6288.1	286.8	mg/L	7.43	1434	mg/L	37.17	2.59%
Ni 231.604†	3.1	0.00088	mg/L	0.000491	0.00441	mg/L	0.002453	55.62%
Pb 220.353†	5.3	0.00063	mg/L	0.000712	0.00314	mg/L	0.003560	113.54%
Sb 206.836†	4.2	0.00140	mg/L	0.001697	0.00698	mg/L	0.008485	121.59%
Se 196.026†	2.2	0.00161	mg/L	0.003569	0.00806	mg/L	0.017847	221.32%
Si 288.158†	13.4	0.00754	mg/L	0.005650	0.03768	mg/L	0.028248	74.98%
Sn 189.927†	4.1	0.00123	mg/L	0.000216	0.00615	mg/L	0.001080	17.55%
Sr 421.552†	79.9	0.00010	mg/L	0.000033	0.00049	mg/L	0.000164	33.51%
Ti 334.903†	0.6	0.00003	mg/L	0.000375	0.00015	mg/L	0.001873	>999.9%
Tl 190.801†	9.4	0.00454	mg/L	0.004047	0.02272	mg/L	0.020236	89.06%
V 292.402†	18.6	0.00012	mg/L	0.000100	0.00060	mg/L	0.000501	83.88%
Zn 206.200†	0.0	0.00001	mg/L	0.000318	0.00003	mg/L	0.001591	>999.9%

Sequence No.: 16
 Sample ID: YF37 MB SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 315
 Date Collected: 4/7/2014 11:24:07 AM
 Data Type: Original

Nebulizer Parameters: YF37 MB SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YF37 MB SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3019794.9	102.9	%	0.67				0.65%
ScR 361.383	255896.7	102.8	%	0.39				0.38%
Ag 328.068†	7.3	0.00004	mg/L	0.000219	0.00007	mg/L	0.000437	602.69%
Al 308.215†	1.4	0.00110	mg/L	0.007047	0.00219	mg/L	0.014094	643.00%
As 188.979†	-0.1	-0.00002	mg/L	0.001337	-0.00004	mg/L	0.002674	>999.9%
B 249.677†	1.0	0.00017	mg/L	0.000946	0.00034	mg/L	0.001892	553.59%
Ba 233.527†	-1.2	-0.00031	mg/L	0.000218	-0.00062	mg/L	0.000437	70.65%
Be 313.042†	-4.8	-0.00001	mg/L	0.000010	-0.00002	mg/L	0.000019	101.36%
Ca 317.933†	35.9	0.00357	mg/L	0.000554	0.00715	mg/L	0.001109	15.51%
Cd 228.802†	-7.6	-0.00024	mg/L	0.000090	-0.00048	mg/L	0.000180	37.47%
Co 228.616†	2.1	0.00005	mg/L	0.000096	0.00010	mg/L	0.000192	188.08%
Cr 267.716†	-2.4	-0.00046	mg/L	0.001009	-0.00093	mg/L	0.002018	217.76%
Cu 324.752†	72.0	0.00025	mg/L	0.000268	0.00050	mg/L	0.000536	106.32%
Fe 273.955†	7.8	0.00631	mg/L	0.002918	0.01261	mg/L	0.005837	46.28%
K 766.490†	9.2	0.00400	mg/L	0.015976	0.00800	mg/L	0.031951	399.14%
Mg 279.077†	-8.1	-0.00705	mg/L	0.006985	-0.01410	mg/L	0.013969	99.11%
Mn 257.610†	-4.1	-0.00013	mg/L	0.000100	-0.00025	mg/L	0.000201	79.17%
Mo 202.031†	-6.8	-0.00038	mg/L	0.000190	-0.00076	mg/L	0.000380	50.09%
Na 589.592†	386.6	0.02911	mg/L	0.003893	0.05821	mg/L	0.007785	13.37%
Na 330.237†	1.1	0.04948	mg/L	0.120232	0.09895	mg/L	0.240464	243.01%
Ni 231.604†	-3.8	-0.00108	mg/L	0.000333	-0.00215	mg/L	0.000666	30.92%
Pb 220.353†	2.4	0.00028	mg/L	0.000538	0.00056	mg/L	0.001076	192.51%
Sb 206.836†	-3.4	-0.00109	mg/L	0.000146	-0.00217	mg/L	0.000291	13.40%
Se 196.026†	3.1	0.00233	mg/L	0.005071	0.00466	mg/L	0.010141	217.80%
Si 288.158†	-7.5	-0.00423	mg/L	0.002687	-0.00845	mg/L	0.005373	63.55%
Sn 189.927†	4.7	0.00142	mg/L	0.001537	0.00283	mg/L	0.003074	108.48%
Sr 421.552†	42.3	0.00005	mg/L	0.000032	0.00010	mg/L	0.000063	61.16%
Ti 334.903†	5.5	0.00033	mg/L	0.000759	0.00066	mg/L	0.001518	230.87%
Tl 190.801†	5.4	0.00261	mg/L	0.001408	0.00521	mg/L	0.002816	54.02%
V 292.402†	29.2	0.00019	mg/L	0.000263	0.00038	mg/L	0.000525	136.95%
Zn 206.200†	3.5	0.00098	mg/L	0.000267	0.00196	mg/L	0.000534	27.26%

Sequence No.: 17
 Sample ID: YE52 Ia SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 316
 Date Collected: 4/7/2014 11:28:06 AM
 Data Type: Original

 Nebulizer Parameters: YE52 Ia SPN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE52 Ia SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2964847.2	101.0	%	0.52				0.51%
ScR 361.383	255496.9	102.6	%	0.80				0.78%
Ag 328.068†	49.6	0.00025	mg/L	0.000293	0.00025	mg/L	0.000293	115.69%
Al 308.215†	2676.7	2.062	mg/L	0.0259	2.062	mg/L	0.0259	1.26%
As 188.979†	-1.0	0.00192	mg/L	0.001134	0.00192	mg/L	0.001134	58.95%
B 249.677†	1453.2	0.2552	mg/L	0.00172	0.2552	mg/L	0.00172	0.67%
Ba 233.527†	48.0	0.01200	mg/L	0.000640	0.01200	mg/L	0.000640	5.33%
Be 313.042†	-28.7	-0.00006	mg/L	0.000018	-0.00006	mg/L	0.000018	29.56%
Ca 317.933†	5352.1	0.5330	mg/L	0.00215	0.5330	mg/L	0.00215	0.40%
Cd 228.802†	0.0	-0.00001	mg/L	0.000061	-0.00001	mg/L	0.000061	603.30%
Co 228.616†	55.0	0.00122	mg/L	0.000088	0.00122	mg/L	0.000088	7.19%
Cr 267.716†	14.8	0.00292	mg/L	0.000689	0.00292	mg/L	0.000689	23.58%
Cu 324.752†	858.8	0.00306	mg/L	0.000183	0.00306	mg/L	0.000183	5.98%
Fe 273.955†	1941.4	1.579	mg/L	0.0132	1.579	mg/L	0.0132	0.84%
K 766.490†	774.9	0.3376	mg/L	0.00867	0.3376	mg/L	0.00867	2.57%
Mg 279.077†	475.0	0.4136	mg/L	0.00755	0.4136	mg/L	0.00755	1.83%
Mn 257.610†	255.9	0.00787	mg/L	0.000073	0.00787	mg/L	0.000073	0.92%
Mo 202.031†	10.0	0.00054	mg/L	0.000171	0.00054	mg/L	0.000171	31.36%
Na 589.592†	146252.6	11.01	mg/L	0.034	11.01	mg/L	0.034	0.31%
Na 330.237†	244.0	11.14	mg/L	0.485	11.14	mg/L	0.485	4.35%
Ni 231.604†	4.7	0.00134	mg/L	0.001217	0.00134	mg/L	0.001217	90.61%
Pb 220.353†	-2.2	0.00017	mg/L	0.000323	0.00017	mg/L	0.000323	185.05%
Sb 206.836†	-1.9	-0.00057	mg/L	0.000354	-0.00057	mg/L	0.000354	62.06%
Se 196.026†	2.9	0.00216	mg/L	0.002837	0.00216	mg/L	0.002837	131.52%
Si 288.158†	9227.6	5.171	mg/L	0.0537	5.171	mg/L	0.0537	1.04%
Sn 189.927†	2.0	0.00069	mg/L	0.000417	0.00069	mg/L	0.000417	60.33%
Sr 421.552†	8002.6	0.00981	mg/L	0.000018	0.00981	mg/L	0.000018	0.19%
Ti 334.903†	1198.5	0.07118	mg/L	0.000041	0.07118	mg/L	0.000041	0.06%
Tl 190.801†	3.5	0.00181	mg/L	0.000658	0.00181	mg/L	0.000658	36.47%
V 292.402†	1530.6	0.01008	mg/L	0.000047	0.01008	mg/L	0.000047	0.46%
Zn 206.200†	20.3	0.00665	mg/L	0.001101	0.00665	mg/L	0.001101	16.56%

Sequence No.: 18

Autosampler Location: 317

Sample ID: YE52 HaDUP SPN

Date Collected: 4/7/2014 11:32:06 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE52 HaDUP SPN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE52 HaDUP SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3003585.6	102.3	%	0.30				0.30%
ScR 361.383	256815.9	103.1	%	1.01				0.98%
Ag 328.068†	-8.3	-0.00004	mg/L	0.000132	-0.00004	mg/L	0.000132	360.59%
Al 308.215†	1855.5	1.430	mg/L	0.0033	1.430	mg/L	0.0033	0.23%
As 188.979†	-1.9	0.00052	mg/L	0.002179	0.00052	mg/L	0.002179	420.35%
B 249.677†	229.3	0.04026	mg/L	0.000594	0.04026	mg/L	0.000594	1.47%
Ba 233.527†	30.3	0.00756	mg/L	0.000547	0.00756	mg/L	0.000547	7.23%
Be 313.042†	-28.9	-0.00006	mg/L	0.000039	-0.00006	mg/L	0.000039	66.68%
Ca 317.933†	6638.9	0.6612	mg/L	0.00167	0.6612	mg/L	0.00167	0.25%
Cd 228.802†	-6.2	-0.00020	mg/L	0.000053	-0.00020	mg/L	0.000053	27.04%
Co 228.616†	27.2	0.00058	mg/L	0.000092	0.00058	mg/L	0.000092	15.82%
Cr 267.716†	5.1	0.00101	mg/L	0.000635	0.00101	mg/L	0.000635	63.18%
Cu 324.752†	611.5	0.00218	mg/L	0.000178	0.00218	mg/L	0.000178	8.17%
Fe 273.955†	1321.9	1.075	mg/L	0.0106	1.075	mg/L	0.0106	0.99%
K 766.490†	705.6	0.3074	mg/L	0.00775	0.3074	mg/L	0.00775	2.52%
Mg 279.077†	393.5	0.3427	mg/L	0.01047	0.3427	mg/L	0.01047	3.06%
Mn 257.610†	176.6	0.00543	mg/L	0.000226	0.00543	mg/L	0.000226	4.16%
Mo 202.031†	-2.0	-0.00012	mg/L	0.000186	-0.00012	mg/L	0.000186	157.00%
Na 589.592†	64317.8	4.842	mg/L	0.0210	4.842	mg/L	0.0210	0.43%
Na 330.237†	113.5	5.184	mg/L	0.1692	5.184	mg/L	0.1692	3.26%
Ni 231.604†	0.9	0.00026	mg/L	0.000678	0.00026	mg/L	0.000678	265.00%
Pb 220.353†	10.3	0.00153	mg/L	0.000522	0.00153	mg/L	0.000522	34.02%
Sb 206.836†	-6.8	-0.00217	mg/L	0.000760	-0.00217	mg/L	0.000760	34.99%
Se 196.026†	-0.4	-0.00027	mg/L	0.001392	-0.00027	mg/L	0.001392	525.18%
Si 288.158†	6837.3	3.831	mg/L	0.0348	3.831	mg/L	0.0348	0.91%
Sn 189.927†	2.5	0.00083	mg/L	0.000059	0.00083	mg/L	0.000059	7.14%
Sr 421.552†	5643.7	0.00692	mg/L	0.000036	0.00692	mg/L	0.000036	0.52%
Ti 334.903†	799.6	0.04747	mg/L	0.000248	0.04747	mg/L	0.000248	0.52%
Tl 190.801†	3.0	0.00157	mg/L	0.001776	0.00157	mg/L	0.001776	112.96%
V 292.402†	411.6	0.00266	mg/L	0.000075	0.00266	mg/L	0.000075	2.81%
Zn 206.200†	15.8	0.00515	mg/L	0.000413	0.00515	mg/L	0.000413	8.01%

Sequence No.: 19
 Sample ID: YE52 Ha SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 318
 Date Collected: 4/7/2014 11:36:06 AM
 Data Type: Original

Nebulizer Parameters: YE52 Ha SPN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE52 Ha SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2991999.9	101.9	%	0.45				0.44%
ScR 361.383	255238.0	102.5	%	0.69				0.68%
Ag 328.068†	-4.5	-0.00002	mg/L	0.000142	-0.00002	mg/L	0.000142	812.85%
Al 308.215†	1875.3	1.445	mg/L	0.0142	1.445	mg/L	0.0142	0.98%
As 188.979†	0.8	0.00215	mg/L	0.001118	0.00215	mg/L	0.001118	51.90%
B 249.677†	233.7	0.04103	mg/L	0.001471	0.04103	mg/L	0.001471	3.58%
Ba 233.527†	29.9	0.00745	mg/L	0.000951	0.00745	mg/L	0.000951	12.77%
Be 313.042†	3.5	0.00001	mg/L	0.000027	0.00001	mg/L	0.000027	465.64%
Ca 317.933†	6709.4	0.6682	mg/L	0.00144	0.6682	mg/L	0.00144	0.22%
Cd 228.802†	-2.4	-0.00009	mg/L	0.000034	-0.00009	mg/L	0.000034	37.77%
Co 228.616†	18.0	0.00036	mg/L	0.000081	0.00036	mg/L	0.000081	22.86%
Cr 267.716†	0.1	0.00001	mg/L	0.000716	0.00001	mg/L	0.000716	>999.9%
Cu 324.752†	722.9	0.00257	mg/L	0.000088	0.00257	mg/L	0.000088	3.44%
Fe 273.955†	1343.3	1.092	mg/L	0.0041	1.092	mg/L	0.0041	0.38%
K 766.490†	745.1	0.3246	mg/L	0.01016	0.3246	mg/L	0.01016	3.13%
Mg 279.077†	404.6	0.3524	mg/L	0.00274	0.3524	mg/L	0.00274	0.78%
Mn 257.610†	164.9	0.00507	mg/L	0.000037	0.00507	mg/L	0.000037	0.74%
Mo 202.031†	4.0	0.00021	mg/L	0.000078	0.00021	mg/L	0.000078	37.27%
Na 589.592†	65776.3	4.952	mg/L	0.0135	4.952	mg/L	0.0135	0.27%
Na 330.237†	117.1	5.348	mg/L	0.2641	5.348	mg/L	0.2641	4.94%
Ni 231.604†	0.6	0.00018	mg/L	0.000354	0.00018	mg/L	0.000354	198.50%
Pb 220.353†	8.8	0.00135	mg/L	0.001022	0.00135	mg/L	0.001022	75.87%
Sb 206.836†	-5.1	-0.00161	mg/L	0.000459	-0.00161	mg/L	0.000459	28.45%
Se 196.026†	-0.3	-0.00021	mg/L	0.004806	-0.00021	mg/L	0.004806	>999.9%
Si 288.158†	7446.7	4.173	mg/L	0.0270	4.173	mg/L	0.0270	0.65%
Sn 189.927†	2.0	0.00069	mg/L	0.000959	0.00069	mg/L	0.000959	139.62%
Sr 421.552†	5725.6	0.00702	mg/L	0.000034	0.00702	mg/L	0.000034	0.48%
Ti 334.903†	810.7	0.04813	mg/L	0.000912	0.04813	mg/L	0.000912	1.90%
Tl 190.801†	1.8	0.00098	mg/L	0.000976	0.00098	mg/L	0.000976	100.04%
V 292.402†	408.4	0.00263	mg/L	0.000154	0.00263	mg/L	0.000154	5.87%
Zn 206.200†	11.8	0.00409	mg/L	0.000318	0.00409	mg/L	0.000318	7.77%

Sequence No.: 20

Autosampler Location: 319

Sample ID: YE52 HaSPK SPN

Date Collected: 4/7/2014 11:40:05 AM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE52 HaSPK SPN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE52 HaSPK SPN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2959302.8	100.8 %	0.82			0.82%
ScR 361.383	247310.8	99.32 %	0.493			0.50%
Ag 328.068†	216082.4	1.079 mg/L	0.0173	1.079 mg/L	0.0173	1.60%
Al 308.215†	7339.4	5.640 mg/L	0.0337	5.640 mg/L	0.0337	0.60%
As 188.979†	7075.0	4.222 mg/L	0.0393	4.222 mg/L	0.0393	0.93%
B 249.677†	245.7	0.04102 mg/L	0.001250	0.04102 mg/L	0.001250	3.05%
Ba 233.527†	16595.6	4.229 mg/L	0.0137	4.229 mg/L	0.0137	0.32%
Be 313.042†	517469.4	1.029 mg/L	0.0072	1.029 mg/L	0.0072	0.70%
Ca 317.933†	210520.3	20.97 mg/L	0.121	20.97 mg/L	0.121	0.58%
Cd 228.802†	34263.7	1.054 mg/L	0.0119	1.054 mg/L	0.0119	1.13%
Co 228.616†	40953.6	1.006 mg/L	0.0131	1.006 mg/L	0.0131	1.31%
Cr 267.716†	5448.4	1.070 mg/L	0.0056	1.070 mg/L	0.0056	0.52%
Cu 324.752†	282616.8	0.9894 mg/L	0.00354	0.9894 mg/L	0.00354	0.36%
Fe 273.955†	6589.9	5.352 mg/L	0.0359	5.352 mg/L	0.0359	0.67%
K 766.490†	48159.5	20.98 mg/L	0.007	20.98 mg/L	0.007	0.03%
Mg 279.077†	24609.5	21.48 mg/L	0.145	21.48 mg/L	0.145	0.68%
Mn 257.610†	32985.6	1.017 mg/L	0.0031	1.017 mg/L	0.0031	0.31%
Mo 202.031†	45.6	0.00220 mg/L	0.000086	0.00220 mg/L	0.000086	3.92%
Na 589.592†	349541.2	26.31 mg/L	0.040	26.31 mg/L	0.040	0.15%
Na 330.237†	583.1	26.18 mg/L	0.127	26.18 mg/L	0.127	0.48%
Ni 231.604†	3678.0	1.047 mg/L	0.0042	1.047 mg/L	0.0042	0.41%
Pb 220.353†	34384.8	4.095 mg/L	0.0601	4.095 mg/L	0.0601	1.47%
Sb 206.836†	39.4	0.00265 mg/L	0.000675	0.00265 mg/L	0.000675	25.47%
Se 196.026†	5684.7	4.202 mg/L	0.0320	4.202 mg/L	0.0320	0.76%
Si 288.158†	7964.6	4.470 mg/L	0.0537	4.470 mg/L	0.0537	1.20%
Sn 189.927†	-26.7	-0.00530 mg/L	0.001747	-0.00530 mg/L	0.001747	33.00%
Sr 421.552†	860789.0	1.056 mg/L	0.0013	1.056 mg/L	0.0013	0.12%
Ti 334.903†	822.6	0.04719 mg/L	0.000266	0.04719 mg/L	0.000266	0.56%
Tl 190.801†	8463.5	4.074 mg/L	0.0336	4.074 mg/L	0.0336	0.83%
V 292.402†	155035.3	1.037 mg/L	0.0164	1.037 mg/L	0.0164	1.58%
Zn 206.200†	3702.2	1.039 mg/L	0.0065	1.039 mg/L	0.0065	0.63%

Sequence No.: 21
 Sample ID: YE51 FaDUP SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 320
 Date Collected: 4/7/2014 11:44:07 AM
 Data Type: Original

Nebulizer Parameters: YE51 FaDUP SPN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE51 FaDUP SPN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3024268.8	103.0	%	0.19				0.18%
ScR 361.383	259431.1	104.2	%	0.81				0.77%
Ag 328.068†	21.0	0.00011	mg/L	0.000166	0.00011	mg/L	0.000166	149.89%
Al 308.215†	2169.9	1.672	mg/L	0.0036	1.672	mg/L	0.0036	0.22%
As 188.979†	21.9	0.01481	mg/L	0.002717	0.01481	mg/L	0.002717	18.35%
B 249.677†	202.8	0.03560	mg/L	0.000998	0.03560	mg/L	0.000998	2.80%
Ba 233.527†	45.8	0.01142	mg/L	0.000354	0.01142	mg/L	0.000354	3.10%
Be 313.042†	9.6	0.00002	mg/L	0.000025	0.00002	mg/L	0.000025	142.30%
Ca 317.933†	6984.7	0.6956	mg/L	0.00096	0.6956	mg/L	0.00096	0.14%
Cd 228.802†	-5.5	-0.00025	mg/L	0.000125	-0.00025	mg/L	0.000125	49.41%
Co 228.616†	20.4	0.00041	mg/L	0.000139	0.00041	mg/L	0.000139	33.90%
Cr 267.716†	7.8	0.00154	mg/L	0.000614	0.00154	mg/L	0.000614	39.80%
Cu 324.752†	5685.3	0.01996	mg/L	0.000051	0.01996	mg/L	0.000051	0.26%
Fe 273.955†	1958.5	1.593	mg/L	0.0130	1.593	mg/L	0.0130	0.82%
K 766.490†	2282.4	0.9944	mg/L	0.01556	0.9944	mg/L	0.01556	1.56%
Mg 279.077†	382.3	0.3326	mg/L	0.00343	0.3326	mg/L	0.00343	1.03%
Mn 257.610†	175.5	0.00539	mg/L	0.000044	0.00539	mg/L	0.000044	0.81%
Mo 202.031†	9.7	0.00053	mg/L	0.000297	0.00053	mg/L	0.000297	56.36%
Na 589.592†	46656.8	3.512	mg/L	0.0070	3.512	mg/L	0.0070	0.20%
Na 330.237†	78.5	3.588	mg/L	0.2010	3.588	mg/L	0.2010	5.60%
Ni 231.604†	1.2	0.00035	mg/L	0.000402	0.00035	mg/L	0.000402	113.58%
Pb 220.353†	32.7	0.00421	mg/L	0.000869	0.00421	mg/L	0.000869	20.63%
Sb 206.836†	14.4	0.00475	mg/L	0.001621	0.00475	mg/L	0.001621	34.11%
Se 196.026†	0.1	0.00007	mg/L	0.000712	0.00007	mg/L	0.000712	>999.9%
Si 288.158†	6953.7	3.897	mg/L	0.0244	3.897	mg/L	0.0244	0.63%
Sn 189.927†	3.7	0.00119	mg/L	0.000687	0.00119	mg/L	0.000687	57.55%
Sr 421.552†	8280.2	0.01015	mg/L	0.000067	0.01015	mg/L	0.000067	0.66%
Ti 334.903†	853.6	0.05067	mg/L	0.000576	0.05067	mg/L	0.000576	1.14%
Tl 190.801†	4.9	0.00253	mg/L	0.003548	0.00253	mg/L	0.003548	140.51%
V 292.402†	777.2	0.00507	mg/L	0.000007	0.00507	mg/L	0.000007	0.14%
Zn 206.200†	21.8	0.00682	mg/L	0.000413	0.00682	mg/L	0.000413	6.05%

Sequence No.: 22
 Sample ID: YE51 Fa SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 321
 Date Collected: 4/7/2014 11:48:06 AM
 Data Type: Original

Nebulizer Parameters: YE51 Fa SPN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE51 Fa SPN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3008149.7	102.5	%	0.29				0.28%
ScR 361.383	256185.2	102.9	%	0.05				0.05%
Ag 328.068†	11.0	0.00006	mg/L	0.000204	0.00006	mg/L	0.000204	336.47%
Al 308.215†	2205.1	1.699	mg/L	0.0070	1.699	mg/L	0.0070	0.41%
As 188.979†	21.0	0.01428	mg/L	0.001126	0.01428	mg/L	0.001126	7.88%
B 249.677†	206.0	0.03618	mg/L	0.001757	0.03618	mg/L	0.001757	4.86%
Ba 233.527†	40.4	0.01004	mg/L	0.000550	0.01004	mg/L	0.000550	5.47%
Be 313.042†	8.4	0.00001	mg/L	0.000031	0.00001	mg/L	0.000031	210.96%
Ca 317.933†	7186.1	0.7157	mg/L	0.00450	0.7157	mg/L	0.00450	0.63%
Cd 228.802†	-4.5	-0.00022	mg/L	0.000237	-0.00022	mg/L	0.000237	108.64%
Co 228.616†	17.4	0.00034	mg/L	0.000056	0.00034	mg/L	0.000056	16.68%
Cr 267.716†	12.7	0.00251	mg/L	0.000499	0.00251	mg/L	0.000499	19.85%
Cu 324.752†	5672.3	0.01991	mg/L	0.000228	0.01991	mg/L	0.000228	1.14%
Fe 273.955†	1962.4	1.596	mg/L	0.0038	1.596	mg/L	0.0038	0.24%
K 766.490†	2303.6	1.004	mg/L	0.0171	1.004	mg/L	0.0171	1.71%
Mg 279.077†	387.2	0.3368	mg/L	0.00627	0.3368	mg/L	0.00627	1.86%
Mn 257.610†	178.6	0.00549	mg/L	0.000119	0.00549	mg/L	0.000119	2.16%
Mo 202.031†	12.3	0.00067	mg/L	0.000195	0.00067	mg/L	0.000195	29.15%
Na 589.592†	46533.0	3.503	mg/L	0.0116	3.503	mg/L	0.0116	0.33%
Na 330.237†	79.9	3.651	mg/L	0.1989	3.651	mg/L	0.1989	5.45%
Ni 231.604†	3.7	0.00105	mg/L	0.000855	0.00105	mg/L	0.000855	81.61%
Pb 220.353†	31.6	0.00409	mg/L	0.001048	0.00409	mg/L	0.001048	25.63%
Sb 206.836†	14.5	0.00476	mg/L	0.000849	0.00476	mg/L	0.000849	17.81%
Se 196.026†	0.3	0.00025	mg/L	0.002513	0.00025	mg/L	0.002513	986.42%
Si 288.158†	7139.6	4.001	mg/L	0.0323	4.001	mg/L	0.0323	0.81%
Sn 189.927†	3.1	0.00104	mg/L	0.001494	0.00104	mg/L	0.001494	143.55%
Sr 421.552†	8281.5	0.01016	mg/L	0.000040	0.01016	mg/L	0.000040	0.39%
Ti 334.903†	849.2	0.05041	mg/L	0.000365	0.05041	mg/L	0.000365	0.72%
Tl 190.801†	6.7	0.00342	mg/L	0.000518	0.00342	mg/L	0.000518	15.17%
V 292.402†	748.6	0.00488	mg/L	0.000094	0.00488	mg/L	0.000094	1.93%
Zn 206.200†	20.6	0.00651	mg/L	0.000099	0.00651	mg/L	0.000099	1.51%

Sequence No.: 23
 Sample ID: YE51 FaSPK SPN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 322
 Date Collected: 4/7/2014 11:52:20 AM
 Data Type: Original

Nebulizer Parameters: YE51 FaSPK SPN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE51 FaSPK SPN

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2937846.2	100.1	%	0.36			0.36%
ScR 361.383	252017.7	101.2	%	0.10			0.10%
Ag 328.068†	218940.0	1.093	mg/L	0.0052	1.093	mg/L	0.47%
Al 308.215†	7450.3	5.726	mg/L	0.0068	5.726	mg/L	0.12%
As 188.979†	7188.3	4.290	mg/L	0.0097	4.290	mg/L	0.23%
B 249.677†	209.3	0.03459	mg/L	0.001191	0.03459	mg/L	3.44%
Ba 233.527†	16384.9	4.176	mg/L	0.0287	4.176	mg/L	0.69%
Be 313.042†	517324.3	1.029	mg/L	0.0090	1.029	mg/L	0.88%
Ca 317.933†	211588.5	21.07	mg/L	0.105	21.07	mg/L	0.50%
Cd 228.802†	34771.0	1.070	mg/L	0.0063	1.070	mg/L	0.58%
Co 228.616†	41514.6	1.020	mg/L	0.0026	1.020	mg/L	0.26%
Cr 267.716†	5338.9	1.048	mg/L	0.0037	1.048	mg/L	0.35%
Cu 324.752†	288213.4	1.009	mg/L	0.0042	1.009	mg/L	0.41%
Fe 273.955†	7011.9	5.695	mg/L	0.0342	5.695	mg/L	0.60%
K 766.490†	49010.3	21.35	mg/L	0.142	21.35	mg/L	0.67%
Mg 279.077†	24145.3	21.07	mg/L	0.024	21.07	mg/L	0.11%
Mn 257.610†	32618.1	1.006	mg/L	0.0020	1.006	mg/L	0.20%
Mo 202.031†	55.2	0.00273	mg/L	0.000368	0.00273	mg/L	13.48%
Na 589.592†	326853.7	24.61	mg/L	0.141	24.61	mg/L	0.57%
Na 330.237†	544.0	24.40	mg/L	0.116	24.40	mg/L	0.47%
Ni 231.604†	3611.7	1.028	mg/L	0.0015	1.028	mg/L	0.14%
Pb 220.353†	34945.4	4.162	mg/L	0.0187	4.162	mg/L	0.45%
Sb 206.836†	52.4	0.00721	mg/L	0.001733	0.00721	mg/L	24.05%
Se 196.026†	5782.8	4.274	mg/L	0.0298	4.274	mg/L	0.70%
Si 288.158†	6794.8	3.815	mg/L	0.0207	3.815	mg/L	0.54%
Sn 189.927†	-31.6	-0.00674	mg/L	0.000774	-0.00674	mg/L	11.48%
Sr 421.552†	850464.3	1.043	mg/L	0.0054	1.043	mg/L	0.52%
Ti 334.903†	874.1	0.05025	mg/L	0.000621	0.05025	mg/L	1.24%
Tl 190.801†	8540.2	4.111	mg/L	0.0119	4.111	mg/L	0.29%
V 292.402†	157222.1	1.052	mg/L	0.0042	1.052	mg/L	0.40%
Zn 206.200†	3648.8	1.024	mg/L	0.0028	1.024	mg/L	0.27%

Sequence No.: 24
Sample ID: CV
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 7
Date Collected: 4/7/2014 11:56:21 AM
Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2973566.3	101.3 %		0.31			0.31%
ScR 361.383	247152.8	99.26 %		0.921			0.93%
Ag 328.068†	207774.8	1.037 mg/L		0.0046	1.037 mg/L	0.0046	0.44%
Al 308.215†	2643.3	2.005 mg/L		0.0134	2.005 mg/L	0.0134	0.67%
As 188.979†	3319.3	2.013 mg/L		0.0055	2.013 mg/L	0.0055	0.27%
B 249.677†	5813.1	1.020 mg/L		0.0098	1.020 mg/L	0.0098	0.96%
Ba 233.527†	4005.5	1.021 mg/L		0.0114	1.021 mg/L	0.0114	1.12%
Be 313.042†	497426.0	0.9894 mg/L		0.00708	0.9894 mg/L	0.00708	0.72%
Ca 317.933†	20988.2	2.090 mg/L		0.0168	2.090 mg/L	0.0168	0.80%
Cd 228.802†	32893.0	1.023 mg/L		0.0053	1.023 mg/L	0.0053	0.52%
Co 228.616†	40234.7	0.9870 mg/L		0.00455	0.9870 mg/L	0.00455	0.46%
Cr 267.716†	5300.1	1.043 mg/L		0.0074	1.043 mg/L	0.0074	0.71%
Cu 324.752†	290640.1	1.017 mg/L		0.0037	1.017 mg/L	0.0037	0.36%
Fe 273.955†	2546.3	2.064 mg/L		0.0148	2.064 mg/L	0.0148	0.72%
K 766.490†	46015.2	20.05 mg/L		0.042	20.05 mg/L	0.042	0.21%
Mg 279.077†	2281.6	1.998 mg/L		0.0149	1.998 mg/L	0.0149	0.74%
Mn 257.610†	31964.7	0.9856 mg/L		0.00573	0.9856 mg/L	0.00573	0.58%
Mo 202.031†	18010.1	0.9968 mg/L		0.00188	0.9968 mg/L	0.00188	0.19%
Na 589.592†	687280.3	51.74 mg/L		0.220	51.74 mg/L	0.220	0.43%
Na 330.237†	1125.3	51.28 mg/L		0.204	51.28 mg/L	0.204	0.40%
Ni 231.604†	3610.0	1.029 mg/L		0.0071	1.029 mg/L	0.0071	0.68%
Pb 220.353†	17209.0	2.050 mg/L		0.0064	2.050 mg/L	0.0064	0.31%
Sb 206.836†	6342.1	2.068 mg/L		0.0064	2.068 mg/L	0.0064	0.31%
Se 196.026†	2711.3	2.003 mg/L		0.0057	2.003 mg/L	0.0057	0.29%
Si 288.158†	3619.1	2.033 mg/L		0.0347	2.033 mg/L	0.0347	1.71%
Sn 189.927†	3342.5	1.002 mg/L		0.0053	1.002 mg/L	0.0053	0.53%
Sr 421.552†	833908.0	1.023 mg/L		0.0051	1.023 mg/L	0.0051	0.50%
Ti 334.903†	16907.2	1.003 mg/L		0.0060	1.003 mg/L	0.0060	0.60%
Tl 190.801†	4093.8	1.967 mg/L		0.0031	1.967 mg/L	0.0031	0.16%
V 292.402†	149745.9	1.002 mg/L		0.0053	1.002 mg/L	0.0053	0.53%
Zn 206.200†	3657.6	1.025 mg/L		0.0074	1.025 mg/L	0.0074	0.72%

Sequence No.: 25

Sample ID: CB 4

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 1

Date Collected: 4/7/2014 12:00:25 PM

Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2980201.2	101.5	%	0.44				0.43%
ScR 361.383	255308.3	102.5	%	0.79				0.77%
Ag 328.068†	45.9	0.00023	mg/L	0.000146	0.00023	mg/L	0.000146	63.52%
Al 308.215†	-0.2	-0.00017	mg/L	0.005203	-0.00017	mg/L	0.005203	>999.9%
As 188.979†	-2.3	-0.00138	mg/L	0.001538	-0.00138	mg/L	0.001538	111.42%
B 249.677†	8.4	0.00148	mg/L	0.000685	0.00148	mg/L	0.000685	46.26%
Ba 233.527†	1.8	0.00045	mg/L	0.000480	0.00045	mg/L	0.000480	107.30%
Be 313.042†	-20.1	-0.00004	mg/L	0.000053	-0.00004	mg/L	0.000053	132.75%
Ca 317.933†	2.1	0.00021	mg/L	0.000729	0.00021	mg/L	0.000729	344.38%
Cd 228.802†	-0.3	-0.00000	mg/L	0.000036	-0.00000	mg/L	0.000036	>999.9%
Co 228.616†	-2.9	-0.00007	mg/L	0.000081	-0.00007	mg/L	0.000081	113.41%
Cr 267.716†	-2.4	-0.00046	mg/L	0.000430	-0.00046	mg/L	0.000430	92.66%
Cu 324.752†	-80.8	-0.00028	mg/L	0.000163	-0.00028	mg/L	0.000163	57.70%
Fe 273.955†	3.8	0.00312	mg/L	0.001890	0.00312	mg/L	0.001890	60.62%
K 766.490†	19.9	0.00868	mg/L	0.009128	0.00868	mg/L	0.009128	105.19%
Mg 279.077†	0.9	0.00081	mg/L	0.006626	0.00081	mg/L	0.006626	822.04%
Mn 257.610†	-3.6	-0.00011	mg/L	0.000104	-0.00011	mg/L	0.000104	94.52%
Mo 202.031†	10.1	0.00056	mg/L	0.000223	0.00056	mg/L	0.000223	39.90%
Na 589.592†	155.4	0.01170	mg/L	0.000536	0.01170	mg/L	0.000536	4.58%
Na 330.237†	0.0	0.00196	mg/L	0.277869	0.00196	mg/L	0.277869	>999.9%
Ni 231.604†	-1.9	-0.00055	mg/L	0.000216	-0.00055	mg/L	0.000216	39.10%
Pb 220.353†	5.8	0.00069	mg/L	0.000270	0.00069	mg/L	0.000270	39.37%
Sb 206.836†	30.2	0.00988	mg/L	0.000138	0.00988	mg/L	0.000138	1.40%
Se 196.026†	3.5	0.00259	mg/L	0.003948	0.00259	mg/L	0.003948	152.34%
Si 288.158†	21.4	0.01200	mg/L	0.011496	0.01200	mg/L	0.011496	95.79%
Sn 189.927†	4.9	0.00147	mg/L	0.000955	0.00147	mg/L	0.000955	65.20%
Sr 421.552†	62.7	0.00008	mg/L	0.000039	0.00008	mg/L	0.000039	50.92%
Ti 334.903†	7.6	0.00045	mg/L	0.000377	0.00045	mg/L	0.000377	83.04%
Tl 190.801†	9.3	0.00449	mg/L	0.000322	0.00449	mg/L	0.000322	7.17%
V 292.402†	10.6	0.00007	mg/L	0.000179	0.00007	mg/L	0.000179	261.48%
Zn 206.200†	-0.2	-0.00006	mg/L	0.000605	-0.00006	mg/L	0.000605	>999.9%

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Analysis Begun

Start Time: 4/7/2014 12:05:06 PM

Plasma On Time: 4/7/2014 8:23:30 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Sequence No.: 1

Autosampler Location: 323

Sample ID: YF37 A SWC

Date Collected: 4/7/2014 12:05:07 PM

Analyst: EL

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YF37 A SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YF37 A SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2995960.3	102.1	%	0.38			0.37%
ScR 361.383	258780.2	103.9	%	0.33			0.32%
Ag 328.068†	-367.8	-0.00142	mg/L	0.000267	-0.00284 mg/L	0.000534	18.81%
Al 308.215†	227646.7	175.4	mg/L	0.33	350.8 mg/L	0.66	0.19%
As 188.979†	-300.0	0.09116	mg/L	0.003040	0.1823 mg/L	0.00608	3.33%
B 249.677†	54.1	0.00926	mg/L	0.000936	0.01853 mg/L	0.001871	10.10%
Ba 233.527†	3199.6	0.7813	mg/L	0.00628	1.563 mg/L	0.0126	0.80%
Be 313.042†	1647.1	0.00305	mg/L	0.000034	0.00610 mg/L	0.000068	1.11%
Ca 317.933†	443517.7	44.17	mg/L	0.083	88.34 mg/L	0.165	0.19%
Cd 228.802†	60.1	0.00114	mg/L	0.000023	0.00229 mg/L	0.000046	2.02%
Co 228.616†	4546.3	0.09788	mg/L	0.000445	0.1958 mg/L	0.00089	0.46%
Cr 267.716†	1675.3	0.3308	mg/L	0.00174	0.6617 mg/L	0.00348	0.53%
Cu 324.752†	81042.1	0.2918	mg/L	0.00072	0.5837 mg/L	0.00143	0.25%
Fe 273.955†	271633.5	220.9	mg/L	1.18	441.8 mg/L	2.35	0.53%
K 766.490†	12287.2	5.353	mg/L	0.0252	10.71 mg/L	0.050	0.47%
Mg 279.077†	68496.6	59.64	mg/L	0.180	119.3 mg/L	0.36	0.30%
Mn 257.610†	76969.3	2.371	mg/L	0.0136	4.741 mg/L	0.0272	0.57%
Mo 202.031†	87.1	0.00413	mg/L	0.000478	0.00827 mg/L	0.000956	11.56%
Na 589.592†	44753.2	3.369	mg/L	0.0083	6.738 mg/L	0.0166	0.25%
Na 330.237†	33.5	3.175	mg/L	0.0702	6.351 mg/L	0.1405	2.21%
Ni 231.604†	1076.0	0.3068	mg/L	0.00036	0.6135 mg/L	0.00073	0.12%
Pb 220.353†	9.0	0.03480	mg/L	0.001579	0.06960 mg/L	0.003158	4.54%
Sb 206.836†	51.1	0.02038	mg/L	0.002224	0.04076 mg/L	0.004448	10.91%
Se 196.026†	41.6	0.03036	mg/L	0.003561	0.06073 mg/L	0.007122	11.73%
Si 288.158†	4494.1	2.526	mg/L	0.0189	5.051 mg/L	0.0377	0.75%
Sn 189.927†	-62.4	-0.01186	mg/L	0.000448	-0.02373 mg/L	0.000896	3.78%
Sr 421.552†	371697.3	0.4558	mg/L	0.00178	0.9116 mg/L	0.00356	0.39%
Ti 334.903†	129364.5	7.684	mg/L	0.0247	15.37 mg/L	0.049	0.32%
Tl 190.801†	-34.1	0.00616	mg/L	0.002041	0.01231 mg/L	0.004082	33.15%
V 292.402†	86794.8	0.5631	mg/L	0.00183	1.126 mg/L	0.0037	0.33%
Zn 206.200†	1496.0	0.4197	mg/L	0.00243	0.8393 mg/L	0.00486	0.58%

Sequence No.: 2
 Sample ID: YF37 B SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 324
 Date Collected: 4/7/2014 12:09:10 PM
 Data Type: Original

Nebulizer Parameters: YF37 B SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF37 B SWC

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2975118.1	101.4	%	0.56				0.56%
ScR 361.383	256312.2	102.9	%	0.31				0.30%
Ag 328.068†	-429.9	-0.00172	mg/L	0.000096	-0.00344	mg/L	0.000193	5.61%
Al 308.215†	245194.0	188.9	mg/L	0.96	377.8	mg/L	1.91	0.51%
As 188.979†	-307.5	0.09247	mg/L	0.005072	0.1849	mg/L	0.01014	5.49%
B 249.677†	59.6	0.01020	mg/L	0.000682	0.02040	mg/L	0.001363	6.68%
Ba 233.527†	3474.9	0.8469	mg/L	0.00204	1.694	mg/L	0.0041	0.24%
Be 313.042†	1762.4	0.00327	mg/L	0.000033	0.00654	mg/L	0.000065	1.00%
Ca 317.933†	444395.4	44.26	mg/L	0.385	88.52	mg/L	0.769	0.87%
Cd 228.802†	71.6	0.00130	mg/L	0.000137	0.00261	mg/L	0.000273	10.48%
Co 228.616†	5224.7	0.1142	mg/L	0.00096	0.2285	mg/L	0.00191	0.84%
Cr 267.716†	1952.5	0.3860	mg/L	0.00087	0.7719	mg/L	0.00175	0.23%
Cu 324.752†	88086.5	0.3178	mg/L	0.00178	0.6356	mg/L	0.00357	0.56%
Fe 273.955†	308288.6	250.7	mg/L	2.37	501.4	mg/L	4.74	0.95%
K 766.490†	11773.2	5.130	mg/L	0.0178	10.26	mg/L	0.036	0.35%
Mg 279.077†	73280.8	63.80	mg/L	0.474	127.6	mg/L	0.95	0.74%
Mn 257.610†	84514.3	2.603	mg/L	0.0195	5.206	mg/L	0.0389	0.75%
Mo 202.031†	126.6	0.00632	mg/L	0.000548	0.01264	mg/L	0.001097	8.68%
Na 589.592†	40523.9	3.051	mg/L	0.0187	6.101	mg/L	0.0374	0.61%
Na 330.237†	23.0	2.726	mg/L	0.0956	5.452	mg/L	0.1912	3.51%
Ni 231.604†	1208.0	0.3444	mg/L	0.00294	0.6888	mg/L	0.00588	0.85%
Pb 220.353†	26.0	0.03889	mg/L	0.000790	0.07777	mg/L	0.001579	2.03%
Sb 206.836†	59.4	0.02266	mg/L	0.001239	0.04532	mg/L	0.002478	5.47%
Se 196.026†	32.6	0.02369	mg/L	0.004074	0.04738	mg/L	0.008148	17.19%
Si 288.158†	7078.9	3.975	mg/L	0.0101	7.949	mg/L	0.0202	0.25%
Sn 189.927†	-57.1	-0.01025	mg/L	0.000470	-0.02050	mg/L	0.000939	4.58%
Sr 421.552†	379918.5	0.4659	mg/L	0.00239	0.9318	mg/L	0.00478	0.51%
Ti 334.903†	132134.9	7.848	mg/L	0.0448	15.70	mg/L	0.090	0.57%
Tl 190.801†	-41.8	0.00560	mg/L	0.001536	0.01121	mg/L	0.003072	27.41%
V 292.402†	92516.0	0.5997	mg/L	0.00291	1.199	mg/L	0.0058	0.49%
Zn 206.200†	1654.3	0.4643	mg/L	0.00060	0.9286	mg/L	0.00120	0.13%

Sequence No.: 3
 Sample ID: YF37 C SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 325
 Date Collected: 4/7/2014 12:13:11 PM
 Data Type: Original

Nebulizer Parameters: YF37 C SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF37 C SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2967056.8	101.1	%	0.77				0.76%
ScR 361.383	256697.8	103.1	%	0.62				0.60%
Ag 328.068†	-372.9	-0.00142	mg/L	0.000345	-0.00284	mg/L	0.000690	24.30%
Al 308.215†	200310.5	154.3	mg/L	1.30	308.7	mg/L	2.60	0.84%
As 188.979†	-380.4	0.09414	mg/L	0.007639	0.1883	mg/L	0.01528	8.11%
B 249.677†	76.3	0.01318	mg/L	0.001633	0.02637	mg/L	0.003266	12.39%
Ba 233.527†	2738.8	0.6662	mg/L	0.00694	1.332	mg/L	0.0139	1.04%
Be 313.042†	1286.4	0.00233	mg/L	0.000033	0.00466	mg/L	0.000065	1.40%
Ca 317.933†	511456.8	50.94	mg/L	0.494	101.9	mg/L	0.99	0.97%
Cd 228.802†	58.0	0.00143	mg/L	0.000076	0.00287	mg/L	0.000153	5.34%
Co 228.616†	4135.5	0.08522	mg/L	0.000860	0.1704	mg/L	0.00172	1.01%
Cr 267.716†	1509.0	0.2977	mg/L	0.00303	0.5953	mg/L	0.00605	1.02%
Cu 324.752†	58505.8	0.2120	mg/L	0.00215	0.4240	mg/L	0.00429	1.01%
Fe 273.955†	253287.2	206.0	mg/L	2.82	411.9	mg/L	5.63	1.37%
K 766.490†	13835.3	6.028	mg/L	0.0548	12.06	mg/L	0.110	0.91%
Mg 279.077†	67472.0	58.76	mg/L	0.517	117.5	mg/L	1.03	0.88%
Mn 257.610†	78831.9	2.428	mg/L	0.0291	4.856	mg/L	0.0581	1.20%
Mo 202.031†	75.7	0.00340	mg/L	0.000371	0.00680	mg/L	0.000743	10.93%
Na 589.592†	47624.9	3.585	mg/L	0.0276	7.170	mg/L	0.0553	0.77%
Na 330.237†	30.2	3.361	mg/L	0.0760	6.722	mg/L	0.1520	2.26%
Ni 231.604†	978.7	0.2790	mg/L	0.00151	0.5580	mg/L	0.00302	0.54%
Pb 220.353†	8.7	0.03026	mg/L	0.000416	0.06051	mg/L	0.000833	1.38%
Sb 206.836†	42.2	0.01885	mg/L	0.000731	0.03769	mg/L	0.001462	3.88%
Se 196.026†	34.5	0.02516	mg/L	0.000525	0.05032	mg/L	0.001050	2.09%
Si 288.158†	5337.4	2.998	mg/L	0.0320	5.996	mg/L	0.0640	1.07%
Sn 189.927†	-59.2	-0.00982	mg/L	0.001014	-0.01964	mg/L	0.002029	10.33%
Sr 421.552†	355364.6	0.4358	mg/L	0.00377	0.8716	mg/L	0.00753	0.86%
Ti 334.903†	153652.3	9.126	mg/L	0.0779	18.25	mg/L	0.156	0.85%
Tl 190.801†	-31.2	0.00608	mg/L	0.002127	0.01217	mg/L	0.004255	34.97%
V 292.402†	77759.9	0.5028	mg/L	0.00364	1.006	mg/L	0.0073	0.72%
Zn 206.200†	1524.9	0.4278	mg/L	0.00099	0.8557	mg/L	0.00197	0.23%

Sequence No.: 4
 Sample ID: YF37 D SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 326
 Date Collected: 4/7/2014 12:17:12 PM
 Data Type: Original

Nebulizer Parameters: YF37 D SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YF37 D SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3015676.0	102.8	%	0.12				0.12%
ScR 361.383	254641.8	102.3	%	1.04				1.02%
Ag 328.068†	-366.9	-0.00142	mg/L	0.000300	-0.00284	mg/L	0.000601	21.15%
Al 308.215†	223600.7	172.3	mg/L	0.49	344.6	mg/L	0.98	0.28%
As 188.979†	-332.1	0.09135	mg/L	0.002279	0.1827	mg/L	0.00456	2.49%
B 249.677†	76.4	0.01321	mg/L	0.001844	0.02641	mg/L	0.003687	13.96%
Ba 233.527†	3208.0	0.7850	mg/L	0.00885	1.570	mg/L	0.0177	1.13%
Be 313.042†	1505.9	0.00277	mg/L	0.000029	0.00554	mg/L	0.000059	1.06%
Ca 317.933†	451072.1	44.92	mg/L	0.269	89.85	mg/L	0.539	0.60%
Cd 228.802†	55.2	0.00115	mg/L	0.000085	0.00230	mg/L	0.000171	7.43%
Co 228.616†	4119.2	0.08642	mg/L	0.000234	0.1728	mg/L	0.00047	0.27%
Cr 267.716†	1517.2	0.2997	mg/L	0.00432	0.5995	mg/L	0.00864	1.44%
Cu 324.752†	74322.4	0.2678	mg/L	0.00135	0.5356	mg/L	0.00270	0.50%
Fe 273.955†	259850.0	211.3	mg/L	1.98	422.6	mg/L	3.96	0.94%
K 766.490†	11823.8	5.152	mg/L	0.0449	10.30	mg/L	0.090	0.87%
Mg 279.077†	64378.2	56.05	mg/L	0.353	112.1	mg/L	0.71	0.63%
Mn 257.610†	72980.7	2.248	mg/L	0.0209	4.495	mg/L	0.0418	0.93%
Mo 202.031†	69.6	0.00315	mg/L	0.000193	0.00631	mg/L	0.000386	6.12%
Na 589.592†	44798.5	3.372	mg/L	0.0154	6.745	mg/L	0.0307	0.46%
Na 330.237†	31.5	3.226	mg/L	0.2989	6.453	mg/L	0.5977	9.26%
Ni 231.604†	969.0	0.2763	mg/L	0.00168	0.5525	mg/L	0.00337	0.61%
Pb 220.353†	-20.5	0.03092	mg/L	0.000751	0.06185	mg/L	0.001501	2.43%
Sb 206.836†	43.1	0.01847	mg/L	0.001040	0.03694	mg/L	0.002080	5.63%
Se 196.026†	33.3	0.02424	mg/L	0.004539	0.04849	mg/L	0.009078	18.72%
Si 288.158†	4388.5	2.466	mg/L	0.0333	4.932	mg/L	0.0666	1.35%
Sn 189.927†	-58.9	-0.01063	mg/L	0.001225	-0.02127	mg/L	0.002449	11.52%
Sr 421.552†	378577.7	0.4643	mg/L	0.00255	0.9285	mg/L	0.00510	0.55%
Ti 334.903†	138491.3	8.226	mg/L	0.0415	16.45	mg/L	0.083	0.50%
Tl 190.801†	-27.8	0.00826	mg/L	0.000808	0.01651	mg/L	0.001617	9.79%
V 292.402†	81162.9	0.5257	mg/L	0.00299	1.051	mg/L	0.0060	0.57%
Zn 206.200†	1427.6	0.4005	mg/L	0.00548	0.8010	mg/L	0.01096	1.37%

Sequence No.: 5
 Sample ID: YF37 E SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 327
 Date Collected: 4/7/2014 12:21:13 PM
 Data Type: Original

Nebulizer Parameters: YF37 E SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF37 E SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2996118.7	102.1	%	1.03				1.01%
ScR 361.383	258002.8	103.6	%	1.36				1.31%
Ag 328.068†	-416.9	-0.00165	mg/L	0.000122	-0.00330	mg/L	0.000244	7.40%
Al 308.215†	230606.8	177.7	mg/L	1.73	355.4	mg/L	3.46	0.97%
As 188.979†	-337.9	0.08822	mg/L	0.003686	0.1764	mg/L	0.00737	4.18%
B 249.677†	65.1	0.01121	mg/L	0.000488	0.02243	mg/L	0.000977	4.35%
Ba 233.527†	3092.8	0.7562	mg/L	0.00613	1.512	mg/L	0.0123	0.81%
Be 313.042†	1570.8	0.00290	mg/L	0.000050	0.00579	mg/L	0.000100	1.72%
Ca 317.933†	477368.5	47.54	mg/L	0.467	95.09	mg/L	0.933	0.98%
Cd 228.802†	55.4	0.00122	mg/L	0.000273	0.00243	mg/L	0.000547	22.48%
Co 228.616†	4236.2	0.08926	mg/L	0.000857	0.1785	mg/L	0.00171	0.96%
Cr 267.716†	1594.8	0.3147	mg/L	0.00318	0.6295	mg/L	0.00635	1.01%
Cu 324.752†	72963.9	0.2628	mg/L	0.00284	0.5257	mg/L	0.00568	1.08%
Fe 273.955†	254922.3	207.3	mg/L	1.46	414.6	mg/L	2.92	0.70%
K 766.490†	14392.0	6.271	mg/L	0.0616	12.54	mg/L	0.123	0.98%
Mg 279.077†	65994.8	57.47	mg/L	0.607	114.9	mg/L	1.21	1.06%
Mn 257.610†	72164.2	2.222	mg/L	0.0126	4.445	mg/L	0.0251	0.56%
Mo 202.031†	78.3	0.00360	mg/L	0.000584	0.00719	mg/L	0.001167	16.23%
Na 589.592†	49200.6	3.704	mg/L	0.0350	7.408	mg/L	0.0700	0.94%
Na 330.237†	41.2	3.646	mg/L	0.1195	7.292	mg/L	0.2389	3.28%
Ni 231.604†	1014.8	0.2893	mg/L	0.00262	0.5786	mg/L	0.00523	0.90%
Pb 220.353†	-18.3	0.03275	mg/L	0.001403	0.06550	mg/L	0.002806	4.28%
Sb 206.836†	46.9	0.01960	mg/L	0.005191	0.03920	mg/L	0.010381	26.48%
Se 196.026†	42.9	0.03133	mg/L	0.002534	0.06266	mg/L	0.005068	8.09%
Si 288.158†	4116.7	2.314	mg/L	0.0292	4.628	mg/L	0.0583	1.26%
Sn 189.927†	-63.2	-0.01161	mg/L	0.000354	-0.02321	mg/L	0.000708	3.05%
Sr 421.552†	376654.3	0.4619	mg/L	0.00361	0.9238	mg/L	0.00722	0.78%
Ti 334.903†	138773.4	8.243	mg/L	0.0632	16.49	mg/L	0.126	0.77%
Tl 190.801†	-25.0	0.00909	mg/L	0.005181	0.01818	mg/L	0.010362	57.00%
V 292.402†	84047.0	0.5451	mg/L	0.00635	1.090	mg/L	0.0127	1.16%
Zn 206.200†	1563.0	0.4384	mg/L	0.00440	0.8768	mg/L	0.00879	1.00%

Sequence No.: 6
 Sample ID: YF37 F SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 328
 Date Collected: 4/7/2014 12:25:13 PM
 Data Type: Original

Nebulizer Parameters: YF37 F SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF37 F SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2988031.9	101.8	%	0.21				0.21%
ScR 361.383	256309.5	102.9	%	1.06				1.03%
Ag 328.068†	-313.1	-0.00115	mg/L	0.000128	-0.00229	mg/L	0.000256	11.16%
Al 308.215†	198387.8	152.9	mg/L	0.54	305.7	mg/L	1.07	0.35%
As 188.979†	-384.8	0.08392	mg/L	0.006798	0.1678	mg/L	0.01360	8.10%
B 249.677†	58.1	0.01001	mg/L	0.000573	0.02002	mg/L	0.001146	5.72%
Ba 233.527†	2922.9	0.7160	mg/L	0.00564	1.432	mg/L	0.0113	0.79%
Be 313.042†	1185.6	0.00214	mg/L	0.000039	0.00428	mg/L	0.000077	1.80%
Ca 317.933†	482067.4	48.01	mg/L	0.166	96.02	mg/L	0.333	0.35%
Cd 228.802†	44.5	0.00114	mg/L	0.000190	0.00229	mg/L	0.000380	16.58%
Co 228.616†	3667.0	0.07410	mg/L	0.000110	0.1482	mg/L	0.00022	0.15%
Cr 267.716†	1394.2	0.2753	mg/L	0.00401	0.5505	mg/L	0.00802	1.46%
Cu 324.752†	53666.5	0.1943	mg/L	0.00040	0.3885	mg/L	0.00080	0.21%
Fe 273.955†	230078.1	187.1	mg/L	1.23	374.2	mg/L	2.47	0.66%
K 766.490†	11621.7	5.064	mg/L	0.0230	10.13	mg/L	0.046	0.45%
Mg 279.077†	57739.8	50.27	mg/L	0.121	100.5	mg/L	0.24	0.24%
Mn 257.610†	66780.3	2.057	mg/L	0.0123	4.113	mg/L	0.0246	0.60%
Mo 202.031†	63.0	0.00274	mg/L	0.000384	0.00548	mg/L	0.000768	14.01%
Na 589.592†	50403.5	3.794	mg/L	0.0087	7.589	mg/L	0.0173	0.23%
Na 330.237†	36.5	3.628	mg/L	0.1836	7.256	mg/L	0.3671	5.06%
Ni 231.604†	821.2	0.2341	mg/L	0.00262	0.4682	mg/L	0.00523	1.12%
Pb 220.353†	-68.6	0.02152	mg/L	0.000250	0.04305	mg/L	0.000500	1.16%
Sb 206.836†	33.4	0.01598	mg/L	0.003536	0.03197	mg/L	0.007071	22.12%
Se 196.026†	30.8	0.02241	mg/L	0.004609	0.04481	mg/L	0.009217	20.57%
Si 288.158†	3907.6	2.196	mg/L	0.0310	4.392	mg/L	0.0621	1.41%
Sn 189.927†	-56.7	-0.00946	mg/L	0.000683	-0.01892	mg/L	0.001366	7.22%
Sr 421.552†	394388.0	0.4836	mg/L	0.00195	0.9673	mg/L	0.00391	0.40%
Ti 334.903†	149934.0	8.906	mg/L	0.0301	17.81	mg/L	0.060	0.34%
Tl 190.801†	-27.8	0.00579	mg/L	0.003365	0.01157	mg/L	0.006731	58.16%
V 292.402†	72637.8	0.4697	mg/L	0.00036	0.9394	mg/L	0.00072	0.08%
Zn 206.200†	1274.2	0.3575	mg/L	0.00428	0.7149	mg/L	0.00856	1.20%

Sequence No.: 7
 Sample ID: YE51 NDUP LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 329
 Date Collected: 4/7/2014 12:29:14 PM
 Data Type: Original

Nebulizer Parameters: YE51 NDUP LEN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE51 NDUP LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2910939.5	99.19	%	0.668				0.67%
ScR 361.383	253571.6	101.8	%	0.71				0.70%
Ag 328.068†	11.3	0.00007	mg/L	0.000063	0.00034	mg/L	0.000317	94.61%
Al 308.215†	331.7	0.2556	mg/L	0.00752	1.278	mg/L	0.0376	2.94%
As 188.979†	0.4	0.00035	mg/L	0.000803	0.00176	mg/L	0.004016	227.88%
B 249.677†	35.7	0.00627	mg/L	0.000389	0.03136	mg/L	0.001946	6.21%
Ba 233.527†	4.3	0.00110	mg/L	0.000231	0.00552	mg/L	0.001155	20.91%
Be 313.042†	2.3	0.00000	mg/L	0.000034	0.00002	mg/L	0.000172	781.46%
Ca 317.933†	17504.8	1.743	mg/L	0.0058	8.717	mg/L	0.0292	0.34%
Cd 228.802†	7.3	0.00023	mg/L	0.000176	0.00116	mg/L	0.000882	76.02%
Co 228.616†	54.4	0.00132	mg/L	0.000074	0.00661	mg/L	0.000371	5.62%
Cr 267.716†	-4.4	-0.00092	mg/L	0.000503	-0.00458	mg/L	0.002516	54.94%
Cu 324.752†	2221.2	0.00777	mg/L	0.000550	0.03883	mg/L	0.002751	7.08%
Fe 273.955†	26.7	0.02168	mg/L	0.001919	0.1084	mg/L	0.00960	8.85%
K 766.490†	1237.5	0.5392	mg/L	0.00963	2.696	mg/L	0.0481	1.79%
Mg 279.077†	385.9	0.3366	mg/L	0.00562	1.683	mg/L	0.0281	1.67%
Mn 257.610†	399.7	0.01231	mg/L	0.000265	0.06154	mg/L	0.001327	2.16%
Mo 202.031†	0.2	-0.00002	mg/L	0.000218	-0.00009	mg/L	0.001090	>999.9%
Na 589.592†	4489099.9	337.9	mg/L	0.83	1690	mg/L	4.14	0.25%
Na 330.237†	7141.8	325.7	mg/L	0.54	1629	mg/L	2.71	0.17%
Ni 231.604†	14.1	0.00402	mg/L	0.000994	0.02008	mg/L	0.004969	24.75%
Pb 220.353†	9.0	0.00112	mg/L	0.000219	0.00562	mg/L	0.001096	19.51%
Sb 206.836†	-2.3	-0.00072	mg/L	0.002481	-0.00358	mg/L	0.012403	346.30%
Se 196.026†	0.2	0.00015	mg/L	0.001352	0.00075	mg/L	0.006758	906.15%
Si 288.158†	603.4	0.3382	mg/L	0.00576	1.691	mg/L	0.0288	1.70%
Sn 189.927†	0.1	0.00025	mg/L	0.000369	0.00126	mg/L	0.001845	146.61%
Sr 421.552†	3882.9	0.00476	mg/L	0.000033	0.02381	mg/L	0.000164	0.69%
Ti 334.903†	135.4	0.00792	mg/L	0.001109	0.03961	mg/L	0.005546	14.00%
Tl 190.801†	8.1	0.00390	mg/L	0.002853	0.01948	mg/L	0.014264	73.23%
V 292.402†	32.0	0.00021	mg/L	0.000045	0.00103	mg/L	0.000223	21.68%
Zn 206.200†	31.2	0.00880	mg/L	0.000230	0.04398	mg/L	0.001149	2.61%

Sequence No.: 8
 Sample ID: YE51 N LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 330
 Date Collected: 4/7/2014 12:33:31 PM
 Data Type: Original

Nebulizer Parameters: YE51 N LEN

Analyte Back Pressure Flow
 A11 217.0 kPa 0.75 L/min

Mean Data: YE51 N LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2918830.6	99.46	%	0.515				0.52%
ScR 361.383	254023.1	102.0	%	0.21				0.21%
Ag 328.068†	-18.0	-0.00008	mg/L	0.000157	-0.00039	mg/L	0.000783	198.23%
Al 308.215†	333.1	0.2567	mg/L	0.00240	1.283	mg/L	0.0120	0.93%
As 188.979†	-0.8	-0.00053	mg/L	0.000497	-0.00266	mg/L	0.002484	93.48%
B 249.677†	37.1	0.00651	mg/L	0.000955	0.03256	mg/L	0.004773	14.66%
Ba 233.527†	6.4	0.00163	mg/L	0.001023	0.00814	mg/L	0.005116	62.89%
Be 313.042†	3.1	0.00001	mg/L	0.000056	0.00003	mg/L	0.000281	920.74%
Ca 317.933†	17664.4	1.759	mg/L	0.0015	8.796	mg/L	0.0077	0.09%
Cd 228.802†	4.2	0.00014	mg/L	0.000163	0.00069	mg/L	0.000815	117.73%
Co 228.616†	55.7	0.00137	mg/L	0.000175	0.00683	mg/L	0.000875	12.82%
Cr 267.716†	-5.3	-0.00109	mg/L	0.000373	-0.00544	mg/L	0.001863	34.26%
Cu 324.752†	2234.4	0.00781	mg/L	0.000061	0.03907	mg/L	0.000304	0.78%
Fe 273.955†	24.3	0.01974	mg/L	0.002042	0.09871	mg/L	0.010211	10.34%
K 766.490†	1248.4	0.5439	mg/L	0.00748	2.720	mg/L	0.0374	1.38%
Mg 279.077†	392.4	0.3423	mg/L	0.00229	1.712	mg/L	0.0114	0.67%
Mn 257.610†	407.2	0.01254	mg/L	0.000055	0.06269	mg/L	0.000274	0.44%
Mo 202.031†	-0.8	-0.00007	mg/L	0.000032	-0.00037	mg/L	0.000161	43.97%
Na 589.592†	4516112.4	340.0	mg/L	0.73	1700	mg/L	3.65	0.21%
Na 330.237†	7215.9	329.1	mg/L	0.81	1646	mg/L	4.05	0.25%
Ni 231.604†	14.8	0.00420	mg/L	0.000616	0.02102	mg/L	0.003078	14.64%
Pb 220.353†	1.6	0.00024	mg/L	0.000938	0.00120	mg/L	0.004691	390.38%
Sb 206.836†	-3.8	-0.00121	mg/L	0.001152	-0.00606	mg/L	0.005760	94.98%
Se 196.026†	4.6	0.00337	mg/L	0.002126	0.01683	mg/L	0.010628	63.16%
Si 288.158†	601.1	0.3369	mg/L	0.00544	1.684	mg/L	0.0272	1.61%
Sn 189.927†	-0.8	-0.00004	mg/L	0.000599	-0.00020	mg/L	0.002996	>999.9%
Sr 421.552†	3876.2	0.00475	mg/L	0.000026	0.02377	mg/L	0.000132	0.56%
Ti 334.903†	32.3	0.00180	mg/L	0.000353	0.00898	mg/L	0.001766	19.67%
Tl 190.801†	9.4	0.00451	mg/L	0.001955	0.02257	mg/L	0.009774	43.31%
V 292.402†	38.4	0.00025	mg/L	0.000226	0.00126	mg/L	0.001131	90.12%
Zn 206.200†	31.1	0.00879	mg/L	0.000571	0.04393	mg/L	0.002853	6.49%

Sequence No.: 9
 Sample ID: YE51 NSPK LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 331
 Date Collected: 4/7/2014 12:37:48 PM
 Data Type: Original

Nebulizer Parameters: YE51 NSPK LEN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE51 NSPK LEN

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2889205.5	98.45	%	0.494				0.50%
ScR 361.383	.253105.6	101.7	%	0.10				0.10%
Ag 328.068†	42012.1	0.2097	mg/L	0.00171	1.049	mg/L	0.0085	0.81%
Al 308.215†	1347.0	1.035	mg/L	0.0046	5.175	mg/L	0.0232	0.45%
As 188.979†	1414.3	0.8436	mg/L	0.00019	4.218	mg/L	0.0009	0.02%
B 249.677†	33.2	0.00543	mg/L	0.000549	0.02713	mg/L	0.002745	10.12%
Ba 233.527†	3164.3	0.8064	mg/L	0.00698	4.032	mg/L	0.0349	0.87%
Be 313.042†	98147.8	0.1952	mg/L	0.00118	0.9761	mg/L	0.00591	0.61%
Ca 317.933†	57126.8	5.689	mg/L	0.0189	28.45	mg/L	0.094	0.33%
Cd 228.802†	6806.6	0.2094	mg/L	0.00196	1.047	mg/L	0.0098	0.94%
Co 228.616†	7937.8	0.1950	mg/L	0.00219	0.9749	mg/L	0.01095	1.12%
Cr 267.716†	1029.1	0.2020	mg/L	0.00153	1.010	mg/L	0.0077	0.76%
Cu 324.752†	60685.1	0.2124	mg/L	0.00224	1.062	mg/L	0.0112	1.05%
Fe 273.955†	988.0	0.8021	mg/L	0.00290	4.011	mg/L	0.0145	0.36%
K 766.490†	10370.3	4.518	mg/L	0.0246	22.59	mg/L	0.123	0.55%
Mg 279.077†	4897.6	4.274	mg/L	0.0226	21.37	mg/L	0.113	0.53%
Mn 257.610†	6752.9	0.2082	mg/L	0.00072	1.041	mg/L	0.0036	0.35%
Mo 202.031†	11.9	0.00057	mg/L	0.000216	0.00284	mg/L	0.001079	38.00%
Na 589.592†	4450448.8	335.0	mg/L	0.53	1675	mg/L	2.66	0.16%
Na 330.237†	7413.5	338.0	mg/L	1.19	1690	mg/L	5.93	0.35%
Ni 231.604†	705.6	0.2008	mg/L	0.00140	1.004	mg/L	0.0070	0.70%
Pb 220.353†	6667.4	0.7940	mg/L	0.00911	3.970	mg/L	0.0455	1.15%
Sb 206.836†	4.5	-0.00047	mg/L	0.000469	-0.00233	mg/L	0.002346	100.82%
Se 196.026†	1150.4	0.8503	mg/L	0.00204	4.251	mg/L	0.0102	0.24%
Si 288.158†	573.9	0.3230	mg/L	0.00314	1.615	mg/L	0.0157	0.97%
Sn 189.927†	-4.7	-0.00068	mg/L	0.000660	-0.00341	mg/L	0.003300	96.87%
Sr 421.552†	164745.6	0.2020	mg/L	0.00070	1.010	mg/L	0.0035	0.35%
Ti 334.903†	17.0	0.00057	mg/L	0.000611	0.00286	mg/L	0.003057	106.98%
Tl 190.801†	1649.8	0.7942	mg/L	0.00199	3.971	mg/L	0.0100	0.25%
V 292.402†	29597.9	0.1980	mg/L	0.00224	0.9901	mg/L	0.01122	1.13%
Zn 206.200†	743.6	0.2085	mg/L	0.00037	1.042	mg/L	0.0019	0.18%

Sequence No.: 10

Sample ID: YF37 MBSPK SWC

Analyst: EL

Dilution: 2.000000X

Autosampler Location: 332

Date Collected: 4/7/2014 12:42:06 PM

Data Type: Original

Nebulizer Parameters: YF37 MBSPK SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YF37 MBSPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2994353.7	102.0	%	0.37				0.36%
ScR 361.383	254219.9	102.1	%	0.41				0.40%
Ag 328.068†	106043.3	0.5294	mg/L	0.00192	1.059	mg/L	0.0038	0.36%
Al 308.215†	2635.3	2.016	mg/L	0.0052	4.031	mg/L	0.0104	0.26%
As 188.979†	3480.2	2.074	mg/L	0.0030	4.149	mg/L	0.0061	0.15%
B 249.677†	-3.3	-0.00107	mg/L	0.000575	-0.00214	mg/L	0.001150	53.80%
Ba 233.527†	8051.7	2.052	mg/L	0.0108	4.104	mg/L	0.0216	0.53%
Be 313.042†	252268.3	0.5018	mg/L	0.00158	1.004	mg/L	0.0032	0.31%
Ca 317.933†	100196.7	9.979	mg/L	0.0560	19.96	mg/L	0.112	0.56%
Cd 228.802†	16816.4	0.5175	mg/L	0.00433	1.035	mg/L	0.0087	0.84%
Co 228.616†	20178.4	0.4957	mg/L	0.00317	0.9915	mg/L	0.00634	0.64%
Cr 267.716†	2645.6	0.5195	mg/L	0.00258	1.039	mg/L	0.0052	0.50%
Cu 324.752†	142119.8	0.4973	mg/L	0.00415	0.9947	mg/L	0.00831	0.84%
Fe 273.955†	2536.0	2.059	mg/L	0.0072	4.118	mg/L	0.0144	0.35%
K 766.490†	22939.7	9.995	mg/L	0.0456	19.99	mg/L	0.091	0.46%
Mg 279.077†	11684.0	10.20	mg/L	0.037	20.40	mg/L	0.075	0.37%
Mn 257.610†	15877.6	0.4897	mg/L	0.00187	0.9794	mg/L	0.00374	0.38%
Mo 202.031†	9027.0	0.4995	mg/L	0.00485	0.9990	mg/L	0.00970	0.97%
Na 589.592†	138307.0	10.41	mg/L	0.041	20.82	mg/L	0.082	0.39%
Na 330.237†	241.1	10.79	mg/L	0.208	21.58	mg/L	0.417	1.93%
Ni 231.604†	1800.3	0.5124	mg/L	0.00298	1.025	mg/L	0.0060	0.58%
Pb 220.353†	16954.6	2.019	mg/L	0.0209	4.038	mg/L	0.0418	1.04%
Sb 206.836†	13.2	-0.00065	mg/L	0.001962	-0.00131	mg/L	0.003925	299.60%
Se 196.026†	2804.7	2.073	mg/L	0.0122	4.146	mg/L	0.0245	0.59%
Si 288.158†	-17.7	-0.00639	mg/L	0.003755	-0.01278	mg/L	0.007510	58.77%
Sn 189.927†	-15.9	-0.00348	mg/L	0.001127	-0.00696	mg/L	0.002254	32.37%
Sr 421.552†	412521.7	0.5059	mg/L	0.00124	1.012	mg/L	0.0025	0.24%
Ti 334.903†	37.6	0.00095	mg/L	0.000766	0.00190	mg/L	0.001531	80.45%
Tl 190.801†	4188.8	2.017	mg/L	0.0048	4.035	mg/L	0.0095	0.24%
V 292.402†	75384.6	0.5046	mg/L	0.00152	1.009	mg/L	0.0030	0.30%
Zn 206.200†	1785.3	0.5003	mg/L	0.00207	1.001	mg/L	0.0041	0.41%

Sequence No.: 11

Sample ID: CV5

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/7/2014 12:46:06 PM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2964826.5	101.0 %	0.44			0.43%
ScR 361.383	247951.1	99.58 %	0.548			0.55%
Ag 328.068†	209099.5	1.044 mg/L	0.0060	1.044 mg/L	0.0060	0.57%
Al 308.215†	2644.2	2.005 mg/L	0.0095	2.005 mg/L	0.0095	0.47%
As 188.979†	3340.5	2.026 mg/L	0.0103	2.026 mg/L	0.0103	0.51%
B 249.677†	5819.1	1.021 mg/L	0.0052	1.021 mg/L	0.0052	0.51%
Ba 233.527†	4034.3	1.028 mg/L	0.0064	1.028 mg/L	0.0064	0.62%
Be 313.042†	495798.3	0.9861 mg/L	0.00869	0.9861 mg/L	0.00869	0.88%
Ca 317.933†	20875.4	2.079 mg/L	0.0066	2.079 mg/L	0.0066	0.32%
Cd 228.802†	33098.0	1.029 mg/L	0.0044	1.029 mg/L	0.0044	0.43%
Co 228.616†	40275.8	0.9880 mg/L	0.00403	0.9880 mg/L	0.00403	0.41%
Cr 267.716†	5287.3	1.040 mg/L	0.0044	1.040 mg/L	0.0044	0.42%
Cu 324.752†	292668.0	1.024 mg/L	0.0049	1.024 mg/L	0.0049	0.48%
Fe 273.955†	2532.9	2.053 mg/L	0.0118	2.053 mg/L	0.0118	0.57%
K 766.490†	45886.8	19.99 mg/L	0.047	19.99 mg/L	0.047	0.23%
Mg 279.077†	2272.9	1.990 mg/L	0.0101	1.990 mg/L	0.0101	0.51%
Mn 257.610†	31865.6	0.9826 mg/L	0.00558	0.9826 mg/L	0.00558	0.57%
Mo 202.031†	18028.3	0.9978 mg/L	0.00567	0.9978 mg/L	0.00567	0.57%
Na 589.592†	688877.4	51.86 mg/L	0.124	51.86 mg/L	0.124	0.24%
Na 330.237†	1127.8	51.40 mg/L	0.222	51.40 mg/L	0.222	0.43%
Ni 231.604†	3616.7	1.031 mg/L	0.0080	1.031 mg/L	0.0080	0.77%
Pb 220.353†	17234.2	2.053 mg/L	0.0104	2.053 mg/L	0.0104	0.51%
Sb 206.836†	6376.8	2.079 mg/L	0.0092	2.079 mg/L	0.0092	0.44%
Se 196.026†	2720.7	2.010 mg/L	0.0094	2.010 mg/L	0.0094	0.47%
Si 288.158†	3518.0	1.976 mg/L	0.0190	1.976 mg/L	0.0190	0.96%
Sn 189.927†	3341.1	1.001 mg/L	0.0069	1.001 mg/L	0.0069	0.68%
Sr 421.552†	835124.2	1.024 mg/L	0.0025	1.024 mg/L	0.0025	0.25%
Ti 334.903†	16861.2	1.001 mg/L	0.0032	1.001 mg/L	0.0032	0.32%
Tl 190.801†	4110.6	1.975 mg/L	0.0076	1.975 mg/L	0.0076	0.39%
V 292.402†	150420.7	1.006 mg/L	0.0041	1.006 mg/L	0.0041	0.41%
Zn 206.200†	3647.1	1.022 mg/L	0.0056	1.022 mg/L	0.0056	0.55%

Sequence No.: 12
 Sample ID: CB 5
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 12:50:10 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2968232.0	101.1	%	0.17				0.17%
ScR 361.383	253950.7	102.0	%	0.06				0.06%
Ag 328.068†	24.1	0.00012	mg/L	0.000230	0.00012	mg/L	0.000230	191.59%
Al 308.215†	7.0	0.00537	mg/L	0.008514	0.00537	mg/L	0.008514	158.65%
As 188.979†	-0.3	-0.00017	mg/L	0.001660	-0.00017	mg/L	0.001660	>999.9%
B 249.677†	9.3	0.00163	mg/L	0.000288	0.00163	mg/L	0.000288	17.63%
Ba 233.527†	1.6	0.00042	mg/L	0.000649	0.00042	mg/L	0.000649	155.84%
Be 313.042†	-22.0	-0.00004	mg/L	0.000005	-0.00004	mg/L	0.000005	11.80%
Ca 317.933†	5.1	0.00051	mg/L	0.001519	0.00051	mg/L	0.001519	297.42%
Cd 228.802†	-3.9	-0.00012	mg/L	0.000092	-0.00012	mg/L	0.000092	75.93%
Co 228.616†	-1.4	-0.00004	mg/L	0.000081	-0.00004	mg/L	0.000081	229.86%
Cr 267.716†	-5.6	-0.00110	mg/L	0.000204	-0.00110	mg/L	0.000204	18.57%
Cu 324.752†	-38.8	-0.00014	mg/L	0.000078	-0.00014	mg/L	0.000078	57.22%
Fe 273.955†	2.7	0.00216	mg/L	0.002137	0.00216	mg/L	0.002137	99.06%
K 766.490†	14.4	0.00627	mg/L	0.008690	0.00627	mg/L	0.008690	138.49%
Mg 279.077†	-3.7	-0.00326	mg/L	0.003696	-0.00326	mg/L	0.003696	113.43%
Mn 257.610†	-0.2	-0.00000	mg/L	0.000094	-0.00000	mg/L	0.000094	>999.9%
Mo 202.031†	13.1	0.00072	mg/L	0.000284	0.00072	mg/L	0.000284	39.30%
Na 589.592†	275.0	0.02070	mg/L	0.000822	0.02070	mg/L	0.000822	3.97%
Na 330.237†	-0.9	-0.03967	mg/L	0.031615	-0.03967	mg/L	0.031615	79.69%
Ni 231.604†	-1.6	-0.00045	mg/L	0.000069	-0.00045	mg/L	0.000069	15.44%
Pb 220.353†	2.9	0.00035	mg/L	0.000935	0.00035	mg/L	0.000935	266.85%
Sb 206.836†	30.9	0.01011	mg/L	0.000450	0.01011	mg/L	0.000450	4.45%
Se 196.026†	0.3	0.00022	mg/L	0.005599	0.00022	mg/L	0.005599	>999.9%
Si 288.158†	0.1	0.00004	mg/L	0.002018	0.00004	mg/L	0.002018	>999.9%
Sn 189.927†	5.4	0.00161	mg/L	0.001229	0.00161	mg/L	0.001229	76.27%
Sr 421.552†	36.2	0.00004	mg/L	0.000008	0.00004	mg/L	0.000008	17.19%
Ti 334.903†	8.9	0.00053	mg/L	0.000311	0.00053	mg/L	0.000311	59.03%
Tl 190.801†	7.0	0.00340	mg/L	0.000890	0.00340	mg/L	0.000890	26.16%
V 292.402†	-5.7	-0.00004	mg/L	0.000140	-0.00004	mg/L	0.000140	328.69%
Zn 206.200†	-0.7	-0.00018	mg/L	0.000712	-0.00018	mg/L	0.000712	388.13%

Sequence No.: 13
Sample ID: YE66 MB1 DMN
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 333
Date Collected: 4/7/2014 12:54:10 PM
Data Type: Original

Nebulizer Parameters: YE66 MB1 DMN

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YE66 MB1 DMN

Table with 9 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Sample Conc., Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 14

Autosampler Location: 334

Sample ID: YE66 MB2 WMN

Date Collected: 4/7/2014 12:58:11 PM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE66 MB2 WMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE66 MB2 WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3012742.4	102.7	%	0.36				0.35%
ScR 361.383	257298.7	103.3	%	1.11				1.08%
Ag 328.068†	32.9	0.00016	mg/L	0.000168	0.00016	mg/L	0.000168	102.65%
Al 308.215†	5.6	0.00431	mg/L	0.005066	0.00431	mg/L	0.005066	117.53%
As 188.979†	0.5	0.00032	mg/L	0.000883	0.00032	mg/L	0.000883	274.44%
B 249.677†	-1.5	-0.00026	mg/L	0.000186	-0.00026	mg/L	0.000186	71.23%
Ba 233.527†	-0.2	-0.00006	mg/L	0.000470	-0.00006	mg/L	0.000470	806.68%
Be 313.042†	4.6	0.00001	mg/L	0.000047	0.00001	mg/L	0.000047	516.30%
Ca 317.933†	7.5	0.00075	mg/L	0.000708	0.00075	mg/L	0.000708	94.52%
Cd 228.802†	-1.7	-0.00006	mg/L	0.000111	-0.00006	mg/L	0.000111	201.73%
Co 228.616†	13.1	0.00032	mg/L	0.000153	0.00032	mg/L	0.000153	47.87%
Cr 267.716†	-4.4	-0.00087	mg/L	0.000278	-0.00087	mg/L	0.000278	32.03%
Cu 324.752†	15.9	0.00006	mg/L	0.000087	0.00006	mg/L	0.000087	155.52%
Fe 273.955†	1.3	0.00108	mg/L	0.004268	0.00108	mg/L	0.004268	393.69%
K 766.490†	35.7	0.01557	mg/L	0.015314	0.01557	mg/L	0.015314	98.33%
Mg 279.077†	-9.3	-0.00810	mg/L	0.000914	-0.00810	mg/L	0.000914	11.28%
Mn 257.610†	-2.8	-0.00008	mg/L	0.000039	-0.00008	mg/L	0.000039	46.12%
Mo 202.031†	-11.3	-0.00062	mg/L	0.000214	-0.00062	mg/L	0.000214	34.36%
Na 589.592†	179.1	0.01348	mg/L	0.002848	0.01348	mg/L	0.002848	21.13%
Na 330.237†	-3.3	-0.1505	mg/L	0.17701	-0.1505	mg/L	0.17701	117.58%
Ni 231.604†	-4.7	-0.00134	mg/L	0.000465	-0.00134	mg/L	0.000465	34.85%
Pb 220.353†	10.9	0.00130	mg/L	0.000875	0.00130	mg/L	0.000875	67.42%
Sb 206.836†	-8.8	-0.00286	mg/L	0.002417	-0.00286	mg/L	0.002417	84.52%
Se 196.026†	6.6	0.00486	mg/L	0.002539	0.00486	mg/L	0.002539	52.27%
Si 288.158†	-27.2	-0.01526	mg/L	0.003240	-0.01526	mg/L	0.003240	21.23%
Sn 189.927†	2.2	0.00065	mg/L	0.000650	0.00065	mg/L	0.000650	100.41%
Sr 421.552†	36.7	0.00005	mg/L	0.000005	0.00005	mg/L	0.000005	11.07%
Ti 334.903†	3.4	0.00020	mg/L	0.000168	0.00020	mg/L	0.000168	83.06%
Tl 190.801†	9.3	0.00448	mg/L	0.001049	0.00448	mg/L	0.001049	23.43%
V 292.402†	20.9	0.00014	mg/L	0.000089	0.00014	mg/L	0.000089	65.91%
Zn 206.200†	-2.3	-0.00065	mg/L	0.000556	-0.00065	mg/L	0.000556	85.72%

Sequence No.: 15
 Sample ID: YE66 MB3 TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 335
 Date Collected: 4/7/2014 1:02:10 PM
 Data Type: Original

Nebulizer Parameters: YE66 MB3 TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 MB3 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2991137.2	101.9	%	0.67				0.65%
ScR 361.383	252925.0	101.6	%	0.41				0.40%
Ag 328.068†	-8.6	-0.00004	mg/L	0.000157	-0.00004	mg/L	0.000157	364.47%
Al 308.215†	10.9	0.00836	mg/L	0.001050	0.00836	mg/L	0.001050	12.56%
As 188.979†	-2.1	-0.00125	mg/L	0.002180	-0.00125	mg/L	0.002180	174.07%
B 249.677†	-4.4	-0.00077	mg/L	0.000556	-0.00077	mg/L	0.000556	72.40%
Ba 233.527†	5.1	0.00131	mg/L	0.000585	0.00131	mg/L	0.000585	44.59%
Be 313.042†	7.8	0.00002	mg/L	0.000015	0.00002	mg/L	0.000015	93.37%
Ca 317.933†	31.7	0.00316	mg/L	0.000576	0.00316	mg/L	0.000576	18.22%
Cd 228.802†	-4.0	-0.00012	mg/L	0.000162	-0.00012	mg/L	0.000162	133.81%
Co 228.616†	-5.1	-0.00013	mg/L	0.000093	-0.00013	mg/L	0.000093	73.56%
Cr 267.716†	-7.9	-0.00156	mg/L	0.000543	-0.00156	mg/L	0.000543	34.88%
Cu 324.752†	-43.2	-0.00015	mg/L	0.000097	-0.00015	mg/L	0.000097	64.22%
Fe 273.955†	5.8	0.00473	mg/L	0.001217	0.00473	mg/L	0.001217	25.73%
K 766.490†	35.8	0.01559	mg/L	0.005369	0.01559	mg/L	0.005369	34.44%
Mg 279.077†	-3.3	-0.00292	mg/L	0.000324	-0.00292	mg/L	0.000324	11.11%
Mn 257.610†	1.9	0.00006	mg/L	0.000069	0.00006	mg/L	0.000069	118.42%
Mo 202.031†	-1.7	-0.00009	mg/L	0.000287	-0.00009	mg/L	0.000287	304.01%
Na 589.592†	258.1	0.01943	mg/L	0.002868	0.01943	mg/L	0.002868	14.76%
Na 330.237†	1.3	0.06123	mg/L	0.125524	0.06123	mg/L	0.125524	205.00%
Ni 231.604†	-1.7	-0.00049	mg/L	0.001017	-0.00049	mg/L	0.001017	207.33%
Pb 220.353†	8.0	0.00096	mg/L	0.000417	0.00096	mg/L	0.000417	43.63%
Sb 206.836†	-2.7	-0.00085	mg/L	0.000438	-0.00085	mg/L	0.000438	51.38%
Se 196.026†	1.5	0.00110	mg/L	0.001933	0.00110	mg/L	0.001933	176.17%
Si 288.158†	8.6	0.00484	mg/L	0.007214	0.00484	mg/L	0.007214	149.17%
Sn 189.927†	1.8	0.00053	mg/L	0.000787	0.00053	mg/L	0.000787	148.01%
Sr 421.552†	98.5	0.00012	mg/L	0.000052	0.00012	mg/L	0.000052	43.05%
Ti 334.903†	9.4	0.00056	mg/L	0.000514	0.00056	mg/L	0.000514	92.38%
Tl 190.801†	4.9	0.00235	mg/L	0.000681	0.00235	mg/L	0.000681	29.01%
V 292.402†	25.7	0.00016	mg/L	0.000149	0.00016	mg/L	0.000149	91.03%
Zn 206.200†	1.4	0.00040	mg/L	0.001006	0.00040	mg/L	0.001006	254.07%

Sequence No.: 16
 Sample ID: YE66 J TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 336
 Date Collected: 4/7/2014 1:06:09 PM
 Data Type: Original

Nebulizer Parameters: YE66 J TWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE66 J TWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2934850.9	100.0	%	0.59			0.59%
ScR 361.383	250556.6	100.6	%	0.76			0.76%
Ag 328.068†	14.3	0.00015	mg/L	0.000156	0.00015	mg/L	0.000156 106.39%
Al 308.215†	1803.2	1.389	mg/L	0.0219	1.389	mg/L	0.0219 1.57%
As 188.979†	9.3	0.00683	mg/L	0.003186	0.00683	mg/L	0.003186 46.66%
B 249.677†	317.3	0.05572	mg/L	0.000441	0.05572	mg/L	0.000441 0.79%
Ba 233.527†	71.3	0.01795	mg/L	0.001217	0.01795	mg/L	0.001217 6.78%
Be 313.042†	6.6	0.00001	mg/L	0.000023	0.00001	mg/L	0.000023 196.09%
Ca 317.933†	123342.4	12.28	mg/L	0.038	12.28	mg/L	0.038 0.31%
Cd 228.802†	-4.8	-0.00019	mg/L	0.000107	-0.00019	mg/L	0.000107 57.45%
Co 228.616†	91.1	0.00212	mg/L	0.000134	0.00212	mg/L	0.000134 6.35%
Cr 267.716†	17.6	0.00306	mg/L	0.000679	0.00306	mg/L	0.000679 22.19%
Cu 324.752†	464.0	0.00162	mg/L	0.000188	0.00162	mg/L	0.000188 11.59%
Fe 273.955†	1834.7	1.492	mg/L	0.0064	1.492	mg/L	0.0064 0.43%
K 766.490†	7696.9	3.354	mg/L	0.0217	3.354	mg/L	0.0217 0.65%
Mg 279.077†	4545.0	3.965	mg/L	0.0409	3.965	mg/L	0.0409 1.03%
Mn 257.610†	2631.1	0.08101	mg/L	0.000638	0.08101	mg/L	0.000638 0.79%
Mo 202.031†	73.4	0.00387	mg/L	0.000137	0.00387	mg/L	0.000137 3.55%
Na 589.592†	165273.4	12.44	mg/L	0.035	12.44	mg/L	0.035 0.28%
Na 330.237†	273.1	12.40	mg/L	0.122	12.40	mg/L	0.122 0.99%
Ni 231.604†	19.4	0.00553	mg/L	0.001118	0.00553	mg/L	0.001118 20.21%
Pb 220.353†	-5.9	-0.00042	mg/L	0.000432	-0.00042	mg/L	0.000432 103.46%
Sb 206.836†	-0.4	-0.00014	mg/L	0.001395	-0.00014	mg/L	0.001395 986.43%
Se 196.026†	1.4	0.00102	mg/L	0.001585	0.00102	mg/L	0.001585 155.60%
Si 288.158†	19997.1	11.21	mg/L	0.117	11.21	mg/L	0.117 1.04%
Sn 189.927†	-17.7	-0.00379	mg/L	0.001168	-0.00379	mg/L	0.001168 30.80%
Sr 421.552†	156413.4	0.1918	mg/L	0.00085	0.1918	mg/L	0.00085 0.45%
Ti 334.903†	1131.8	0.06638	mg/L	0.000661	0.06638	mg/L	0.000661 1.00%
Tl 190.801†	8.8	0.00438	mg/L	0.001491	0.00438	mg/L	0.001491 34.05%
V 292.402†	498.7	0.00323	mg/L	0.000304	0.00323	mg/L	0.000304 9.42%
Zn 206.200†	6.8	0.00399	mg/L	0.000908	0.00399	mg/L	0.000908 22.76%

Sequence No.: 17
 Sample ID: YE66 K TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 337
 Date Collected: 4/7/2014 1:10:24 PM
 Data Type: Original

 Nebulizer Parameters: YE66 K TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE66 K TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2946210.6	100.4	%	0.29				0.29%
ScR 361.383	251007.5	100.8	%	0.66				0.65%
Ag 328.068†	38.0	0.00024	mg/L	0.000124	0.00024	mg/L	0.000124	51.09%
Al 308.215†	576.0	0.4437	mg/L	0.00694	0.4437	mg/L	0.00694	1.56%
As 188.979†	8.7	0.00513	mg/L	0.000938	0.00513	mg/L	0.000938	18.27%
B 249.677†	346.2	0.06079	mg/L	0.000853	0.06079	mg/L	0.000853	1.40%
Ba 233.527†	38.0	0.00955	mg/L	0.000771	0.00955	mg/L	0.000771	8.07%
Be 313.042†	16.9	0.00003	mg/L	0.000022	0.00003	mg/L	0.000022	66.94%
Ca 317.933†	86998.2	8.664	mg/L	0.0102	8.664	mg/L	0.0102	0.12%
Cd 228.802†	-8.4	-0.00029	mg/L	0.000011	-0.00029	mg/L	0.000011	3.82%
Co 228.616†	90.1	0.00218	mg/L	0.000183	0.00218	mg/L	0.000183	8.41%
Cr 267.716†	7.6	0.00117	mg/L	0.000641	0.00117	mg/L	0.000641	54.98%
Cu 324.752†	423.9	0.00147	mg/L	0.000126	0.00147	mg/L	0.000126	8.59%
Fe 273.955†	1006.4	0.8184	mg/L	0.00841	0.8184	mg/L	0.00841	1.03%
K 766.490†	3939.1	1.716	mg/L	0.0041	1.716	mg/L	0.0041	0.24%
Mg 279.077†	3666.3	3.198	mg/L	0.0340	3.198	mg/L	0.0340	1.06%
Mn 257.610†	2451.7	0.07550	mg/L	0.000226	0.07550	mg/L	0.000226	0.30%
Mo 202.031†	66.0	0.00352	mg/L	0.000358	0.00352	mg/L	0.000358	10.18%
Na 589.592†	177635.0	13.37	mg/L	0.019	13.37	mg/L	0.019	0.14%
Na 330.237†	289.6	13.16	mg/L	0.095	13.16	mg/L	0.095	0.72%
Ni 231.604†	16.1	0.00460	mg/L	0.001530	0.00460	mg/L	0.001530	33.27%
Pb 220.353†	-5.5	-0.00058	mg/L	0.000833	-0.00058	mg/L	0.000833	144.42%
Sb 206.836†	1.7	0.00054	mg/L	0.000733	0.00054	mg/L	0.000733	135.02%
Se 196.026†	4.7	0.00349	mg/L	0.002033	0.00349	mg/L	0.002033	58.30%
Si 288.158†	15744.1	8.823	mg/L	0.1067	8.823	mg/L	0.1067	1.21%
Sn 189.927†	-12.2	-0.00260	mg/L	0.000895	-0.00260	mg/L	0.000895	34.35%
Sr 421.552†	89918.4	0.1103	mg/L	0.00011	0.1103	mg/L	0.00011	0.10%
Ti 334.903†	326.3	0.01877	mg/L	0.000749	0.01877	mg/L	0.000749	3.99%
Tl 190.801†	7.8	0.00384	mg/L	0.002584	0.00384	mg/L	0.002584	67.28%
V 292.402†	213.5	0.00138	mg/L	0.000073	0.00138	mg/L	0.000073	5.29%
Zn 206.200†	18.9	0.00695	mg/L	0.000161	0.00695	mg/L	0.000161	2.32%

Sequence No.: 18
 Sample ID: YE66 L TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 338
 Date Collected: 4/7/2014 1:14:39 PM
 Data Type: Original

Nebulizer Parameters: YE66 L TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 L TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2957547.0	100.8 %		0.51			0.51%
ScR 361.383	250416.2	100.6 %		0.52			0.51%
Ag 328.068†	13.9	0.00014 mg/L		0.000135	0.00014 mg/L	0.000135	94.40%
Al 308.215†	245.7	0.1893 mg/L		0.00482	0.1893 mg/L	0.00482	2.54%
As 188.979†	8.7	0.00442 mg/L		0.000566	0.00442 mg/L	0.000566	12.78%
B 249.677†	300.7	0.05280 mg/L		0.001399	0.05280 mg/L	0.001399	2.65%
Ba 233.527†	33.3	0.00844 mg/L		0.000208	0.00844 mg/L	0.000208	2.47%
Be 313.042†	11.3	0.00002 mg/L		0.000027	0.00002 mg/L	0.000027	123.90%
Ca 317.933†	121929.5	12.14 mg/L		0.006	12.14 mg/L	0.006	0.05%
Cd 228.802†	-4.8	-0.00018 mg/L		0.000094	-0.00018 mg/L	0.000094	52.65%
Co 228.616†	39.9	0.00097 mg/L		0.000099	0.00097 mg/L	0.000099	10.25%
Cr 267.716†	-0.0	-0.00052 mg/L		0.000507	-0.00052 mg/L	0.000507	98.43%
Cu 324.752†	144.3	0.00045 mg/L		0.000072	0.00045 mg/L	0.000072	15.92%
Fe 273.955†	394.2	0.3206 mg/L		0.00042	0.3206 mg/L	0.00042	0.13%
K 766.490†	3294.5	1.435 mg/L		0.0231	1.435 mg/L	0.0231	1.61%
Mg 279.077†	5355.0	4.672 mg/L		0.0440	4.672 mg/L	0.0440	0.94%
Mn 257.610†	1363.8	0.04195 mg/L		0.000273	0.04195 mg/L	0.000273	0.65%
Mo 202.031†	58.7	0.00306 mg/L		0.000214	0.00306 mg/L	0.000214	6.99%
Na 589.592†	144301.2	10.86 mg/L		0.025	10.86 mg/L	0.025	0.23%
Na 330.237†	246.7	11.18 mg/L		0.283	11.18 mg/L	0.283	2.53%
Ni 231.604†	8.2	0.00235 mg/L		0.000823	0.00235 mg/L	0.000823	35.10%
Pb 220.353†	-2.2	-0.00023 mg/L		0.000637	-0.00023 mg/L	0.000637	274.94%
Sb 206.836†	-3.2	-0.00107 mg/L		0.000597	-0.00107 mg/L	0.000597	55.86%
Se 196.026†	5.8	0.00431 mg/L		0.001891	0.00431 mg/L	0.001891	43.92%
Si 288.158†	17196.6	9.637 mg/L		0.1198	9.637 mg/L	0.1198	1.24%
Sn 189.927†	-19.4	-0.00433 mg/L		0.000824	-0.00433 mg/L	0.000824	19.03%
Sr 421.552†	102072.0	0.1252 mg/L		0.00043	0.1252 mg/L	0.00043	0.34%
Ti 334.903†	140.7	0.00750 mg/L		0.000875	0.00750 mg/L	0.000875	11.67%
Tl 190.801†	9.4	0.00456 mg/L		0.001698	0.00456 mg/L	0.001698	37.20%
V 292.402†	182.5	0.00120 mg/L		0.000176	0.00120 mg/L	0.000176	14.65%
Zn 206.200†	5.2	0.00326 mg/L		0.000884	0.00326 mg/L	0.000884	27.08%

Sequence No.: 19

Sample ID: YE66 IDUP TWC

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 339

Date Collected: 4/7/2014 1:18:54 PM

Data Type: Original

Nebulizer Parameters: YE66 IDUP TWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE66 IDUP TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2948340.0	100.5	%	0.27				0.27%
ScR 361.383	252210.7	101.3	%	0.44				0.43%
Ag 328.068†	28.4	0.00022	mg/L	0.000114	0.00022	mg/L	0.000114	51.38%
Al 308.215†	737.9	0.5684	mg/L	0.00384	0.5684	mg/L	0.00384	0.68%
As 188.979†	11.9	0.00687	mg/L	0.002462	0.00687	mg/L	0.002462	35.85%
B 249.677†	257.6	0.04523	mg/L	0.001139	0.04523	mg/L	0.001139	2.52%
Ba 233.527†	46.6	0.01178	mg/L	0.000363	0.01178	mg/L	0.000363	3.08%
Be 313.042†	-28.6	-0.00006	mg/L	0.000003	-0.00006	mg/L	0.000003	4.66%
Ca 317.933†	133954.0	13.34	mg/L	0.021	13.34	mg/L	0.021	0.16%
Cd 228.802†	-6.6	-0.00025	mg/L	0.000091	-0.00025	mg/L	0.000091	37.01%
Co 228.616†	27.1	0.00062	mg/L	0.000110	0.00062	mg/L	0.000110	17.81%
Cr 267.716†	9.1	0.00126	mg/L	0.000288	0.00126	mg/L	0.000288	22.77%
Cu 324.752†	371.1	0.00125	mg/L	0.000157	0.00125	mg/L	0.000157	12.50%
Fe 273.955†	787.2	0.6401	mg/L	0.00551	0.6401	mg/L	0.00551	0.86%
K 766.490†	3602.2	1.569	mg/L	0.0313	1.569	mg/L	0.0313	2.00%
Mg 279.077†	5660.2	4.938	mg/L	0.0512	4.938	mg/L	0.0512	1.04%
Mn 257.610†	1059.2	0.03255	mg/L	0.000285	0.03255	mg/L	0.000285	0.87%
Mo 202.031†	56.4	0.00291	mg/L	0.000492	0.00291	mg/L	0.000492	16.88%
Na 589.592†	178129.1	13.41	mg/L	0.014	13.41	mg/L	0.014	0.10%
Na 330.237†	292.2	13.25	mg/L	0.507	13.25	mg/L	0.507	3.83%
Ni 231.604†	11.4	0.00324	mg/L	0.001846	0.00324	mg/L	0.001846	56.98%
Pb 220.353†	-5.0	-0.00048	mg/L	0.001048	-0.00048	mg/L	0.001048	217.68%
Sb 206.836†	4.8	0.00153	mg/L	0.000727	0.00153	mg/L	0.000727	47.56%
Se 196.026†	0.8	0.00061	mg/L	0.002646	0.00061	mg/L	0.002646	433.80%
Si 288.158†	20745.7	11.63	mg/L	0.180	11.63	mg/L	0.180	1.55%
Sn 189.927†	-19.4	-0.00420	mg/L	0.000356	-0.00420	mg/L	0.000356	8.47%
Sr 421.552†	102517.7	0.1257	mg/L	0.00017	0.1257	mg/L	0.00017	0.14%
Ti 334.903†	451.9	0.02591	mg/L	0.000565	0.02591	mg/L	0.000565	2.18%
Tl 190.801†	8.3	0.00406	mg/L	0.001294	0.00406	mg/L	0.001294	31.89%
V 292.402†	368.7	0.00242	mg/L	0.000161	0.00242	mg/L	0.000161	6.64%
Zn 206.200†	11.2	0.00531	mg/L	0.000734	0.00531	mg/L	0.000734	13.81%

YE66:00127

Sequence No.: 20
 Sample ID: YE66 I TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 340
 Date Collected: 4/7/2014 1:23:09 PM
 Data Type: Original

Nebulizer Parameters: YE66 I TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE66 I TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2940956.7	100.2	%	0.23				0.23%
ScR 361.383	250281.3	100.5	%	0.63				0.63%
Ag 328.068†	25.5	0.00021	mg/L	0.000114	0.00021	mg/L	0.000114	54.87%
Al 308.215†	544.8	0.4197	mg/L	0.00479	0.4197	mg/L	0.00479	1.14%
As 188.979†	12.5	0.00703	mg/L	0.000553	0.00703	mg/L	0.000553	7.87%
B 249.677†	253.2	0.04447	mg/L	0.001407	0.04447	mg/L	0.001407	3.16%
Ba 233.527†	38.5	0.00973	mg/L	0.000297	0.00973	mg/L	0.000297	3.05%
Be 313.042†	15.6	0.00003	mg/L	0.000025	0.00003	mg/L	0.000025	83.76%
Ca 317.933†	131478.4	13.09	mg/L	0.027	13.09	mg/L	0.027	0.20%
Cd 228.802†	-8.0	-0.00029	mg/L	0.000112	-0.00029	mg/L	0.000112	38.50%
Co 228.616†	34.9	0.00082	mg/L	0.000158	0.00082	mg/L	0.000158	19.20%
Cr 267.716†	8.3	0.00110	mg/L	0.000566	0.00110	mg/L	0.000566	51.25%
Cu 324.752†	276.7	0.00092	mg/L	0.000214	0.00092	mg/L	0.000214	23.24%
Fe 273.955†	653.5	0.5314	mg/L	0.00289	0.5314	mg/L	0.00289	0.54%
K 766.490†	3539.9	1.542	mg/L	0.0099	1.542	mg/L	0.0099	0.64%
Mg 279.077†	5548.3	4.841	mg/L	0.0318	4.841	mg/L	0.0318	0.66%
Mn 257.610†	1012.2	0.03111	mg/L	0.000275	0.03111	mg/L	0.000275	0.88%
Mo 202.031†	56.3	0.00291	mg/L	0.000137	0.00291	mg/L	0.000137	4.70%
Na 589.592†	175155.6	13.19	mg/L	0.012	13.19	mg/L	0.012	0.09%
Na 330.237†	291.4	13.22	mg/L	0.366	13.22	mg/L	0.366	2.77%
Ni 231.604†	7.2	0.00206	mg/L	0.001699	0.00206	mg/L	0.001699	82.50%
Pb 220.353†	-2.2	-0.00018	mg/L	0.000414	-0.00018	mg/L	0.000414	231.82%
Sb 206.836†	1.2	0.00035	mg/L	0.001240	0.00035	mg/L	0.001240	357.46%
Se 196.026†	4.3	0.00316	mg/L	0.003839	0.00316	mg/L	0.003839	121.57%
Si 288.158†	20284.3	11.37	mg/L	0.112	11.37	mg/L	0.112	0.98%
Sn 189.927†	-20.2	-0.00445	mg/L	0.000728	-0.00445	mg/L	0.000728	16.36%
Sr 421.552†	100887.2	0.1237	mg/L	0.00013	0.1237	mg/L	0.00013	0.11%
Ti 334.903†	333.1	0.01887	mg/L	0.000703	0.01887	mg/L	0.000703	3.73%
Tl 190.801†	10.7	0.00520	mg/L	0.003061	0.00520	mg/L	0.003061	58.82%
V 292.402†	342.8	0.00226	mg/L	0.000107	0.00226	mg/L	0.000107	4.73%
Zn 206.200†	10.6	0.00510	mg/L	0.000895	0.00510	mg/L	0.000895	17.56%

Sequence No.: 21
 Sample ID: YE66 ISPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 341
 Date Collected: 4/7/2014 1:27:24 PM
 Data Type: Original

Nebulizer Parameters: YE66 ISPK TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE66 ISPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2913899.9	99.29	%	0.450				0.45%
ScR 361.383	248922.8	99.97	%	0.542				0.54%
Ag 328.068†	109704.8	0.5477	mg/L	0.00193	0.5477	mg/L	0.00193	0.35%
Al 308.215†	3506.4	2.694	mg/L	0.0105	2.694	mg/L	0.0105	0.39%
As 188.979†	3610.4	2.154	mg/L	0.0053	2.154	mg/L	0.0053	0.25%
B 249.677†	257.1	0.04406	mg/L	0.000505	0.04406	mg/L	0.000505	1.15%
Ba 233.527†	8380.0	2.136	mg/L	0.0093	2.136	mg/L	0.0093	0.43%
Be 313.042†	260250.2	0.5176	mg/L	0.00207	0.5176	mg/L	0.00207	0.40%
Ca 317.933†	236214.9	23.53	mg/L	0.033	23.53	mg/L	0.033	0.14%
Cd 228.802†	17316.1	0.5327	mg/L	0.00170	0.5327	mg/L	0.00170	0.32%
Co 228.616†	20806.6	0.5110	mg/L	0.00256	0.5110	mg/L	0.00256	0.50%
Cr 267.716†	2718.9	0.5334	mg/L	0.00233	0.5334	mg/L	0.00233	0.44%
Cu 324.752†	148495.1	0.5198	mg/L	0.00172	0.5198	mg/L	0.00172	0.33%
Fe 273.955†	3473.8	2.821	mg/L	0.0131	2.821	mg/L	0.0131	0.46%
K 766.490†	27387.8	11.93	mg/L	0.058	11.93	mg/L	0.058	0.49%
Mg 279.077†	17846.0	15.57	mg/L	0.059	15.57	mg/L	0.059	0.38%
Mn 257.610†	18115.0	0.5586	mg/L	0.00243	0.5586	mg/L	0.00243	0.44%
Mo 202.031†	75.2	0.00380	mg/L	0.000213	0.00380	mg/L	0.000213	5.61%
Na 589.592†	319463.9	24.05	mg/L	0.050	24.05	mg/L	0.050	0.21%
Na 330.237†	529.6	23.87	mg/L	0.319	23.87	mg/L	0.319	1.34%
Ni 231.604†	1851.6	0.5270	mg/L	0.00202	0.5270	mg/L	0.00202	0.38%
Pb 220.353†	17366.7	2.068	mg/L	0.0071	2.068	mg/L	0.0071	0.34%
Sb 206.836†	14.3	-0.00044	mg/L	0.000828	-0.00044	mg/L	0.000828	187.08%
Se 196.026†	2866.5	2.119	mg/L	0.0026	2.119	mg/L	0.0026	0.12%
Si 288.158†	21821.0	12.23	mg/L	0.058	12.23	mg/L	0.058	0.47%
Sn 189.927†	-35.9	-0.00780	mg/L	0.001196	-0.00780	mg/L	0.001196	15.33%
Sr 421.552†	531003.9	0.6512	mg/L	0.00122	0.6512	mg/L	0.00122	0.19%
Ti 334.903†	552.2	0.03105	mg/L	0.000535	0.03105	mg/L	0.000535	1.72%
Tl 190.801†	4336.4	2.088	mg/L	0.0048	2.088	mg/L	0.0048	0.23%
V 292.402†	78654.0	0.5262	mg/L	0.00191	0.5262	mg/L	0.00191	0.36%
Zn 206.200†	1849.1	0.5206	mg/L	0.00120	0.5206	mg/L	0.00120	0.23%

Sequence No.: 22
 Sample ID: YE66 MB3SPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 342
 Date Collected: 4/7/2014 1:31:24 PM
 Data Type: Original

Nebulizer Parameters: YE66 MB3SPK TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE66 MB3SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2948337.1	100.5	%	0.72			0.72%
ScR 361.383	250923.2	100.8	%	0.34			0.33%
Ag 328.068†	109497.2	0.5466	mg/L	0.00202	0.5466 mg/L	0.00202	0.37%
Al 308.215†	2694.3	2.069	mg/L	0.0096	2.069 mg/L	0.0096	0.46%
As 188.979†	3572.2	2.131	mg/L	0.0149	2.131 mg/L	0.0149	0.70%
B 249.677†	1.7	-0.00079	mg/L	0.001313	-0.00079 mg/L	0.001313	165.52%
Ba 233.527†	8326.3	2.122	mg/L	0.0109	2.122 mg/L	0.0109	0.52%
Be 313.042†	258914.6	0.5150	mg/L	0.00197	0.5150 mg/L	0.00197	0.38%
Ca 317.933†	102636.1	10.22	mg/L	0.024	10.22 mg/L	0.024	0.24%
Cd 228.802†	17340.3	0.5336	mg/L	0.00276	0.5336 mg/L	0.00276	0.52%
Co 228.616†	20945.3	0.5145	mg/L	0.00153	0.5145 mg/L	0.00153	0.30%
Cr 267.716†	2720.6	0.5343	mg/L	0.00283	0.5343 mg/L	0.00283	0.53%
Cu 324.752†	146915.3	0.5143	mg/L	0.00200	0.5143 mg/L	0.00200	0.39%
Fe 273.955†	2586.7	2.100	mg/L	0.0108	2.100 mg/L	0.0108	0.51%
K 766.490†	23600.1	10.28	mg/L	0.027	10.28 mg/L	0.027	0.26%
Mg 279.077†	12017.4	10.49	mg/L	0.041	10.49 mg/L	0.041	0.39%
Mn 257.610†	16229.1	0.5005	mg/L	0.00252	0.5005 mg/L	0.00252	0.50%
Mo 202.031†	27.3	0.00135	mg/L	0.000245	0.00135 mg/L	0.000245	18.17%
Na 589.592†	141583.9	10.66	mg/L	0.033	10.66 mg/L	0.033	0.31%
Na 330.237†	246.5	11.03	mg/L	0.221	11.03 mg/L	0.221	2.01%
Ni 231.604†	1847.5	0.5258	mg/L	0.00141	0.5258 mg/L	0.00141	0.27%
Pb 220.353†	17549.1	2.090	mg/L	0.0070	2.090 mg/L	0.0070	0.34%
Sb 206.836†	19.8	0.00136	mg/L	0.003991	0.00136 mg/L	0.003991	293.80%
Se 196.026†	2856.0	2.111	mg/L	0.0144	2.111 mg/L	0.0144	0.68%
Si 288.158†	122.4	0.07223	mg/L	0.027598	0.07223 mg/L	0.027598	38.21%
Sn 189.927†	-16.1	-0.00350	mg/L	0.001603	-0.00350 mg/L	0.001603	45.78%
Sr 421.552†	423953.0	0.5199	mg/L	0.00087	0.5199 mg/L	0.00087	0.17%
Ti 334.903†	21.2	0.00043	mg/L	0.000435	0.00043 mg/L	0.000435	100.28%
Tl 190.801†	4310.1	2.075	mg/L	0.0151	2.075 mg/L	0.0151	0.73%
V 292.402†	78474.3	0.5250	mg/L	0.00262	0.5250 mg/L	0.00262	0.50%
Zn 206.200†	1832.4	0.5137	mg/L	0.00080	0.5137 mg/L	0.00080	0.16%

Sequence No.: 23

Sample ID: CV

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/7/2014 1:35:24 PM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2952571.3	100.6	%	0.28				0.27%
ScR 361.383	247402.8	99.36	%	0.468				0.47%
Ag 328.068†	211748.1	1.057	mg/L	0.0087	1.057	mg/L	0.0087	0.83%
Al 308.215†	2650.4	2.010	mg/L	0.0185	2.010	mg/L	0.0185	0.92%
As 188.979†	3356.2	2.035	mg/L	0.0154	2.035	mg/L	0.0154	0.76%
B 249.677†	5820.6	1.021	mg/L	0.0088	1.021	mg/L	0.0088	0.87%
Ba 233.527†	4035.6	1.028	mg/L	0.0076	1.028	mg/L	0.0076	0.74%
Be 313.042†	499589.9	0.9937	mg/L	0.00286	0.9937	mg/L	0.00286	0.29%
Ca 317.933†	20943.7	2.086	mg/L	0.0154	2.086	mg/L	0.0154	0.74%
Cd 228.802†	33134.3	1.030	mg/L	0.0106	1.030	mg/L	0.0106	1.03%
Co 228.616†	40343.5	0.9896	mg/L	0.00924	0.9896	mg/L	0.00924	0.93%
Cr 267.716†	5304.6	1.043	mg/L	0.0079	1.043	mg/L	0.0079	0.75%
Cu 324.752†	284503.9	0.9955	mg/L	0.00561	0.9955	mg/L	0.00561	0.56%
Fe 273.955†	2532.9	2.053	mg/L	0.0091	2.053	mg/L	0.0091	0.44%
K 766.490†	46466.7	20.25	mg/L	0.065	20.25	mg/L	0.065	0.32%
Mg 279.077†	2283.3	1.999	mg/L	0.0183	1.999	mg/L	0.0183	0.91%
Mn 257.610†	32027.9	0.9876	mg/L	0.00307	0.9876	mg/L	0.00307	0.31%
Mo 202.031†	17636.3	0.9761	mg/L	0.01140	0.9761	mg/L	0.01140	1.17%
Na 589.592†	693428.5	52.20	mg/L	0.060	52.20	mg/L	0.060	0.12%
Na 330.237†	1126.9	51.36	mg/L	0.390	51.36	mg/L	0.390	0.76%
Ni 231.604†	3622.4	1.033	mg/L	0.0100	1.033	mg/L	0.0100	0.96%
Pb 220.353†	16862.1	2.008	mg/L	0.0164	2.008	mg/L	0.0164	0.82%
Sb 206.836†	6424.6	2.095	mg/L	0.0168	2.095	mg/L	0.0168	0.80%
Se 196.026†	2719.9	2.010	mg/L	0.0129	2.010	mg/L	0.0129	0.64%
Si 288.158†	3598.8	2.021	mg/L	0.0388	2.021	mg/L	0.0388	1.92%
Sn 189.927†	3350.2	1.004	mg/L	0.0087	1.004	mg/L	0.0087	0.87%
Sr 421.552†	840579.6	1.031	mg/L	0.0008	1.031	mg/L	0.0008	0.08%
Ti 334.903†	17018.3	1.010	mg/L	0.0031	1.010	mg/L	0.0031	0.30%
Tl 190.801†	4142.3	1.991	mg/L	0.0141	1.991	mg/L	0.0141	0.71%
V 292.402†	152300.8	1.019	mg/L	0.0090	1.019	mg/L	0.0090	0.89%
Zn 206.200†	3652.6	1.024	mg/L	0.0058	1.024	mg/L	0.0058	0.57%

Sequence No.: 24
 Sample ID: CB
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 1:39:28 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2976790.8	101.4	%	0.33				0.32%
ScR 361.383	254360.1	102.2	%	0.74				0.73%
Ag 328.068†	22.5	0.00011	mg/L	0.000154	0.00011	mg/L	0.000154	136.78%
Al 308.215†	-1.7	-0.00129	mg/L	0.001428	-0.00129	mg/L	0.001428	110.76%
As 188.979†	0.2	0.00015	mg/L	0.000861	0.00015	mg/L	0.000861	558.33%
B 249.677†	5.5	0.00097	mg/L	0.000731	0.00097	mg/L	0.000731	75.42%
Ba 233.527†	-1.0	-0.00025	mg/L	0.000994	-0.00025	mg/L	0.000994	401.15%
Be 313.042†	7.2	0.00001	mg/L	0.000007	0.00001	mg/L	0.000007	50.13%
Ca 317.933†	-1.0	-0.00010	mg/L	0.000265	-0.00010	mg/L	0.000265	266.24%
Cd 228.802†	-6.3	-0.00020	mg/L	0.000152	-0.00020	mg/L	0.000152	76.33%
Co 228.616†	-5.6	-0.00014	mg/L	0.000128	-0.00014	mg/L	0.000128	92.64%
Cr 267.716†	-2.2	-0.00043	mg/L	0.000979	-0.00043	mg/L	0.000979	226.61%
Cu 324.752†	-85.8	-0.00030	mg/L	0.000065	-0.00030	mg/L	0.000065	21.51%
Fe 273.955†	3.8	0.00310	mg/L	0.002645	0.00310	mg/L	0.002645	85.37%
K 766.490†	33.1	0.01440	mg/L	0.023559	0.01440	mg/L	0.023559	163.59%
Mg 279.077†	-4.9	-0.00425	mg/L	0.006877	-0.00425	mg/L	0.006877	161.89%
Mn 257.610†	-1.6	-0.00005	mg/L	0.000038	-0.00005	mg/L	0.000038	76.83%
Mo 202.031†	12.2	0.00067	mg/L	0.000424	0.00067	mg/L	0.000424	62.83%
Na 589.592†	167.0	0.01257	mg/L	0.003961	0.01257	mg/L	0.003961	31.50%
Na 330.237†	3.8	0.1743	mg/L	0.15981	0.1743	mg/L	0.15981	91.70%
Ni 231.604†	-1.4	-0.00040	mg/L	0.000626	-0.00040	mg/L	0.000626	157.66%
Pb 220.353†	4.6	0.00055	mg/L	0.000140	0.00055	mg/L	0.000140	25.43%
Sb 206.836†	28.7	0.00938	mg/L	0.003772	0.00938	mg/L	0.003772	40.23%
Se 196.026†	0.1	0.00008	mg/L	0.000295	0.00008	mg/L	0.000295	348.00%
Si 288.158†	13.0	0.00729	mg/L	0.012003	0.00729	mg/L	0.012003	164.63%
Sn 189.927†	2.6	0.00077	mg/L	0.000813	0.00077	mg/L	0.000813	104.96%
Sr 421.552†	69.1	0.00008	mg/L	0.000044	0.00008	mg/L	0.000044	52.39%
Ti 334.903†	5.2	0.00031	mg/L	0.000372	0.00031	mg/L	0.000372	120.10%
Tl 190.801†	6.1	0.00294	mg/L	0.001094	0.00294	mg/L	0.001094	37.15%
V 292.402†	20.9	0.00014	mg/L	0.000061	0.00014	mg/L	0.000061	44.47%
Zn 206.200†	-2.3	-0.00064	mg/L	0.000207	-0.00064	mg/L	0.000207	32.17%

Sequence No.: 25
 Sample ID: YE83 MB1 SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 343
 Date Collected: 4/7/2014 1:43:28 PM
 Data Type: Original

Nebulizer Parameters: YE83 MB1 SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE83 MB1 SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2990279.5	101.9	%	0.28				0.28%
ScR 361.383	256397.5	103.0	%	0.59				0.58%
Ag 328.068†	55.0	0.00027	mg/L	0.000154	0.00055	mg/L	0.000307	55.99%
Al 308.215†	7.3	0.00559	mg/L	0.004675	0.01118	mg/L	0.009350	83.61%
As 188.979†	-2.4	-0.00144	mg/L	0.000112	-0.00288	mg/L	0.000224	7.80%
B 249.677†	-2.3	-0.00040	mg/L	0.001112	-0.00079	mg/L	0.002224	279.85%
Ba 233.527†	-1.1	-0.00027	mg/L	0.000504	-0.00055	mg/L	0.001007	183.52%
Be 313.042†	-67.6	-0.00013	mg/L	0.000028	-0.00027	mg/L	0.000055	20.46%
Ca 317.933†	60.3	0.00600	mg/L	0.000976	0.01200	mg/L	0.001951	16.25%
Cd 228.802†	-5.8	-0.00017	mg/L	0.000074	-0.00035	mg/L	0.000149	42.50%
Co 228.616†	0.7	0.00002	mg/L	0.000056	0.00003	mg/L	0.000112	356.04%
Cr 267.716†	-7.1	-0.00140	mg/L	0.000512	-0.00279	mg/L	0.001024	36.69%
Cu 324.752†	-68.0	-0.00024	mg/L	0.000138	-0.00048	mg/L	0.000277	58.17%
Fe 273.955†	6.5	0.00529	mg/L	0.001980	0.01058	mg/L	0.003960	37.44%
K 766.490†	-2.1	-0.00090	mg/L	0.007000	-0.00180	mg/L	0.014000	778.59%
Mg 279.077†	-2.8	-0.00249	mg/L	0.000815	-0.00498	mg/L	0.001630	32.75%
Mn 257.610†	-3.8	-0.00012	mg/L	0.000120	-0.00023	mg/L	0.000240	103.55%
Mo 202.031†	-4.2	-0.00023	mg/L	0.000117	-0.00047	mg/L	0.000233	49.94%
Na 589.592†	217.6	0.01638	mg/L	0.001850	0.03276	mg/L	0.003700	11.29%
Na 330.237†	4.6	0.2101	mg/L	0.17160	0.4201	mg/L	0.34320	81.69%
Ni 231.604†	-2.1	-0.00059	mg/L	0.001191	-0.00118	mg/L	0.002382	201.45%
Pb 220.353†	5.8	0.00069	mg/L	0.000582	0.00139	mg/L	0.001165	83.99%
Sb 206.836†	2.2	0.00074	mg/L	0.000599	0.00148	mg/L	0.001198	80.83%
Se 196.026†	-3.6	-0.00267	mg/L	0.000950	-0.00534	mg/L	0.001901	35.62%
Si 288.158†	2.1	0.00118	mg/L	0.006662	0.00235	mg/L	0.013325	566.73%
Sn 189.927†	3.9	0.00118	mg/L	0.000571	0.00237	mg/L	0.001142	48.25%
Sr 421.552†	58.9	0.00007	mg/L	0.000039	0.00014	mg/L	0.000078	54.08%
Ti 334.903†	8.1	0.00048	mg/L	0.000065	0.00096	mg/L	0.000131	13.62%
Tl 190.801†	4.8	0.00233	mg/L	0.000932	0.00467	mg/L	0.001864	39.94%
V 292.402†	13.2	0.00008	mg/L	0.000112	0.00016	mg/L	0.000224	137.49%
Zn 206.200†	0.0	0.00001	mg/L	0.000636	0.00002	mg/L	0.001271	>999.9%

Sequence No.: 26
 Sample ID: YF37 B SWC
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 344
 Date Collected: 4/7/2014 1:47:29 PM
 Data Type: Original

Nebulizer Parameters: YF37 B SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YF37 B SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2989892.2	101.9	%	0.26				0.25%
ScR 361.383	254901.5	102.4	%	0.20				0.20%
Ag 328.068†	-214.8	-0.00089	mg/L	0.000243	-0.00444	mg/L	0.001214	27.37%
Al 308.215†	105437.7	81.24	mg/L	0.550	406.2	mg/L	2.75	0.68%
As 188.979†	-129.3	0.04258	mg/L	0.001455	0.2129	mg/L	0.00727	3.42%
B 249.677†	24.4	0.00416	mg/L	0.000641	0.02081	mg/L	0.003207	15.41%
Ba 233.527†	1528.7	0.3727	mg/L	0.00049	1.864	mg/L	0.0025	0.13%
Be 313.042†	778.2	0.00144	mg/L	0.000015	0.00722	mg/L	0.000074	1.02%
Ca 317.933†	192355.1	19.16	mg/L	0.052	95.79	mg/L	0.261	0.27%
Cd 228.802†	29.1	0.00049	mg/L	0.000208	0.00245	mg/L	0.001038	42.35%
Co 228.616†	2280.4	0.04990	mg/L	0.000396	0.2495	mg/L	0.00198	0.79%
Cr 267.716†	854.1	0.1689	mg/L	0.00153	0.8443	mg/L	0.00765	0.91%
Cu 324.752†	37054.5	0.1338	mg/L	0.00116	0.6692	mg/L	0.00582	0.87%
Fe 273.955†	134392.1	109.3	mg/L	0.12	546.4	mg/L	0.61	0.11%
K 766.490†	5104.0	2.224	mg/L	0.0149	11.12	mg/L	0.074	0.67%
Mg 279.077†	31541.2	27.46	mg/L	0.044	137.3	mg/L	0.22	0.16%
Mn 257.610†	36831.2	1.134	mg/L	0.0037	5.672	mg/L	0.0186	0.33%
Mo 202.031†	64.6	0.00328	mg/L	0.000294	0.01640	mg/L	0.001472	8.97%
Na 589.592†	17770.9	1.338	mg/L	0.0055	6.689	mg/L	0.0276	0.41%
Na 330.237†	13.5	1.341	mg/L	0.1894	6.704	mg/L	0.9470	14.13%
Ni 231.604†	532.4	0.1518	mg/L	0.00276	0.7590	mg/L	0.01378	1.82%
Pb 220.353†	9.9	0.01651	mg/L	0.000293	0.08256	mg/L	0.001463	1.77%
Sb 206.836†	24.0	0.00923	mg/L	0.000909	0.04617	mg/L	0.004545	9.84%
Se 196.026†	17.2	0.01250	mg/L	0.002356	0.06249	mg/L	0.011778	18.85%
Si 288.158†	3110.8	1.747	mg/L	0.0071	8.733	mg/L	0.0354	0.41%
Sn 189.927†	-28.0	-0.00540	mg/L	0.000922	-0.02701	mg/L	0.004611	17.08%
Sr 421.552†	165226.2	0.2026	mg/L	0.00106	1.013	mg/L	0.0053	0.52%
Ti 334.903†	57319.9	3.405	mg/L	0.0206	17.02	mg/L	0.103	0.60%
Tl 190.801†	-8.5	0.00714	mg/L	0.003057	0.03568	mg/L	0.015284	42.84%
V 292.402†	40042.8	0.2595	mg/L	0.00276	1.298	mg/L	0.0138	1.06%
Zn 206.200†	724.2	0.2033	mg/L	0.00088	1.016	mg/L	0.0044	0.43%

Sequence No.: 27
 Sample ID: YE83 B SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 345
 Date Collected: 4/7/2014 1:51:29 PM
 Data Type: Original

Nebulizer Parameters: YE83 B SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE83 B SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3064248.3	104.4	%	1.23				1.18%
ScR 361.383	258810.7	103.9	%	0.34				0.32%
Ag 328.068†	-275.1	-0.00103	mg/L	0.000061	-0.00205	mg/L	0.000123	5.98%
Al 308.215†	97221.9	74.90	mg/L	0.799	149.8	mg/L	1.60	1.07%
As 188.979†	-207.2	0.05915	mg/L	0.001084	0.1183	mg/L	0.00217	1.83%
B 249.677†	20.5	0.00342	mg/L	0.000935	0.00684	mg/L	0.001870	27.34%
Ba 233.527†	529.1	0.1212	mg/L	0.00035	0.2423	mg/L	0.00070	0.29%
Be 313.042†	986.3	0.00182	mg/L	0.000021	0.00363	mg/L	0.000042	1.15%
Ca 317.933†	421789.7	42.01	mg/L	0.392	84.02	mg/L	0.784	0.93%
Cd 228.802†	10.6	0.00032	mg/L	0.000228	0.00065	mg/L	0.000456	70.40%
Co 228.616†	3584.1	0.07871	mg/L	0.002119	0.1574	mg/L	0.00424	2.69%
Cr 267.716†	592.1	0.1173	mg/L	0.00047	0.2346	mg/L	0.00093	0.40%
Cu 324.752†	28508.6	0.1026	mg/L	0.00296	0.2052	mg/L	0.00592	2.88%
Fe 273.955†	108600.5	88.31	mg/L	0.903	176.6	mg/L	1.81	1.02%
K 766.490†	8607.8	3.750	mg/L	0.0408	7.501	mg/L	0.0816	1.09%
Mg 279.077†	19753.2	17.18	mg/L	0.131	34.36	mg/L	0.262	0.76%
Mn 257.610†	18946.5	0.5832	mg/L	0.00601	1.166	mg/L	0.0120	1.03%
Mo 202.031†	83.1	0.00395	mg/L	0.000107	0.00789	mg/L	0.000214	2.71%
Na 589.592†	124934.9	9.405	mg/L	0.0996	18.81	mg/L	0.199	1.06%
Na 330.237†	185.3	9.525	mg/L	0.0602	19.05	mg/L	0.120	0.63%
Ni 231.604†	540.8	0.1542	mg/L	0.00130	0.3084	mg/L	0.00260	0.84%
Pb 220.353†	-43.8	0.00945	mg/L	0.000412	0.01890	mg/L	0.000823	4.36%
Sb 206.836†	8.3	0.00650	mg/L	0.001449	0.01300	mg/L	0.002899	22.31%
Se 196.026†	12.2	0.00874	mg/L	0.002936	0.01748	mg/L	0.005873	33.59%
Si 288.158†	6192.5	3.472	mg/L	0.0131	6.944	mg/L	0.0263	0.38%
Sn 189.927†	-43.6	-0.00696	mg/L	0.001351	-0.01393	mg/L	0.002702	19.40%
Sr 421.552†	335046.1	0.4109	mg/L	0.00421	0.8218	mg/L	0.00842	1.02%
Ti 334.903†	87953.3	5.223	mg/L	0.0527	10.45	mg/L	0.105	1.01%
Tl 190.801†	5.1	0.01078	mg/L	0.001625	0.02156	mg/L	0.003250	15.07%
V 292.402†	53651.1	0.3500	mg/L	0.00893	0.7000	mg/L	0.01786	2.55%
Zn 206.200†	686.6	0.1930	mg/L	0.00146	0.3861	mg/L	0.00292	0.76%

Sequence No.: 28
 Sample ID: YE83 C SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 346
 Date Collected: 4/7/2014 1:55:29 PM
 Data Type: Original

Nebulizer Parameters: YE83 C SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE83 C SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	3009005.7	102.5	%	0.18				0.17%
ScR 361.383	259072.7	104.0	%	0.94				0.91%
Ag 328.068†	-355.8	-0.00144	mg/L	0.000293	-0.00287	mg/L	0.000587	20.43%
Al 308.215†	90651.2	69.84	mg/L	0.301	139.7	mg/L	0.60	0.43%
As 188.979†	-226.5	0.05874	mg/L	0.003384	0.1175	mg/L	0.00677	5.76%
B 249.677†	21.5	0.00370	mg/L	0.001576	0.00740	mg/L	0.003151	42.59%
Ba 233.527†	459.9	0.1001	mg/L	0.00101	0.2001	mg/L	0.00202	1.01%
Be 313.042†	379.3	0.00059	mg/L	0.000028	0.00117	mg/L	0.000055	4.72%
Ca 317.933†	374340.1	37.28	mg/L	0.186	74.56	mg/L	0.372	0.50%
Cd 228.802†	24.0	0.00053	mg/L	0.000165	0.00106	mg/L	0.000329	31.05%
Co 228.616†	1700.8	0.03190	mg/L	0.000264	0.06380	mg/L	0.000528	0.83%
Cr 267.716†	733.4	0.1456	mg/L	0.00067	0.2913	mg/L	0.00135	0.46%
Cu 324.752†	51955.5	0.1856	mg/L	0.00106	0.3713	mg/L	0.00213	0.57%
Fe 273.955†	135973.3	110.6	mg/L	0.70	221.1	mg/L	1.40	0.63%
K 766.490†	9340.9	4.070	mg/L	0.0203	8.140	mg/L	0.0406	0.50%
Mg 279.077†	22092.5	19.21	mg/L	0.097	38.42	mg/L	0.195	0.51%
Mn 257.610†	18839.5	0.5799	mg/L	0.00245	1.160	mg/L	0.0049	0.42%
Mo 202.031†	102.6	0.00510	mg/L	0.000242	0.01020	mg/L	0.000484	4.74%
Na 589.592†	112642.9	8.480	mg/L	0.0524	16.96	mg/L	0.105	0.62%
Na 330.237†	155.2	8.250	mg/L	0.1234	16.50	mg/L	0.247	1.50%
Ni 231.604†	253.9	0.07238	mg/L	0.001206	0.1448	mg/L	0.00241	1.67%
Pb 220.353†	-10.6	0.01106	mg/L	0.000994	0.02213	mg/L	0.001987	8.98%
Sb 206.836†	9.8	0.00718	mg/L	0.000753	0.01437	mg/L	0.001507	10.49%
Se 196.026†	17.3	0.01249	mg/L	0.003202	0.02499	mg/L	0.006404	25.63%
Si 288.158†	6030.9	3.382	mg/L	0.0260	6.764	mg/L	0.0520	0.77%
Sn 189.927†	-40.8	-0.00665	mg/L	0.001269	-0.01331	mg/L	0.002538	19.07%
Sr 421.552†	300983.7	0.3691	mg/L	0.00193	0.7382	mg/L	0.00386	0.52%
Ti 334.903†	93042.6	5.526	mg/L	0.0291	11.05	mg/L	0.058	0.53%
Tl 190.801†	-18.2	0.00206	mg/L	0.005942	0.00411	mg/L	0.011885	288.92%
V 292.402†	66102.8	0.4317	mg/L	0.00286	0.8633	mg/L	0.00572	0.66%
Zn 206.200†	791.6	0.2224	mg/L	0.00248	0.4449	mg/L	0.00496	1.12%

Sequence No.: 29
 Sample ID: YE83 D SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 347
 Date Collected: 4/7/2014 1:59:30 PM
 Data Type: Original

Nebulizer Parameters: YE83 D SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE83 D SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2998002.9	102.2	%	0.72			0.70%
ScR 361.383	254493.6	102.2	%	0.44			0.43%
Ag 328.068†	-331.4	-0.00135	mg/L	0.000125	-0.00271 mg/L	0.000249	9.19%
Al 308.215†	89761.3	69.15	mg/L	0.111	138.3 mg/L	0.22	0.16%
As 188.979†	-202.5	0.05362	mg/L	0.004191	0.1072 mg/L	0.00838	7.81%
B 249.677†	29.7	0.00513	mg/L	0.000184	0.01027 mg/L	0.000369	3.59%
Ba 233.527†	703.6	0.1671	mg/L	0.00131	0.3341 mg/L	0.00262	0.78%
Be 313.042†	802.0	0.00145	mg/L	0.000036	0.00289 mg/L	0.000071	2.46%
Ca 317.933†	330683.2	32.93	mg/L	0.055	65.87 mg/L	0.111	0.17%
Cd 228.802†	18.7	0.00056	mg/L	0.000122	0.00112 mg/L	0.000244	21.87%
Co 228.616†	1576.0	0.02983	mg/L	0.000421	0.05965 mg/L	0.000841	1.41%
Cr 267.716†	627.7	0.1243	mg/L	0.00158	0.2485 mg/L	0.00316	1.27%
Cu 324.752†	41018.6	0.1460	mg/L	0.00048	0.2921 mg/L	0.00096	0.33%
Fe 273.955†	97220.9	79.06	mg/L	0.390	158.1 mg/L	0.78	0.49%
K 766.490†	9370.3	4.083	mg/L	0.0164	8.165 mg/L	0.0328	0.40%
Mg 279.077†	17402.3	15.14	mg/L	0.038	30.27 mg/L	0.076	0.25%
Mn 257.610†	15698.6	0.4832	mg/L	0.00306	0.9663 mg/L	0.00613	0.63%
Mo 202.031†	93.0	0.00463	mg/L	0.000156	0.00927 mg/L	0.000312	3.36%
Na 589.592†	105382.6	7.933	mg/L	0.0071	15.87 mg/L	0.014	0.09%
Na 330.237†	154.1	8.082	mg/L	0.2787	16.16 mg/L	0.557	3.45%
Ni 231.604†	224.3	0.06396	mg/L	0.001016	0.1279 mg/L	0.00203	1.59%
Pb 220.353†	-33.4	0.00963	mg/L	0.001014	0.01925 mg/L	0.002029	10.54%
Sb 206.836†	5.8	0.00552	mg/L	0.000351	0.01103 mg/L	0.000702	6.36%
Se 196.026†	17.0	0.01230	mg/L	0.002437	0.02459 mg/L	0.004874	19.82%
Si 288.158†	6485.1	3.636	mg/L	0.0262	7.272 mg/L	0.0525	0.72%
Sn 189.927†	-41.1	-0.00738	mg/L	0.001452	-0.01475 mg/L	0.002904	19.68%
Sr 421.552†	331624.5	0.4067	mg/L	0.00064	0.8134 mg/L	0.00128	0.16%
Ti 334.903†	83681.9	4.970	mg/L	0.0099	9.940 mg/L	0.0199	0.20%
Tl 190.801†	-4.1	0.00549	mg/L	0.003406	0.01098 mg/L	0.006811	62.02%
V 292.402†	58018.6	0.3798	mg/L	0.00142	0.7596 mg/L	0.00285	0.38%
Zn 206.200†	783.4	0.2202	mg/L	0.00124	0.4404 mg/L	0.00248	0.56%

Sequence No.: 30
 Sample ID: YE83 E SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 348
 Date Collected: 4/7/2014 2:03:30 PM
 Data Type: Original

 Nebulizer Parameters: YE83 E SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE83 E SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2960146.5	100.9 %		0.13			0.13%
ScR 361.383	251368.7	101.0 %		0.22			0.22%
Ag 328.068†	-381.4	-0.00146 mg/L		0.000091	-0.00292 mg/L	0.000183	6.26%
Al 308.215†	157138.2	121.1 mg/L		0.32	242.1 mg/L	0.64	0.26%
As 188.979†	-211.1	0.09323 mg/L		0.001107	0.1865 mg/L	0.00221	1.19%
B 249.677†	101.4	0.01771 mg/L		0.001096	0.03543 mg/L	0.002193	6.19%
Ba 233.527†	773.6	0.1761 mg/L		0.00019	0.3521 mg/L	0.00039	0.11%
Be 313.042†	847.6	0.00150 mg/L		0.000014	0.00301 mg/L	0.000028	0.94%
Ca 317.933†	540015.9	53.78 mg/L		0.113	107.6 mg/L	0.23	0.21%
Cd 228.802†	39.5	0.00076 mg/L		0.000147	0.00152 mg/L	0.000295	19.40%
Co 228.616†	2102.0	0.04041 mg/L		0.000181	0.08083 mg/L	0.000362	0.45%
Cr 267.716†	848.8	0.1684 mg/L		0.00174	0.3368 mg/L	0.00349	1.04%
Cu 324.752†	69770.3	0.2489 mg/L		0.00051	0.4979 mg/L	0.00102	0.21%
Fe 273.955†	167582.4	136.3 mg/L		0.29	272.5 mg/L	0.58	0.21%
K 766.490†	22543.6	9.822 mg/L		0.0699	19.64 mg/L	0.140	0.71%
Mg 279.077†	30573.2	26.59 mg/L		0.059	53.19 mg/L	0.118	0.22%
Mn 257.610†	20410.0	0.6279 mg/L		0.00191	1.256 mg/L	0.0038	0.30%
Mo 202.031†	164.5	0.00827 mg/L		0.000262	0.01654 mg/L	0.000525	3.17%
Na 589.592†	213113.1	16.04 mg/L		0.065	32.09 mg/L	0.131	0.41%
Na 330.237†	317.5	15.74 mg/L		0.020	31.47 mg/L	0.040	0.13%
Ni 231.604†	312.6	0.08911 mg/L		0.000988	0.1782 mg/L	0.00198	1.11%
Pb 220.353†	-9.7	0.02267 mg/L		0.001214	0.04535 mg/L	0.002428	5.35%
Sb 206.836†	23.5	0.01199 mg/L		0.001556	0.02398 mg/L	0.003113	12.98%
Se 196.026†	24.9	0.01808 mg/L		0.005475	0.03616 mg/L	0.010949	30.28%
Si 288.158†	6053.7	3.395 mg/L		0.0098	6.791 mg/L	0.0196	0.29%
Sn 189.927†	-59.0	-0.00996 mg/L		0.000849	-0.01992 mg/L	0.001698	8.52%
Sr 421.552†	530130.6	0.6501 mg/L		0.00257	1.300 mg/L	0.0051	0.39%
Ti 334.903†	105660.8	6.275 mg/L		0.0204	12.55 mg/L	0.041	0.33%
Tl 190.801†	-4.7	0.01141 mg/L		0.001922	0.02281 mg/L	0.003844	16.85%
V 292.402†	69540.2	0.4528 mg/L		0.00116	0.9056 mg/L	0.00233	0.26%
Zn 206.200†	999.0	0.2805 mg/L		0.00086	0.5611 mg/L	0.00171	0.30%

Sequence No.: 31
 Sample ID: YE83 F SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 349
 Date Collected: 4/7/2014 2:07:31 PM
 Data Type: Original

Nebulizer Parameters: YE83 F SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE83 F SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2972241.3	101.3	%	0.25				0.24%
ScR 361.383	249206.5	100.1	%	5.01				5.01%
Ag 328.068†	-357.9	-0.00147	mg/L	0.000031	-0.00295	mg/L	0.000062	2.11%
Al 308.215†	97345.7	75.00	mg/L	4.122	150.0	mg/L	8.24	5.50%
As 188.979†	-116.7	0.1247	mg/L	0.00893	0.2495	mg/L	0.01785	7.16%
B 249.677†	75.6	0.01322	mg/L	0.002084	0.02643	mg/L	0.004169	15.77%
Ba 233.527†	791.2	0.1885	mg/L	0.00784	0.3770	mg/L	0.01567	4.16%
Be 313.042†	543.1	0.00093	mg/L	0.000113	0.00187	mg/L	0.000226	12.10%
Ca 317.933†	369730.8	36.82	mg/L	1.884	73.65	mg/L	3.769	5.12%
Cd 228.802†	37.4	0.00083	mg/L	0.000127	0.00166	mg/L	0.000254	15.29%
Co 228.616†	1458.4	0.02592	mg/L	0.001070	0.05184	mg/L	0.002141	4.13%
Cr 267.716†	642.8	0.1272	mg/L	0.00437	0.2543	mg/L	0.00874	3.43%
Cu 324.752†	131969.1	0.4645	mg/L	0.00341	0.9290	mg/L	0.00682	0.73%
Fe 273.955†	104314.4	84.82	mg/L	4.618	169.6	mg/L	9.24	5.44%
K 766.490†	9096.6	3.963	mg/L	0.2277	7.927	mg/L	0.4554	5.75%
Mg 279.077†	20442.9	17.79	mg/L	0.918	35.57	mg/L	1.835	5.16%
Mn 257.610†	18649.6	0.5740	mg/L	0.03159	1.148	mg/L	0.0632	5.50%
Mo 202.031†	190.4	0.00997	mg/L	0.000601	0.01994	mg/L	0.001201	6.03%
Na 589.592†	104452.7	7.863	mg/L	0.4152	15.73	mg/L	0.830	5.28%
Na 330.237†	138.8	7.495	mg/L	0.2117	14.99	mg/L	0.423	2.82%
Ni 231.604†	204.1	0.05820	mg/L	0.002168	0.1164	mg/L	0.00434	3.73%
Pb 220.353†	137.4	0.03072	mg/L	0.000249	0.06143	mg/L	0.000498	0.81%
Sb 206.836†	18.2	0.00984	mg/L	0.000823	0.01969	mg/L	0.001646	8.36%
Se 196.026†	15.1	0.01094	mg/L	0.005082	0.02188	mg/L	0.010165	46.46%
Si 288.158†	7623.5	4.274	mg/L	0.1895	8.548	mg/L	0.3790	4.43%
Sn 189.927†	-38.8	-0.00611	mg/L	0.000396	-0.01221	mg/L	0.000792	6.48%
Sr 421.552†	324949.4	0.3985	mg/L	0.02126	0.7970	mg/L	0.04251	5.33%
Ti 334.903†	93221.4	5.537	mg/L	0.2962	11.07	mg/L	0.592	5.35%
Tl 190.801†	0.7	0.00861	mg/L	0.003051	0.01723	mg/L	0.006101	35.42%
V 292.402†	52339.2	0.3413	mg/L	0.00293	0.6827	mg/L	0.00586	0.86%
Zn 206.200†	990.9	0.2784	mg/L	0.01235	0.5569	mg/L	0.02469	4.43%

Sequence No.: 32
 Sample ID: YE83 G SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 350
 Date Collected: 4/7/2014 2:11:31 PM
 Data Type: Original

Nebulizer Parameters: YE83 G SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE83 G SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3013399.0	102.7	%	0.41				0.40%
ScR 361.383	253309.6	101.7	%	0.31				0.31%
Ag 328.068†	-362.2	-0.00145	mg/L	0.000107	-0.00290	mg/L	0.000213	7.35%
Al 308.215†	120013.9	92.46	mg/L	0.370	184.9	mg/L	0.74	0.40%
As 188.979†	-220.6	0.07331	mg/L	0.002721	0.1466	mg/L	0.00544	3.71%
B 249.677†	49.4	0.00860	mg/L	0.001077	0.01720	mg/L	0.002153	12.52%
Ba 233.527†	611.9	0.1393	mg/L	0.00203	0.2786	mg/L	0.00406	1.46%
Be 313.042†	447.1	0.00073	mg/L	0.000008	0.00146	mg/L	0.000016	1.12%
Ca 317.933†	425092.4	42.34	mg/L	0.113	84.67	mg/L	0.225	0.27%
Cd 228.802†	17.9	0.00035	mg/L	0.000048	0.00069	mg/L	0.000096	13.81%
Co 228.616†	1649.0	0.03005	mg/L	0.000651	0.06011	mg/L	0.001303	2.17%
Cr 267.716†	723.4	0.1434	mg/L	0.00183	0.2867	mg/L	0.00366	1.28%
Cu 324.752†	50127.9	0.1790	mg/L	0.00279	0.3580	mg/L	0.00557	1.56%
Fe 273.955†	131907.6	107.3	mg/L	0.15	214.5	mg/L	0.29	0.14%
K 766.490†	15520.2	6.762	mg/L	0.0226	13.52	mg/L	0.045	0.33%
Mg 279.077†	24310.7	21.15	mg/L	0.078	42.29	mg/L	0.157	0.37%
Mn 257.610†	18680.0	0.5748	mg/L	0.00152	1.150	mg/L	0.0030	0.26%
Mo 202.031†	112.9	0.00559	mg/L	0.000325	0.01118	mg/L	0.000650	5.81%
Na 589.592†	144499.0	10.88	mg/L	0.055	21.76	mg/L	0.110	0.50%
Na 330.237†	203.8	10.52	mg/L	0.306	21.04	mg/L	0.611	2.91%
Ni 231.604†	238.2	0.06792	mg/L	0.000591	0.1358	mg/L	0.00118	0.87%
Pb 220.353†	9.3	0.01920	mg/L	0.000775	0.03840	mg/L	0.001550	4.04%
Sb 206.836†	16.6	0.00948	mg/L	0.001540	0.01896	mg/L	0.003079	16.24%
Se 196.026†	20.9	0.01520	mg/L	0.006615	0.03040	mg/L	0.013230	43.52%
Si 288.158†	6307.6	3.537	mg/L	0.0457	7.074	mg/L	0.0914	1.29%
Sn 189.927†	-48.4	-0.00825	mg/L	0.001635	-0.01651	mg/L	0.003270	19.81%
Sr 421.552†	401612.7	0.4925	mg/L	0.00192	0.9850	mg/L	0.00384	0.39%
Ti 334.903†	98437.1	5.846	mg/L	0.0183	11.69	mg/L	0.037	0.31%
Tl 190.801†	0.5	0.01092	mg/L	0.001042	0.02184	mg/L	0.002085	9.55%
V 292.402†	58643.7	0.3820	mg/L	0.00568	0.7639	mg/L	0.01136	1.49%
Zn 206.200†	860.8	0.2419	mg/L	0.00260	0.4837	mg/L	0.00520	1.08%

Sequence No.: 33

Autosampler Location: 351

Sample ID: YE83 MB1SPK SWC

Date Collected: 4/7/2014 2:15:32 PM

Analyst: EL

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YE83 MB1SPK SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE83 MB1SPK SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2976527.7	101.4	%	0.44			0.43%
ScR 361.383	252388.7	101.4	%	0.12			0.12%
Ag 328.068†	112312.6	0.5607	mg/L	0.00207	1.121	mg/L	0.0041 0.37%
Al 308.215†	2789.0	2.141	mg/L	0.0027	4.283	mg/L	0.0054 0.13%
As 188.979†	3663.9	2.186	mg/L	0.0122	4.372	mg/L	0.0243 0.56%
B 249.677†	6.3	-0.00001	mg/L	0.000714	-0.00003	mg/L	0.001427 >999.9%
Ba 233.527†	8602.4	2.192	mg/L	0.0108	4.385	mg/L	0.0217 0.49%
Be 313.042†	269290.5	0.5356	mg/L	0.00207	1.071	mg/L	0.0041 0.39%
Ca 317.933†	106615.1	10.62	mg/L	0.019	21.24	mg/L	0.037 0.17%
Cd 228.802†	17791.1	0.5475	mg/L	0.00183	1.095	mg/L	0.0037 0.33%
Co 228.616†	21463.2	0.5272	mg/L	0.00077	1.054	mg/L	0.0015 0.15%
Cr 267.716†	2819.8	0.5537	mg/L	0.00193	1.107	mg/L	0.0039 0.35%
Cu 324.752†	150272.1	0.5260	mg/L	0.00147	1.052	mg/L	0.0029 0.28%
Fe 273.955†	2691.4	2.185	mg/L	0.0094	4.370	mg/L	0.0188 0.43%
K 766.490†	24462.2	10.66	mg/L	0.049	21.32	mg/L	0.098 0.46%
Mg 279.077†	12469.7	10.88	mg/L	0.053	21.77	mg/L	0.106 0.49%
Mn 257.610†	16937.8	0.5224	mg/L	0.00235	1.045	mg/L	0.0047 0.45%
Mo 202.031†	24.9	0.00121	mg/L	0.000440	0.00242	mg/L	0.000880 36.30%
Na 589.592†	146344.7	11.02	mg/L	0.015	22.03	mg/L	0.029 0.13%
Na 330.237†	247.5	11.07	mg/L	0.070	22.14	mg/L	0.140 0.63%
Ni 231.604†	1919.8	0.5464	mg/L	0.00216	1.093	mg/L	0.0043 0.40%
Pb 220.353†	17973.9	2.141	mg/L	0.0078	4.281	mg/L	0.0157 0.37%
Sb 206.836†	18.1	0.00058	mg/L	0.003832	0.00116	mg/L	0.007664 662.95%
Se 196.026†	2949.3	2.180	mg/L	0.0062	4.360	mg/L	0.0125 0.29%
Si 288.158†	-6.1	0.00037	mg/L	0.005922	0.00074	mg/L	0.011845 >999.9%
Sn 189.927†	-19.8	-0.00455	mg/L	0.001210	-0.00910	mg/L	0.002420 26.58%
Sr 421.552†	438627.3	0.5379	mg/L	0.00061	1.076	mg/L	0.0012 0.11%
Ti 334.903†	102.5	0.00523	mg/L	0.000427	0.01047	mg/L	0.000853 8.16%
Tl 190.801†	4406.0	2.121	mg/L	0.0051	4.242	mg/L	0.0102 0.24%
V 292.402†	79952.6	0.5349	mg/L	0.00140	1.070	mg/L	0.0028 0.26%
Zn 206.200†	1913.1	0.5363	mg/L	0.00272	1.073	mg/L	0.0054 0.51%

Sequence No.: 34

Sample ID: CV 7

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 7

Date Collected: 4/7/2014 2:19:32 PM

Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2965730.5	101.1	%	0.29				0.28%
ScR 361.383	247306.9	99.32	%	1.158				1.17%
Ag 328.068†	208367.2	1.040	mg/L	0.0070	1.040	mg/L	0.0070	0.68%
Al 308.215†	2637.9	2.000	mg/L	0.0294	2.000	mg/L	0.0294	1.47%
As 188.979†	3324.4	2.016	mg/L	0.0055	2.016	mg/L	0.0055	0.27%
B 249.677†	5817.7	1.021	mg/L	0.0164	1.021	mg/L	0.0164	1.60%
Ba 233.527†	4026.3	1.026	mg/L	0.0156	1.026	mg/L	0.0156	1.52%
Be 313.042†	495389.4	0.9853	mg/L	0.00137	0.9853	mg/L	0.00137	0.14%
Ca 317.933†	20843.7	2.076	mg/L	0.0305	2.076	mg/L	0.0305	1.47%
Cd 228.802†	32863.2	1.022	mg/L	0.0020	1.022	mg/L	0.0020	0.19%
Co 228.616†	39964.3	0.9803	mg/L	0.00234	0.9803	mg/L	0.00234	0.24%
Cr 267.716†	5290.9	1.041	mg/L	0.0153	1.041	mg/L	0.0153	1.47%
Cu 324.752†	291728.5	1.021	mg/L	0.0042	1.021	mg/L	0.0042	0.41%
Fe 273.955†	2524.4	2.046	mg/L	0.0295	2.046	mg/L	0.0295	1.44%
K 766.490†	46036.1	20.06	mg/L	0.088	20.06	mg/L	0.088	0.44%
Mg 279.077†	2274.3	1.991	mg/L	0.0200	1.991	mg/L	0.0200	1.00%
Mn 257.610†	31853.2	0.9822	mg/L	0.00830	0.9822	mg/L	0.00830	0.85%
Mo 202.031†	17946.1	0.9933	mg/L	0.00331	0.9933	mg/L	0.00331	0.33%
Na 589.592†	690133.5	51.95	mg/L	0.162	51.95	mg/L	0.162	0.31%
Na 330.237†	1127.9	51.40	mg/L	0.685	51.40	mg/L	0.685	1.33%
Ni 231.604†	3610.5	1.030	mg/L	0.0179	1.030	mg/L	0.0179	1.74%
Pb 220.353†	17152.4	2.043	mg/L	0.0038	2.043	mg/L	0.0038	0.18%
Sb 206.836†	6346.5	2.069	mg/L	0.0078	2.069	mg/L	0.0078	0.38%
Se 196.026†	2700.5	1.995	mg/L	0.0024	1.995	mg/L	0.0024	0.12%
Si 288.158†	3526.7	1.981	mg/L	0.0301	1.981	mg/L	0.0301	1.52%
Sn 189.927†	3317.1	0.9942	mg/L	0.00073	0.9942	mg/L	0.00073	0.07%
Sr 421.552†	835290.0	1.024	mg/L	0.0034	1.024	mg/L	0.0034	0.33%
Ti 334.903†	16896.1	1.003	mg/L	0.0023	1.003	mg/L	0.0023	0.23%
Tl 190.801†	4099.3	1.970	mg/L	0.0095	1.970	mg/L	0.0095	0.48%
V 292.402†	149809.3	1.002	mg/L	0.0059	1.002	mg/L	0.0059	0.59%
Zn 206.200†	3639.7	1.020	mg/L	0.0128	1.020	mg/L	0.0128	1.26%

Sequence No.: 35
 Sample ID: CB 7
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 2:23:36 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2992242.6	102.0	%	0.35				0.35%
ScR 361.383	255605.4	102.7	%	0.51				0.49%
Ag 328.068†	19.7	0.00010	mg/L	0.000243	0.00010	mg/L	0.000243	246.91%
Al 308.215†	4.6	0.00356	mg/L	0.000061	0.00356	mg/L	0.000061	1.71%
As 188.979†	-3.0	-0.00172	mg/L	0.001578	-0.00172	mg/L	0.001578	91.90%
B 249.677†	3.3	0.00058	mg/L	0.000716	0.00058	mg/L	0.000716	124.50%
Ba 233.527†	1.0	0.00026	mg/L	0.000028	0.00026	mg/L	0.000028	10.75%
Be 313.042†	-3.5	-0.00001	mg/L	0.000007	-0.00001	mg/L	0.000007	107.04%
Ca 317.933†	-3.0	-0.00030	mg/L	0.001001	-0.00030	mg/L	0.001001	329.67%
Cd 228.802†	-3.6	-0.00011	mg/L	0.000060	-0.00011	mg/L	0.000060	56.48%
Co 228.616†	2.3	0.00005	mg/L	0.000127	0.00005	mg/L	0.000127	231.65%
Cr 267.716†	-2.2	-0.00044	mg/L	0.000515	-0.00044	mg/L	0.000515	116.59%
Cu 324.752†	-92.7	-0.00032	mg/L	0.000161	-0.00032	mg/L	0.000161	49.45%
Fe 273.955†	4.8	0.00390	mg/L	0.000358	0.00390	mg/L	0.000358	9.20%
K 766.490†	37.9	0.01653	mg/L	0.019413	0.01653	mg/L	0.019413	117.43%
Mg 279.077†	-2.7	-0.00236	mg/L	0.001004	-0.00236	mg/L	0.001004	42.64%
Mn 257.610†	-2.5	-0.00008	mg/L	0.000022	-0.00008	mg/L	0.000022	29.15%
Mo 202.031†	10.1	0.00056	mg/L	0.000351	0.00056	mg/L	0.000351	62.60%
Na 589.592†	133.5	0.01005	mg/L	0.003065	0.01005	mg/L	0.003065	30.50%
Na 330.237†	4.6	0.2103	mg/L	0.23517	0.2103	mg/L	0.23517	111.81%
Ni 231.604†	-7.0	-0.00199	mg/L	0.000434	-0.00199	mg/L	0.000434	21.84%
Pb 220.353†	5.7	0.00068	mg/L	0.000608	0.00068	mg/L	0.000608	89.48%
Sb 206.836†	31.4	0.01028	mg/L	0.000393	0.01028	mg/L	0.000393	3.82%
Se 196.026†	2.5	0.00188	mg/L	0.001210	0.00188	mg/L	0.001210	64.47%
Si 288.158†	-2.1	-0.00119	mg/L	0.007754	-0.00119	mg/L	0.007754	653.66%
Sn 189.927†	3.3	0.00100	mg/L	0.000911	0.00100	mg/L	0.000911	91.19%
Sr 421.552†	43.9	0.00005	mg/L	0.000056	0.00005	mg/L	0.000056	104.81%
Ti 334.903†	21.9	0.00130	mg/L	0.000336	0.00130	mg/L	0.000336	25.83%
Tl 190.801†	4.2	0.00204	mg/L	0.003445	0.00204	mg/L	0.003445	169.05%
V 292.402†	7.3	0.00005	mg/L	0.000113	0.00005	mg/L	0.000113	246.62%
Zn 206.200†	-0.6	-0.00018	mg/L	0.000271	-0.00018	mg/L	0.000271	149.57%

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Analysis Begun

Start Time: 4/7/2014 2:30:22 PM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/7/2014 8:23:30 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140407

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1
 Sample ID: YE66 B DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 352
 Date Collected: 4/7/2014 2:30:24 PM
 Data Type: Original

Nebulizer Parameters: YE66 B DMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE66 B DMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	3007649.8	102.5 %		0.39			0.38%
ScR 361.383	258085.7	103.7 %		1.99			1.92%
Ag 328.068†	64.0	0.00039 mg/L		0.000089	0.00039 mg/L	0.000089	22.89%
Al 308.215†	18.3	0.01403 mg/L		0.003287	0.01403 mg/L	0.003287	23.42%
As 188.979†	16.1	0.00868 mg/L		0.000085	0.00868 mg/L	0.000085	0.98%
B 249.677†	301.7	0.05298 mg/L		0.002216	0.05298 mg/L	0.002216	4.18%
Ba 233.527†	32.7	0.00832 mg/L		0.000403	0.00832 mg/L	0.000403	4.85%
Be 313.042†	15.2	0.00003 mg/L		0.000033	0.00003 mg/L	0.000033	111.08%
Ca 317.933†	112265.3	11.18 mg/L		0.118	11.18 mg/L	0.118	1.06%
Cd 228.802†	-1.9	-0.00011 mg/L		0.000084	-0.00011 mg/L	0.000084	78.24%
Co 228.616†	73.6	0.00180 mg/L		0.000031	0.00180 mg/L	0.000031	1.71%
Cr 267.716†	-1.2	-0.00065 mg/L		0.000489	-0.00065 mg/L	0.000489	75.64%
Cu 324.752†	97.3	0.00029 mg/L		0.000246	0.00029 mg/L	0.000246	83.88%
Fe 273.955†	185.9	0.1512 mg/L		0.00337	0.1512 mg/L	0.00337	2.23%
K 766.490†	7029.1	3.063 mg/L		0.0382	3.063 mg/L	0.0382	1.25%
Mg 279.077†	3969.3	3.463 mg/L		0.0426	3.463 mg/L	0.0426	1.23%
Mn 257.610†	1950.6	0.06005 mg/L		0.001159	0.06005 mg/L	0.001159	1.93%
Mo 202.031†	54.9	0.00287 mg/L		0.000100	0.00287 mg/L	0.000100	3.48%
Na 589.592†	154832.4	11.66 mg/L		0.097	11.66 mg/L	0.097	0.83%
Na 330.237†	249.6	11.32 mg/L		0.632	11.32 mg/L	0.632	5.59%
Ni 231.604†	8.5	0.00241 mg/L		0.000578	0.00241 mg/L	0.000578	23.95%
Pb 220.353†	-4.5	-0.00054 mg/L		0.000241	-0.00054 mg/L	0.000241	44.63%
Sb 206.836†	-7.8	-0.00257 mg/L		0.000290	-0.00257 mg/L	0.000290	11.28%
Se 196.026†	8.9	0.00658 mg/L		0.003383	0.00658 mg/L	0.003383	51.39%
Si 288.158†	16027.1	8.981 mg/L		0.1235	8.981 mg/L	0.1235	1.38%
Sn 189.927†	-14.9	-0.00311 mg/L		0.000482	-0.00311 mg/L	0.000482	15.50%
Sr 421.552†	143493.0	0.1760 mg/L		0.00161	0.1760 mg/L	0.00161	0.92%
Ti 334.903†	23.7	0.00062 mg/L		0.000387	0.00062 mg/L	0.000387	62.77%
Tl 190.801†	11.6	0.00560 mg/L		0.000685	0.00560 mg/L	0.000685	12.24%
V 292.402†	31.1	0.00021 mg/L		0.000065	0.00021 mg/L	0.000065	31.43%
Zn 206.200†	-0.9	0.00143 mg/L		0.000660	0.00143 mg/L	0.000660	45.99%

Sequence No.: 2
 Sample ID: YE66 C DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 353
 Date Collected: 4/7/2014 2:34:41 PM
 Data Type: Original

Nebulizer Parameters: YE66 C DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 C DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3017768.7	102.8	%	0.66				0.64%
ScR 361.383	255917.8	102.8	%	0.71				0.69%
Ag 328.068†	6.9	0.00008	mg/L	0.000170	0.00008	mg/L	0.000170	203.35%
Al 308.215†	15.4	0.01180	mg/L	0.003766	0.01180	mg/L	0.003766	31.92%
As 188.979†	11.6	0.00623	mg/L	0.001224	0.00623	mg/L	0.001224	19.64%
B 249.677†	346.1	0.06078	mg/L	0.002245	0.06078	mg/L	0.002245	3.69%
Ba 233.527†	18.5	0.00467	mg/L	0.000331	0.00467	mg/L	0.000331	7.08%
Be 313.042†	-26.2	-0.00005	mg/L	0.000035	-0.00005	mg/L	0.000035	67.87%
Ca 317.933†	81539.3	8.121	mg/L	0.0507	8.121	mg/L	0.0507	0.62%
Cd 228.802†	-1.8	-0.00009	mg/L	0.000060	-0.00009	mg/L	0.000060	64.87%
Co 228.616†	91.5	0.00225	mg/L	0.000038	0.00225	mg/L	0.000038	1.67%
Cr 267.716†	-0.9	-0.00052	mg/L	0.000158	-0.00052	mg/L	0.000158	30.53%
Cu 324.752†	-36.8	-0.00016	mg/L	0.000167	-0.00016	mg/L	0.000167	104.70%
Fe 273.955†	323.0	0.2626	mg/L	0.000081	0.2626	mg/L	0.000081	0.31%
K 766.490†	3761.4	1.639	mg/L	0.0202	1.639	mg/L	0.0202	1.23%
Mg 279.077†	3428.9	2.992	mg/L	0.0193	2.992	mg/L	0.0193	0.65%
Mn 257.610†	2172.6	0.06691	mg/L	0.000556	0.06691	mg/L	0.000556	0.83%
Mo 202.031†	61.7	0.00329	mg/L	0.000218	0.00329	mg/L	0.000218	6.63%
Na 589.592†	172116.3	12.96	mg/L	0.048	12.96	mg/L	0.048	0.37%
Na 330.237†	287.8	13.08	mg/L	0.266	13.08	mg/L	0.266	2.04%
Ni 231.604†	5.3	0.00152	mg/L	0.001109	0.00152	mg/L	0.001109	73.12%
Pb 220.353†	-2.2	-0.00027	mg/L	0.000467	-0.00027	mg/L	0.000467	175.03%
Sb 206.836†	-5.6	-0.00184	mg/L	0.001539	-0.00184	mg/L	0.001539	83.46%
Se 196.026†	10.0	0.00739	mg/L	0.000846	0.00739	mg/L	0.000846	11.45%
Si 288.158†	14808.8	8.299	mg/L	0.0294	8.299	mg/L	0.0294	0.35%
Sn 189.927†	-10.3	-0.00209	mg/L	0.000491	-0.00209	mg/L	0.000491	23.51%
Sr 421.552†	84329.3	0.1034	mg/L	0.00036	0.1034	mg/L	0.00036	0.35%
Ti 334.903†	14.2	0.00027	mg/L	0.000438	0.00027	mg/L	0.000438	163.99%
Tl 190.801†	10.9	0.00526	mg/L	0.000941	0.00526	mg/L	0.000941	17.88%
V 292.402†	38.7	0.00025	mg/L	0.000050	0.00025	mg/L	0.000050	19.56%
Zn 206.200†	1.1	0.00185	mg/L	0.000119	0.00185	mg/L	0.000119	6.44%

Sequence No.: 3
Sample ID: YE66 D DMN
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 354
Date Collected: 4/7/2014 2:38:56 PM
Data Type: Original

Nebulizer Parameters: YE66 D DMN
Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YE66 D DMN

Table with 9 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Conc., Sample Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 4
 Sample ID: YE66 F WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 355
 Date Collected: 4/7/2014 2:43:11 PM
 Data Type: Original

Nebulizer Parameters: YE66 F WMN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE66 F WMN

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	3012654.4	102.7	%	0.68			0.67%
ScR 361.383	255881.6	102.8	%	1.03			1.00%
Ag 328.068†	47.5	0.00031	mg/L	0.000094	0.00031	mg/L	0.000094 30.44%
Al 308.215†	9.7	0.00741	mg/L	0.000206	0.00741	mg/L	0.000206 2.78%
As 188.979†	15.5	0.00828	mg/L	0.001115	0.00828	mg/L	0.001115 13.46%
B 249.677†	305.0	0.05356	mg/L	0.001817	0.05356	mg/L	0.001817 3.39%
Ba 233.527†	36.9	0.00937	mg/L	0.000186	0.00937	mg/L	0.000186 1.99%
Be 313.042†	-11.5	-0.00002	mg/L	0.000031	-0.00002	mg/L	0.000031 136.63%
Ca 317.933†	117480.7	11.70	mg/L	0.079	11.70	mg/L	0.079 0.67%
Cd 228.802†	-7.7	-0.00029	mg/L	0.000017	-0.00029	mg/L	0.000017 6.01%
Co 228.616†	91.0	0.00223	mg/L	0.000159	0.00223	mg/L	0.000159 7.12%
Cr 267.716†	-1.7	-0.00076	mg/L	0.000168	-0.00076	mg/L	0.000168 21.95%
Cu 324.752†	32.7	0.00007	mg/L	0.000096	0.00007	mg/L	0.000096 145.48%
Fe 273.955†	242.0	0.1968	mg/L	0.00150	0.1968	mg/L	0.00150 0.76%
K 766.490†	7410.5	3.229	mg/L	0.0445	3.229	mg/L	0.0445 1.38%
Mg 279.077†	4153.6	3.624	mg/L	0.0451	3.624	mg/L	0.0451 1.24%
Mn 257.610†	2050.9	0.06314	mg/L	0.000883	0.06314	mg/L	0.000883 1.40%
Mo 202.031†	50.1	0.00259	mg/L	0.000100	0.00259	mg/L	0.000100 3.85%
Na 589.592†	161050.1	12.12	mg/L	0.056	12.12	mg/L	0.056 0.47%
Na 330.237†	264.1	11.98	mg/L	0.413	11.98	mg/L	0.413 3.45%
Ni 231.604†	6.9	0.00197	mg/L	0.001867	0.00197	mg/L	0.001867 94.57%
Pb 220.353†	-4.3	-0.00052	mg/L	0.000387	-0.00052	mg/L	0.000387 74.94%
Sb 206.836†	-9.3	-0.00307	mg/L	0.001541	-0.00307	mg/L	0.001541 50.15%
Se 196.026†	7.0	0.00514	mg/L	0.002399	0.00514	mg/L	0.002399 46.63%
Si 288.158†	16812.6	9.422	mg/L	0.1022	9.422	mg/L	0.1022 1.08%
Sn 189.927†	-15.8	-0.00333	mg/L	0.000507	-0.00333	mg/L	0.000507 15.25%
Sr 421.552†	149793.2	0.1837	mg/L	0.00101	0.1837	mg/L	0.00101 0.55%
Ti 334.903†	23.7	0.00058	mg/L	0.000396	0.00058	mg/L	0.000396 68.09%
Tl 190.801†	18.5	0.00892	mg/L	0.000222	0.00892	mg/L	0.000222 2.49%
V 292.402†	36.0	0.00024	mg/L	0.000084	0.00024	mg/L	0.000084 35.57%
Zn 206.200†	-3.7	0.00072	mg/L	0.000389	0.00072	mg/L	0.000389 54.22%

Sequence No.: 5
 Sample ID: YE66 G WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 356
 Date Collected: 4/7/2014 2:47:26 PM
 Data Type: Original

Nebulizer Parameters: YE66 G WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 G WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2999424.7	102.2	%	1.15				1.13%
ScR 361.383	257203.3	103.3	%	1.25				1.21%
Ag 328.068†	47.6	0.00029	mg/L	0.000238	0.00029	mg/L	0.000238	82.61%
Al 308.215†	18.8	0.01441	mg/L	0.001096	0.01441	mg/L	0.001096	7.61%
As 188.979†	12.2	0.00654	mg/L	0.001302	0.00654	mg/L	0.001302	19.90%
B 249.677†	348.1	0.06112	mg/L	0.001301	0.06112	mg/L	0.001301	2.13%
Ba 233.527†	20.8	0.00526	mg/L	0.000821	0.00526	mg/L	0.000821	15.59%
Be 313.042†	-31.4	-0.00006	mg/L	0.000042	-0.00006	mg/L	0.000042	66.86%
Ca 317.933†	84370.0	8.403	mg/L	0.0311	8.403	mg/L	0.0311	0.37%
Cd 228.802†	-5.6	-0.00021	mg/L	0.000160	-0.00021	mg/L	0.000160	74.35%
Co 228.616†	103.4	0.00254	mg/L	0.000167	0.00254	mg/L	0.000167	6.56%
Cr 267.716†	1.1	-0.00012	mg/L	0.001006	-0.00012	mg/L	0.001006	842.24%
Cu 324.752†	168.5	0.00056	mg/L	0.000070	0.00056	mg/L	0.000070	12.53%
Fe 273.955†	393.1	0.3196	mg/L	0.00229	0.3196	mg/L	0.00229	0.72%
K 766.490†	3868.9	1.686	mg/L	0.0034	1.686	mg/L	0.0034	0.20%
Mg 279.077†	3556.4	3.103	mg/L	0.0222	3.103	mg/L	0.0222	0.71%
Mn 257.610†	2264.9	0.06975	mg/L	0.000717	0.06975	mg/L	0.000717	1.03%
Mo 202.031†	56.4	0.00299	mg/L	0.000055	0.00299	mg/L	0.000055	1.85%
Na 589.592†	177493.8	13.36	mg/L	0.062	13.36	mg/L	0.062	0.47%
Na 330.237†	300.7	13.67	mg/L	0.296	13.67	mg/L	0.296	2.17%
Ni 231.604†	6.3	0.00179	mg/L	0.000902	0.00179	mg/L	0.000902	50.38%
Pb 220.353†	-2.9	-0.00035	mg/L	0.000094	-0.00035	mg/L	0.000094	26.72%
Sb 206.836†	-10.1	-0.00333	mg/L	0.001544	-0.00333	mg/L	0.001544	46.37%
Se 196.026†	9.9	0.00729	mg/L	0.001436	0.00729	mg/L	0.001436	19.71%
Si 288.158†	15342.9	8.598	mg/L	0.0695	8.598	mg/L	0.0695	0.81%
Sn 189.927†	-12.3	-0.00267	mg/L	0.001035	-0.00267	mg/L	0.001035	38.70%
Sr 421.552†	87205.1	0.1069	mg/L	0.00061	0.1069	mg/L	0.00061	0.57%
Ti 334.903†	13.0	0.00017	mg/L	0.000376	0.00017	mg/L	0.000376	214.84%
Tl 190.801†	16.9	0.00816	mg/L	0.001749	0.00816	mg/L	0.001749	21.43%
V 292.402†	74.7	0.00049	mg/L	0.000085	0.00049	mg/L	0.000085	17.29%
Zn 206.200†	-3.3	0.00069	mg/L	0.000674	0.00069	mg/L	0.000674	97.93%

Sequence No.: 6
 Sample ID: YE66 H WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 357
 Date Collected: 4/7/2014 2:51:41 PM
 Data Type: Original

Nebulizer Parameters: YE66 H WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 H WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	3013758.4	102.7	%	0.75				0.73%
ScR 361.383	258472.0	103.8	%	1.05				1.01%
Ag 328.068†	-2.9	0.00006	mg/L	0.000247	0.00006	mg/L	0.000247	422.20%
Al 308.215†	16.9	0.01300	mg/L	0.002557	0.01300	mg/L	0.002557	19.67%
As 188.979†	17.6	0.00949	mg/L	0.001779	0.00949	mg/L	0.001779	18.74%
B 249.677†	298.0	0.05232	mg/L	0.001256	0.05232	mg/L	0.001256	2.40%
Ba 233.527†	25.5	0.00649	mg/L	0.000374	0.00649	mg/L	0.000374	5.76%
Be 313.042†	2.6	0.00000	mg/L	0.000024	0.00000	mg/L	0.000024	484.58%
Ca 317.933†	121059.8	12.06	mg/L	0.113	12.06	mg/L	0.113	0.94%
Cd 228.802†	-7.5	-0.00029	mg/L	0.000152	-0.00029	mg/L	0.000152	52.26%
Co 228.616†	57.3	0.00140	mg/L	0.000090	0.00140	mg/L	0.000090	6.39%
Cr 267.716†	0.2	-0.00047	mg/L	0.001254	-0.00047	mg/L	0.001254	266.72%
Cu 324.752†	7.9	-0.00003	mg/L	0.000113	-0.00003	mg/L	0.000113	342.04%
Fe 273.955†	103.5	0.08413	mg/L	0.000135	0.08413	mg/L	0.000135	0.16%
K 766.490†	3228.1	1.406	mg/L	0.0275	1.406	mg/L	0.0275	1.95%
Mg 279.077†	5269.1	4.597	mg/L	0.0551	4.597	mg/L	0.0551	1.20%
Mn 257.610†	1213.9	0.03733	mg/L	0.000464	0.03733	mg/L	0.000464	1.24%
Mo 202.031†	48.7	0.00251	mg/L	0.000145	0.00251	mg/L	0.000145	5.79%
Na 589.592†	144650.9	10.89	mg/L	0.141	10.89	mg/L	0.141	1.29%
Na 330.237†	237.5	10.76	mg/L	0.370	10.76	mg/L	0.370	3.44%
Ni 231.604†	1.8	0.00051	mg/L	0.000680	0.00051	mg/L	0.000680	133.84%
Pb 220.353†	-10.3	-0.00123	mg/L	0.000342	-0.00123	mg/L	0.000342	27.85%
Sb 206.836†	-12.6	-0.00413	mg/L	0.002438	-0.00413	mg/L	0.002438	58.99%
Se 196.026†	7.9	0.00583	mg/L	0.001433	0.00583	mg/L	0.001433	24.59%
Si 288.158†	17765.9	9.956	mg/L	0.1393	9.956	mg/L	0.1393	1.40%
Sr 189.927†	-17.6	-0.00382	mg/L	0.001023	-0.00382	mg/L	0.001023	26.77%
Sr 421.552†	101090.4	0.1240	mg/L	0.00159	0.1240	mg/L	0.00159	1.29%
Ti 334.903†	32.4	0.00107	mg/L	0.000100	0.00107	mg/L	0.000100	9.35%
Tl 190.801†	15.8	0.00761	mg/L	0.003257	0.00761	mg/L	0.003257	42.81%
V 292.402†	135.6	0.00090	mg/L	0.000131	0.00090	mg/L	0.000131	14.45%
Zn 206.200†	-5.5	0.00032	mg/L	0.000307	0.00032	mg/L	0.000307	97.12%

Sequence No.: 7
 Sample ID: YE66 ADUP DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 358
 Date Collected: 4/7/2014 2:55:56 PM
 Data Type: Original

Nebulizer Parameters: YE66 ADUP DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 ADUP DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3000837.8	102.3	%	0.71	.	.	.	0.70%
ScR 361.383	257204.8	103.3	%	1.59	.	.	.	1.54%
Ag 328.068†	-38.0	-0.00012	mg/L	0.000269	-0.00012	mg/L	0.000269	233.64%
Al 308.215†	12.7	0.00970	mg/L	0.000794	0.00970	mg/L	0.000794	8.18%
As 188.979†	15.7	0.00832	mg/L	0.001331	0.00832	mg/L	0.001331	16.00%
B 249.677†	246.9	0.04335	mg/L	0.001110	0.04335	mg/L	0.001110	2.56%
Ba 233.527†	24.0	0.00611	mg/L	0.000655	0.00611	mg/L	0.000655	10.72%
Be 313.042†	12.5	0.00002	mg/L	0.000032	0.00002	mg/L	0.000032	131.56%
Ca 317.933†	122800.2	12.23	mg/L	0.075	12.23	mg/L	0.075	0.61%
Cd 228.802†	-7.3	-0.00028	mg/L	0.000088	-0.00028	mg/L	0.000088	31.86%
Co 228.616†	27.9	0.00068	mg/L	0.000118	0.00068	mg/L	0.000118	17.21%
Cr 267.716†	3.2	0.00013	mg/L	0.000356	0.00013	mg/L	0.000356	268.33%
Cu 324.752†	68.7	0.00018	mg/L	0.000082	0.00018	mg/L	0.000082	46.54%
Fe 273.955†	13.2	0.01073	mg/L	0.001927	0.01073	mg/L	0.001927	17.96%
K 766.490†	3297.2	1.437	mg/L	0.0173	1.437	mg/L	0.0173	1.21%
Mg 279.077†	5144.3	4.489	mg/L	0.0485	4.489	mg/L	0.0485	1.08%
Mn 257.610†	668.7	0.02053	mg/L	0.000477	0.02053	mg/L	0.000477	2.32%
Mo 202.031†	41.5	0.00211	mg/L	0.000229	0.00211	mg/L	0.000229	10.88%
Na 589.592†	166420.5	12.53	mg/L	0.031	12.53	mg/L	0.031	0.25%
Na 330.237†	275.7	12.50	mg/L	0.228	12.50	mg/L	0.228	1.83%
Ni 231.604†	3.4	0.00096	mg/L	0.000976	0.00096	mg/L	0.000976	101.13%
Pb 220.353†	-6.6	-0.00078	mg/L	0.000720	-0.00078	mg/L	0.000720	92.13%
Sb 206.836†	-3.3	-0.00111	mg/L	0.001526	-0.00111	mg/L	0.001526	136.99%
Se 196.026†	5.6	0.00417	mg/L	0.003847	0.00417	mg/L	0.003847	92.30%
Si 288.158†	19120.4	10.71	mg/L	0.104	10.71	mg/L	0.104	0.97%
Sn 189.927†	-17.7	-0.00381	mg/L	0.000973	-0.00381	mg/L	0.000973	25.52%
Sr 421.552†	93463.0	0.1146	mg/L	0.00039	0.1146	mg/L	0.00039	0.34%
Ti 334.903†	19.3	0.00028	mg/L	0.000104	0.00028	mg/L	0.000104	37.09%
Tl 190.801†	13.7	0.00659	mg/L	0.000957	0.00659	mg/L	0.000957	14.51%
V 292.402†	157.5	0.00105	mg/L	0.000163	0.00105	mg/L	0.000163	15.43%
Zn 206.200†	-2.4	0.00133	mg/L	0.000364	0.00133	mg/L	0.000364	27.38%

Sequence No.: 8
 Sample ID: YE66 A DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 359
 Date Collected: 4/7/2014 3:00:11 PM
 Data Type: Original

Nebulizer Parameters: YE66 A DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 A DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2995087.8	102.1 %	0.31			0.31%
ScR 361.383	256977.0	103.2 %	0.67			0.65%
Ag 328.068†	-6.4	0.00004 mg/L	0.000233	0.00004 mg/L	0.000233	552.02%
Al 308.215†	18.5	0.01423 mg/L	0.004212	0.01423 mg/L	0.004212	29.60%
As 188.979†	14.9	0.00786 mg/L	0.001854	0.00786 mg/L	0.001854	23.57%
B 249.677†	244.3	0.04289 mg/L	0.000679	0.04289 mg/L	0.000679	1.58%
Ba 233.527†	25.4	0.00646 mg/L	0.000889	0.00646 mg/L	0.000889	13.75%
Be 313.042†	11.3	0.00002 mg/L	0.000014	0.00002 mg/L	0.000014	64.04%
Ca 317.933†	122683.7	12.22 mg/L	0.014	12.22 mg/L	0.014	0.12%
Cd 228.802†	-5.4	-0.00021 mg/L	0.000141	-0.00021 mg/L	0.000141	65.85%
Co 228.616†	30.3	0.00074 mg/L	0.000042	0.00074 mg/L	0.000042	5.65%
Cr 267.716†	3.6	0.00021 mg/L	0.000603	0.00021 mg/L	0.000603	288.12%
Cu 324.752†	94.4	0.00027 mg/L	0.000095	0.00027 mg/L	0.000095	35.69%
Fe 273.955†	11.1	0.00898 mg/L	0.001910	0.00898 mg/L	0.001910	21.26%
K 766.490†	3270.0	1.425 mg/L	0.0247	1.425 mg/L	0.0247	1.73%
Mg 279.077†	5144.6	4.489 mg/L	0.0533	4.489 mg/L	0.0533	1.19%
Mn 257.610†	669.7	0.02056 mg/L	0.000245	0.02056 mg/L	0.000245	1.19%
Mo 202.031†	40.4	0.00205 mg/L	0.000362	0.00205 mg/L	0.000362	17.69%
Na 589.592†	165540.8	12.46 mg/L	0.037	12.46 mg/L	0.037	0.30%
Na 330.237†	267.3	12.12 mg/L	0.543	12.12 mg/L	0.543	4.48%
Ni 231.604†	2.4	0.00068 mg/L	0.000395	0.00068 mg/L	0.000395	57.79%
Pb 220.353†	2.2	0.00027 mg/L	0.001119	0.00027 mg/L	0.001119	416.05%
Sb 206.836†	-15.7	-0.00515 mg/L	0.002028	-0.00515 mg/L	0.002028	39.36%
Se 196.026†	14.3	0.01054 mg/L	0.001483	0.01054 mg/L	0.001483	14.08%
Si 288.158†	19068.8	10.69 mg/L	0.128	10.69 mg/L	0.128	1.20%
Sn 189.927†	-13.7	-0.00263 mg/L	0.000487	-0.00263 mg/L	0.000487	18.57%
Sr 421.552†	93174.5	0.1143 mg/L	0.00018	0.1143 mg/L	0.00018	0.15%
Ti 334.903†	25.6	0.00065 mg/L	0.000150	0.00065 mg/L	0.000150	22.89%
Tl 190.801†	14.2	0.00684 mg/L	0.002203	0.00684 mg/L	0.002203	32.22%
V 292.402†	171.7	0.00115 mg/L	0.000280	0.00115 mg/L	0.000280	24.37%
Zn 206.200†	-2.6	0.00127 mg/L	0.000629	0.00127 mg/L	0.000629	49.63%

Sequence No.: 9
 Sample ID: YE66 ASPK DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 360
 Date Collected: 4/7/2014 3:04:26 PM
 Data Type: Original

Nebulizer Parameters: YE66 ASPK DMN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE66 ASPK DMN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2974465.4	101.4 %	0.09			0.09%
ScR 361.383	253255.6	101.7 %	0.63			0.62%
Ag 328.068†	79710.2	0.3980 mg/L	0.04173	0.3980 mg/L	0.04173	10.49%
Al 308.215†	2625.7	2.016 mg/L	0.0088	2.016 mg/L	0.0088	0.43%
As 188.979†	3704.2	2.209 mg/L	0.0039	2.209 mg/L	0.0039	0.18%
B 249.677†	240.5	0.04115 mg/L	0.000204	0.04115 mg/L	0.000204	0.49%
Ba 233.527†	8135.3	2.073 mg/L	0.0152	2.073 mg/L	0.0152	0.74%
Be 313.042†	245357.4	0.4880 mg/L	0.00366	0.4880 mg/L	0.00366	0.75%
Ca 317.933†	225783.7	22.49 mg/L	0.138	22.49 mg/L	0.138	0.61%
Cd 228.802†	17731.6	0.5455 mg/L	0.00371	0.5455 mg/L	0.00371	0.68%
Co 228.616†	20710.9	0.5087 mg/L	0.00291	0.5087 mg/L	0.00291	0.57%
Cr 267.716†	2659.6	0.5218 mg/L	0.00263	0.5218 mg/L	0.00263	0.50%
Cu 324.752†	146105.3	0.5114 mg/L	0.00278	0.5114 mg/L	0.00278	0.54%
Fe 273.955†	2524.0	2.049 mg/L	0.0074	2.049 mg/L	0.0074	0.36%
K 766.490†	26901.3	11.72 mg/L	0.065	11.72 mg/L	0.065	0.56%
Mg 279.077†	17155.3	14.97 mg/L	0.071	14.97 mg/L	0.071	0.48%
Mn 257.610†	17269.3	0.5325 mg/L	0.00248	0.5325 mg/L	0.00248	0.47%
Mo 202.031†	64.9	0.00324 mg/L	0.000095	0.00324 mg/L	0.000095	2.93%
Na 589.592†	307943.7	23.18 mg/L	0.119	23.18 mg/L	0.119	0.51%
Na 330.237†	503.6	22.68 mg/L	0.189	22.68 mg/L	0.189	0.83%
Ni 231.604†	1808.8	0.5148 mg/L	0.00368	0.5148 mg/L	0.00368	0.71%
Pb 220.353†	17508.6	2.085 mg/L	0.0114	2.085 mg/L	0.0114	0.55%
Sb 206.836†	5.9	-0.00307 mg/L	0.000755	-0.00307 mg/L	0.000755	24.64%
Se 196.026†	3169.5	2.343 mg/L	0.0049	2.343 mg/L	0.0049	0.21%
Si 288.158†	19365.5	10.86 mg/L	0.042	10.86 mg/L	0.042	0.39%
Sn 189.927†	-30.9	-0.00644 mg/L	0.000844	-0.00644 mg/L	0.000844	13.12%
Sr 421.552†	518214.7	0.6355 mg/L	0.00270	0.6355 mg/L	0.00270	0.42%
Ti 334.903†	34.1	0.00034 mg/L	0.000516	0.00034 mg/L	0.000516	152.75%
Tl 190.801†	4306.9	2.073 mg/L	0.0039	2.073 mg/L	0.0039	0.19%
V 292.402†	77675.2	0.5196 mg/L	0.00285	0.5196 mg/L	0.00285	0.55%
Zn 206.200†	1856.3	0.5224 mg/L	0.00391	0.5224 mg/L	0.00391	0.75%

Sequence No.: 10
 Sample ID: YE66 MB1SPK DMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 361
 Date Collected: 4/7/2014 3:08:26 PM
 Data Type: Original

Nebulizer Parameters: YE66 MB1SPK DMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 MB1SPK DMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2998519.8		102.2 %	0.70			0.69%
ScR 361.383	255389.3		102.6 %	0.62			0.60%
Ag 328.068†	102070.4		0.5095 mg/L	0.00327	0.5095 mg/L	0.00327	0.64%
Al 308.215†	2678.6		2.057 mg/L	0.0159	2.057 mg/L	0.0159	0.77%
As 188.979†	3652.0		2.179 mg/L	0.0179	2.179 mg/L	0.0179	0.82%
B 249.677†	9.0		0.00050 mg/L	0.000791	0.00050 mg/L	0.000791	157.76%
Ba 233.527†	8095.4		2.063 mg/L	0.0155	2.063 mg/L	0.0155	0.75%
Be 313.042†	243948.0		0.4852 mg/L	0.00183	0.4852 mg/L	0.00183	0.38%
Ca 317.933†	102598.7		10.22 mg/L	0.039	10.22 mg/L	0.039	0.38%
Cd 228.802†	17698.6		0.5446 mg/L	0.00248	0.5446 mg/L	0.00248	0.46%
Co 228.616†	20623.8		0.5066 mg/L	0.00352	0.5066 mg/L	0.00352	0.70%
Cr 267.716†	2684.8		0.5272 mg/L	0.00393	0.5272 mg/L	0.00393	0.75%
Cu 324.752†	144578.0		0.5061 mg/L	0.00395	0.5061 mg/L	0.00395	0.78%
Fe 273.955†	2548.0		2.069 mg/L	0.0166	2.069 mg/L	0.0166	0.80%
K 766.490†	23739.7		10.34 mg/L	0.018	10.34 mg/L	0.018	0.17%
Mg 279.077†	11949.9		10.43 mg/L	0.098	10.43 mg/L	0.098	0.94%
Mn 257.610†	16053.1		0.4951 mg/L	0.00501	0.4951 mg/L	0.00501	1.01%
Mo 202.031†	13.8		0.00061 mg/L	0.000214	0.00061 mg/L	0.000214	35.32%
Na 589.592†	143990.2		10.84 mg/L	0.066	10.84 mg/L	0.066	0.61%
Na 330.237†	245.6		10.99 mg/L	0.118	10.99 mg/L	0.118	1.07%
Ni 231.604†	1831.3		0.5212 mg/L	0.00679	0.5212 mg/L	0.00679	1.30%
Pb 220.353†	17519.8		2.086 mg/L	0.0150	2.086 mg/L	0.0150	0.72%
Sb 206.836†	1.4		-0.00457 mg/L	0.001010	-0.00457 mg/L	0.001010	22.10%
Se 196.026†	3182.9		2.353 mg/L	0.0232	2.353 mg/L	0.0232	0.99%
Si 288.158†	-19.7		-0.00732 mg/L	0.002095	-0.00732 mg/L	0.002095	28.60%
Sr 189.927†	-14.1		-0.00290 mg/L	0.001798	-0.00290 mg/L	0.001798	62.01%
Sr 421.552†	418305.6		0.5130 mg/L	0.00305	0.5130 mg/L	0.00305	0.59%
Ti 334.903†	20.0		0.00036 mg/L	0.000376	0.00036 mg/L	0.000376	103.12%
Tl 190.801†	4274.0		2.057 mg/L	0.0183	2.057 mg/L	0.0183	0.89%
V 292.402†	77407.2		0.5179 mg/L	0.00345	0.5179 mg/L	0.00345	0.67%
Zn 206.200†	1911.9		0.5359 mg/L	0.00490	0.5359 mg/L	0.00490	0.91%

Sequence No.: 11
 Sample ID: CV8
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/7/2014 3:12:27 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2914712.6	99.32 %	0.451			0.45%
ScR 361.383	244246.0	98.09 %	0.305			0.31%
Ag 328.068†	218982.4	1.093 mg/L	0.0113	1.093 mg/L	0.0113	1.04%
Al 308.215†	2681.1	2.033 mg/L	0.0118	2.033 mg/L	0.0118	0.58%
As 188.979†	3393.1	2.058 mg/L	0.0023	2.058 mg/L	0.0023	0.11%
B 249.677†	5909.8	1.037 mg/L	0.0035	1.037 mg/L	0.0035	0.34%
Ba 233.527†	4072.6	1.038 mg/L	0.0069	1.038 mg/L	0.0069	0.67%
Be 313.042†	504211.8	1.003 mg/L	0.0063	1.003 mg/L	0.0063	0.63%
Ca 317.933†	21061.1	2.098 mg/L	0.0057	2.098 mg/L	0.0057	0.27%
Cd 228.802†	33651.5	1.046 mg/L	0.0063	1.046 mg/L	0.0063	0.60%
Co 228.616†	41021.5	1.006 mg/L	0.0116	1.006 mg/L	0.0116	1.15%
Cr 267.716†	5353.3	1.053 mg/L	0.0031	1.053 mg/L	0.0031	0.29%
Cu 324.752†	286958.5	1.004 mg/L	0.0037	1.004 mg/L	0.0037	0.37%
Fe 273.955†	2567.0	2.081 mg/L	0.0017	2.081 mg/L	0.0017	0.08%
K 766.490†	46747.6	20.37 mg/L	0.119	20.37 mg/L	0.119	0.58%
Mg 279.077†	2299.2	2.013 mg/L	0.0116	2.013 mg/L	0.0116	0.58%
Mn 257.610†	32431.9	1.000 mg/L	0.0059	1.000 mg/L	0.0059	0.59%
Mo 202.031†	17900.2	0.9907 mg/L	0.00769	0.9907 mg/L	0.00769	0.78%
Na 589.592†	700357.4	52.72 mg/L	0.139	52.72 mg/L	0.139	0.26%
Na 330.237†	1142.3	52.06 mg/L	0.092	52.06 mg/L	0.092	0.18%
Ni 231.604†	3644.3	1.039 mg/L	0.0033	1.039 mg/L	0.0033	0.32%
Pb 220.353†	17073.3	2.034 mg/L	0.0180	2.034 mg/L	0.0180	0.89%
Sb 206.836†	6514.4	2.124 mg/L	0.0037	2.124 mg/L	0.0037	0.17%
Se 196.026†	2763.0	2.042 mg/L	0.0045	2.042 mg/L	0.0045	0.22%
Si 288.158†	3643.1	2.046 mg/L	0.0260	2.046 mg/L	0.0260	1.27%
Sn 189.927†	3399.0	1.019 mg/L	0.0015	1.019 mg/L	0.0015	0.15%
Sr 421.552†	850129.4	1.043 mg/L	0.0031	1.043 mg/L	0.0031	0.30%
Ti 334.903†	17176.1	1.019 mg/L	0.0049	1.019 mg/L	0.0049	0.48%
Tl 190.801†	4195.9	2.016 mg/L	0.0046	2.016 mg/L	0.0046	0.23%
V 292.402†	154390.8	1.033 mg/L	0.0061	1.033 mg/L	0.0061	0.60%
Zn 206.200†	3668.6	1.028 mg/L	0.0036	1.028 mg/L	0.0036	0.35%

Sequence No.: 12

Sample ID: CB

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 1

Date Collected: 4/7/2014 3:16:31 PM

Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2946665.8	100.4	%	0.66				0.66%
ScR 361.383	253490.5	101.8	%	1.09				1.07%
Ag 328.068†	319.4	0.00159	mg/L	0.000201	0.00159	mg/L	0.000201	12.64%
Al 308.215†	5.4	0.00417	mg/L	0.003857	0.00417	mg/L	0.003857	92.53%
As 188.979†	0.2	0.00015	mg/L	0.001164	0.00015	mg/L	0.001164	766.02%
B 249.677†	4.7	0.00083	mg/L	0.000896	0.00083	mg/L	0.000896	107.58%
Ba 233.527†	2.7	0.00068	mg/L	0.000908	0.00068	mg/L	0.000908	133.87%
Be 313.042†	10.6	0.00002	mg/L	0.000043	0.00002	mg/L	0.000043	204.38%
Ca 317.933†	10.7	0.00106	mg/L	0.000352	0.00106	mg/L	0.000352	33.13%
Cd 228.802†	-2.3	-0.00007	mg/L	0.000130	-0.00007	mg/L	0.000130	175.42%
Co 228.616†	-3.3	-0.00008	mg/L	0.000050	-0.00008	mg/L	0.000050	59.78%
Cr 267.716†	-1.4	-0.00028	mg/L	0.001337	-0.00028	mg/L	0.001337	479.67%
Cu 324.752†	38.2	0.00013	mg/L	0.000250	0.00013	mg/L	0.000250	187.51%
Fe 273.955†	2.7	0.00219	mg/L	0.001920	0.00219	mg/L	0.001920	87.72%
K 766.490†	-10.8	-0.00472	mg/L	0.009009	-0.00472	mg/L	0.009009	190.95%
Mg 279.077†	-7.4	-0.00648	mg/L	0.001102	-0.00648	mg/L	0.001102	17.00%
Mn 257.610†	-1.6	-0.00005	mg/L	0.000147	-0.00005	mg/L	0.000147	292.54%
Mo 202.031†	12.4	0.00068	mg/L	0.000454	0.00068	mg/L	0.000454	66.45%
Na 589.592†	140.6	0.01058	mg/L	0.003086	0.01058	mg/L	0.003086	29.17%
Na 330.237†	3.4	0.1576	mg/L	0.23783	0.1576	mg/L	0.23783	150.91%
Ni 231.604†	-0.6	-0.00017	mg/L	0.000539	-0.00017	mg/L	0.000539	308.62%
Pb 220.353†	6.9	0.00082	mg/L	0.000642	0.00082	mg/L	0.000642	78.67%
Sb 206.836†	33.5	0.01095	mg/L	0.001657	0.01095	mg/L	0.001657	15.13%
Se 196.026†	1.6	0.00120	mg/L	0.005298	0.00120	mg/L	0.005298	442.35%
Si 288.158†	-4.0	-0.00225	mg/L	0.004416	-0.00225	mg/L	0.004416	196.47%
Sn 189.927†	4.3	0.00129	mg/L	0.000434	0.00129	mg/L	0.000434	33.73%
Sr 421.552†	49.0	0.00006	mg/L	0.000048	0.00006	mg/L	0.000048	80.03%
Ti 334.903†	17.9	0.00106	mg/L	0.000662	0.00106	mg/L	0.000662	62.36%
Tl 190.801†	5.0	0.00242	mg/L	0.001217	0.00242	mg/L	0.001217	50.37%
V 292.402†	2.5	0.00002	mg/L	0.000179	0.00002	mg/L	0.000179	>999.9%
Zn 206.200†	-1.6	-0.00045	mg/L	0.000279	-0.00045	mg/L	0.000279	62.24%

Sequence No.: 13
 Sample ID: YF21 MB LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 362
 Date Collected: 4/7/2014 3:20:31 PM
 Data Type: Original

Nebulizer Parameters: YF21 MB LEN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF21 MB LEN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2861996.0	97.52	%	0.088			0.09%
ScR 361.383	250778.0	100.7	%	1.35			1.34%
Ag 328.068†	59.1	0.00030	mg/L	0.000187	0.00148	mg/L	0.000934 63.27%
Al 308.215†	4.8	0.00367	mg/L	0.005728	0.01833	mg/L	0.028641 156.28%
As 188.979†	1.0	0.00062	mg/L	0.001636	0.00309	mg/L	0.008180 265.16%
B 249.677†	26.9	0.00472	mg/L	0.000984	0.02360	mg/L	0.004918 20.83%
Ba 233.527†	3.0	0.00078	mg/L	0.000527	0.00388	mg/L	0.002637 67.99%
Be 313.042†	16.5	0.00003	mg/L	0.000024	0.00016	mg/L	0.000119 72.78%
Ca 317.933†	650.7	0.06481	mg/L	0.000852	0.3240	mg/L	0.00426 1.31%
Cd 228.802†	8.1	0.00025	mg/L	0.000103	0.00127	mg/L	0.000513 40.44%
Co 228.616†	-6.3	-0.00015	mg/L	0.000089	-0.00077	mg/L	0.000445 57.72%
Cr 267.716†	-5.7	-0.00113	mg/L	0.000187	-0.00566	mg/L	0.000934 16.51%
Cu 324.752†	203.8	0.00071	mg/L	0.000133	0.00357	mg/L	0.000667 18.71%
Fe 273.955†	3.6	0.00290	mg/L	0.002211	0.01452	mg/L	0.011057 76.17%
K 766.490†	71.2	0.03104	mg/L	0.004717	0.1552	mg/L	0.02358 15.20%
Mg 279.077†	11.1	0.00971	mg/L	0.002596	0.04854	mg/L	0.012981 26.74%
Mn 257.610†	5.5	0.00017	mg/L	0.000115	0.00085	mg/L	0.000577 68.27%
Mo 202.031†	-0.4	-0.00002	mg/L	0.000291	-0.00012	mg/L	0.001456 >999.9%
Na 589.592†	4756988.0	358.1	mg/L	4.69	1791	mg/L	23.47 1.31%
Na 330.237†	7630.8	348.0	mg/L	4.00	1740	mg/L	20.00 1.15%
Ni 231.604†	5.4	0.00154	mg/L	0.001296	0.00770	mg/L	0.006481 84.12%
Pb 220.353†	7.4	0.00088	mg/L	0.000242	0.00439	mg/L	0.001212 27.63%
Sb 206.836†	4.1	0.00136	mg/L	0.003657	0.00682	mg/L	0.018287 268.25%
Se 196.026†	3.2	0.00238	mg/L	0.004765	0.01191	mg/L	0.023827 200.10%
Si 288.158†	38.1	0.02136	mg/L	0.003454	0.1068	mg/L	0.01727 16.17%
Sn 189.927†	4.3	0.00130	mg/L	0.000644	0.00652	mg/L	0.003220 49.39%
Sr 421.552†	128.7	0.00016	mg/L	0.000018	0.00079	mg/L	0.000092 11.67%
Ti 334.903†	-1.5	-0.00009	mg/L	0.000450	-0.00047	mg/L	0.002252 478.20%
Tl 190.801†	9.1	0.00441	mg/L	0.001042	0.02207	mg/L	0.005210 23.60%
V 292.402†	13.7	0.00009	mg/L	0.000113	0.00043	mg/L	0.000565 130.76%
Zn 206.200†	3.8	0.00106	mg/L	0.000543	0.00531	mg/L	0.002714 51.10%

Sequence No.: 14

Sample ID: YE83 ADUP SWC

Analyst: EL

Dilution: 2.000000X

Autosampler Location: 363

Date Collected: 4/7/2014 3:24:50 PM

Data Type: Original

Nebulizer Parameters: YE83 ADUP SWC

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YE83 ADUP SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2927950.9	99.77	%	0.134				0.13%
ScR 361.383	251597.3	101.0	%	0.21				0.21%
Ag 328.068†	-345.8	-0.00139	mg/L	0.000202	-0.00277	mg/L	0.000403	14.54%
Al 308.215†	88755.8	68.38	mg/L	0.206	136.8	mg/L	0.41	0.30%
As 188.979†	-207.8	0.06781	mg/L	0.000678	0.1356	mg/L	0.00136	1.00%
B 249.677†	20.9	0.00358	mg/L	0.000799	0.00717	mg/L	0.001598	22.30%
Ba 233.527†	592.1	0.1359	mg/L	0.00052	0.2718	mg/L	0.00105	0.39%
Be 313.042†	525.1	0.00088	mg/L	0.000010	0.00176	mg/L	0.000019	1.08%
Ca 317.933†	378508.8	37.70	mg/L	0.120	75.39	mg/L	0.240	0.32%
Cd 228.802†	18.5	0.00042	mg/L	0.000116	0.00083	mg/L	0.000232	27.87%
Co 228.616†	1728.3	0.03268	mg/L	0.000054	0.06536	mg/L	0.000109	0.17%
Cr 267.716†	673.6	0.1334	mg/L	0.00062	0.2669	mg/L	0.00124	0.47%
Cu 324.752†	42623.4	0.1524	mg/L	0.00035	0.3047	mg/L	0.00070	0.23%
Fe 273.955†	119131.1	96.87	mg/L	0.176	193.7	mg/L	0.35	0.18%
K 766.490†	8646.0	3.767	mg/L	0.0238	7.534	mg/L	0.0475	0.63%
Mg 279.077†	22114.8	19.24	mg/L	0.034	38.47	mg/L	0.067	0.17%
Mn 257.610†	19777.9	0.6089	mg/L	0.00175	1.218	mg/L	0.0035	0.29%
Mo 202.031†	95.9	0.00472	mg/L	0.000152	0.00945	mg/L	0.000304	3.22%
Na 589.592†	102661.7	7.728	mg/L	0.0179	15.46	mg/L	0.036	0.23%
Na 330.237†	139.4	7.515	mg/L	0.0164	15.03	mg/L	0.033	0.22%
Ni 231.604†	244.3	0.06964	mg/L	0.001432	0.1393	mg/L	0.00286	2.06%
Pb 220.353†	346.0	0.05380	mg/L	0.000087	0.1076	mg/L	0.00017	0.16%
Sb 206.836†	20.6	0.01075	mg/L	0.000639	0.02150	mg/L	0.001279	5.95%
Se 196.026†	17.9	0.01296	mg/L	0.004988	0.02593	mg/L	0.009976	38.48%
Si 288.158†	6073.1	3.406	mg/L	0.0092	6.811	mg/L	0.0184	0.27%
Sn 189.927†	-45.7	-0.00806	mg/L	0.001898	-0.01612	mg/L	0.003796	23.54%
Sr 421.552†	276067.7	0.3385	mg/L	0.00097	0.6771	mg/L	0.00193	0.29%
Ti 334.903†	92054.7	5.467	mg/L	0.0175	10.93	mg/L	0.035	0.32%
Tl 190.801†	0.1	0.00937	mg/L	0.000268	0.01875	mg/L	0.000535	2.86%
V 292.402†	64207.2	0.4198	mg/L	0.00145	0.8396	mg/L	0.00290	0.35%
Zn 206.200†	782.0	0.2197	mg/L	0.00144	0.4395	mg/L	0.00289	0.66%

Sequence No.: 15
 Sample ID: YE83 A SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 364
 Date Collected: 4/7/2014 3:28:50 PM
 Data Type: Original

Nebulizer Parameters: YE83 A SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE83 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2937561.3	100.1	%	1.03				1.03%
ScR 361.383	251509.6	101.0	%	0.72				0.71%
Ag 328.068†	-349.0	-0.00141	mg/L	0.000439	-0.00282	mg/L	0.000877	31.13%
Al 308.215†	87434.6	67.36	mg/L	0.236	134.7	mg/L	0.47	0.35%
As 188.979†	-219.4	0.06647	mg/L	0.002540	0.1329	mg/L	0.00508	3.82%
B 249.677†	29.7	0.00513	mg/L	0.001081	0.01025	mg/L	0.002162	21.09%
Ba 233.527†	570.4	0.1302	mg/L	0.00243	0.2603	mg/L	0.00486	1.87%
Be 313.042†	545.0	0.00092	mg/L	0.000029	0.00183	mg/L	0.000058	3.17%
Ca 317.933†	365989.7	36.45	mg/L	0.210	72.90	mg/L	0.419	0.58%
Cd 228.802†	23.5	0.00060	mg/L	0.000088	0.00120	mg/L	0.000177	14.69%
Co 228.616†	1793.1	0.03400	mg/L	0.000500	0.06800	mg/L	0.001000	1.47%
Cr 267.716†	681.1	0.1350	mg/L	0.00197	0.2699	mg/L	0.00394	1.46%
Cu 324.752†	42854.7	0.1532	mg/L	0.00278	0.3064	mg/L	0.00556	1.81%
Fe 273.955†	120679.6	98.13	mg/L	0.417	196.3	mg/L	0.83	0.43%
K 766.490†	9138.5	3.982	mg/L	0.0096	7.963	mg/L	0.0192	0.24%
Mg 279.077†	22349.7	19.44	mg/L	0.062	38.88	mg/L	0.124	0.32%
Mn 257.610†	20651.7	0.6358	mg/L	0.00323	1.272	mg/L	0.0065	0.51%
Mo 202.031†	105.6	0.00528	mg/L	0.000173	0.01056	mg/L	0.000345	3.27%
Na 589.592†	99785.3	7.512	mg/L	0.0246	15.02	mg/L	0.049	0.33%
Na 330.237†	133.7	7.301	mg/L	0.2315	14.60	mg/L	0.463	3.17%
Ni 231.604†	256.1	0.07302	mg/L	0.002118	0.1460	mg/L	0.00424	2.90%
Pb 220.353†	297.6	0.04773	mg/L	0.001452	0.09546	mg/L	0.002904	3.04%
Sb 206.836†	20.9	0.01096	mg/L	0.000315	0.02192	mg/L	0.000631	2.88%
Se 196.026†	17.2	0.01246	mg/L	0.002343	0.02492	mg/L	0.004685	18.80%
Si 288.158†	6408.8	3.594	mg/L	0.0341	7.187	mg/L	0.0681	0.95%
Sn 189.927†	-44.0	-0.00768	mg/L	0.001637	-0.01537	mg/L	0.003275	21.31%
Sr 421.552†	266170.2	0.3264	mg/L	0.00155	0.6528	mg/L	0.00310	0.47%
Ti 334.903†	94633.6	5.621	mg/L	0.0259	11.24	mg/L	0.052	0.46%
Tl 190.801†	-11.0	0.00412	mg/L	0.003494	0.00823	mg/L	0.006987	84.87%
V 292.402†	65003.6	0.4250	mg/L	0.00702	0.8499	mg/L	0.01404	1.65%
Zn 206.200†	813.3	0.2286	mg/L	0.00143	0.4571	mg/L	0.00286	0.63%

Sequence No.: 16
 Sample ID: YE83 ASPK SWC
 Analyst: EL
 Dilution: 2.000000X

Autosampler Location: 365
 Date Collected: 4/7/2014 3:32:50 PM
 Data Type: Original

 Nebulizer Parameters: YE83 ASPK SWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

 Mean Data: YE83 ASPK SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2900709.9	98.84	%	0.594			0.60%
ScR 361.383	246394.1	98.96	%	0.091			0.09%
Ag 328.068†	107158.4	0.5353	mg/L	0.00368	1.071 mg/L	0.0074	0.69%
Al 308.215†	98575.7	75.94	mg/L	0.326	151.9 mg/L	0.65	0.43%
As 188.979†	3269.4	2.156	mg/L	0.0128	4.311 mg/L	0.0257	0.60%
B 249.677†	26.5	0.00349	mg/L	0.000913	0.00697 mg/L	0.001827	26.20%
Ba 233.527†	8934.5	2.262	mg/L	0.0158	4.524 mg/L	0.0316	0.70%
Be 313.042†	260422.8	0.5178	mg/L	0.00193	1.036 mg/L	0.0039	0.37%
Ca 317.933†	486097.9	48.41	mg/L	0.060	96.82 mg/L	0.120	0.12%
Cd 228.802†	17734.1	0.5461	mg/L	0.00397	1.092 mg/L	0.0079	0.73%
Co 228.616†	22604.6	0.5448	mg/L	0.00326	1.090 mg/L	0.0065	0.60%
Cr 267.716†	3338.3	0.6566	mg/L	0.00263	1.313 mg/L	0.0053	0.40%
Cu 324.752†	200139.6	0.7036	mg/L	0.00589	1.407 mg/L	0.0118	0.84%
Fe 273.955†	119787.8	97.40	mg/L	0.284	194.8 mg/L	0.57	0.29%
K 766.490†	32515.4	14.17	mg/L	0.029	28.33 mg/L	0.058	0.21%
Mg 279.077†	35107.4	30.58	mg/L	0.108	61.15 mg/L	0.217	0.35%
Mn 257.610†	36410.3	1.122	mg/L	0.0036	2.244 mg/L	0.0072	0.32%
Mo 202.031†	114.9	0.00561	mg/L	0.000176	0.01122 mg/L	0.000352	3.13%
Na 589.592†	257965.8	19.42	mg/L	0.068	38.84 mg/L	0.137	0.35%
Na 330.237†	390.4	18.85	mg/L	0.078	37.70 mg/L	0.157	0.42%
Ni 231.604†	2052.6	0.5843	mg/L	0.00230	1.169 mg/L	0.0046	0.39%
Pb 220.353†	17834.2	2.138	mg/L	0.0137	4.276 mg/L	0.0275	0.64%
Sb 206.836†	37.3	0.01148	mg/L	0.002567	0.02296 mg/L	0.005135	22.37%
Se 196.026†	2839.7	2.099	mg/L	0.0113	4.197 mg/L	0.0227	0.54%
Si 288.158†	6610.3	3.710	mg/L	0.0171	7.421 mg/L	0.0342	0.46%
Sn 189.927†	-55.5	-0.00955	mg/L	0.001737	-0.01911 mg/L	0.003474	18.18%
Sr 421.552†	739763.6	0.9072	mg/L	0.00397	1.814 mg/L	0.0079	0.44%
Ti 334.903†	98507.6	5.850	mg/L	0.0207	11.70 mg/L	0.041	0.35%
Tl 190.801†	4171.6	2.017	mg/L	0.0128	4.034 mg/L	0.0256	0.63%
V 292.402†	139666.3	0.9245	mg/L	0.00607	1.849 mg/L	0.0121	0.66%
Zn 206.200†	2609.1	0.7320	mg/L	0.00188	1.464 mg/L	0.0038	0.26%

Sequence No.: 17

Autosampler Location: 366

Sample ID: YE66 EDUP WMN

Date Collected: 4/7/2014 3:36:51 PM

Analyst: EL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: YE66 EDUP WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE66 EDUP WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3009034.1	102.5	%	0.42				0.41%
ScR 361.383	255843.4	102.8	%	1.72				1.67%
Ag 328.068†	11.8	0.00014	mg/L	0.000124	0.00014	mg/L	0.000124	91.10%
Al 308.215†	5.6	0.00425	mg/L	0.002292	0.00425	mg/L	0.002292	53.90%
As 188.979†	14.9	0.00795	mg/L	0.001136	0.00795	mg/L	0.001136	14.28%
B 249.677†	253.8	0.04456	mg/L	0.000694	0.04456	mg/L	0.000694	1.56%
Ba 233.527†	21.9	0.00558	mg/L	0.000687	0.00558	mg/L	0.000687	12.31%
Be 313.042†	-41.3	-0.00008	mg/L	0.000054	-0.00008	mg/L	0.000054	65.20%
Ca 317.933†	127764.9	12.72	mg/L	0.072	12.72	mg/L	0.072	0.57%
Cd 228.802†	-3.7	-0.00016	mg/L	0.000111	-0.00016	mg/L	0.000111	68.42%
Co 228.616†	44.5	0.00109	mg/L	0.000064	0.00109	mg/L	0.000064	5.90%
Cr 267.716†	4.4	0.00033	mg/L	0.000356	0.00033	mg/L	0.000356	106.23%
Cu 324.752†	-25.0	-0.00015	mg/L	0.000118	-0.00015	mg/L	0.000118	76.43%
Fe 273.955†	28.0	0.02278	mg/L	0.000938	0.02278	mg/L	0.000938	4.12%
K 766.490†	3485.5	1.519	mg/L	0.0239	1.519	mg/L	0.0239	1.58%
Mg 279.077†	5404.4	4.715	mg/L	0.0408	4.715	mg/L	0.0408	0.86%
Mn 257.610†	690.9	0.02121	mg/L	0.000459	0.02121	mg/L	0.000459	2.16%
Mo 202.031†	41.8	0.00212	mg/L	0.000221	0.00212	mg/L	0.000221	10.42%
Na 589.592†	174378.2	13.13	mg/L	0.047	13.13	mg/L	0.047	0.36%
Na 330.237†	287.3	13.03	mg/L	0.053	13.03	mg/L	0.053	0.40%
Ni 231.604†	3.7	0.00104	mg/L	0.001421	0.00104	mg/L	0.001421	136.62%
Pb 220.353†	2.2	0.00026	mg/L	0.000652	0.00026	mg/L	0.000652	249.47%
Sb 206.836†	-12.0	-0.00395	mg/L	0.000986	-0.00395	mg/L	0.000986	24.95%
Se 196.026†	9.0	0.00663	mg/L	0.005227	0.00663	mg/L	0.005227	78.89%
Si 288.158†	20141.9	11.29	mg/L	0.075	11.29	mg/L	0.075	0.67%
Sn 189.927†	-16.6	-0.00342	mg/L	0.000519	-0.00342	mg/L	0.000519	15.15%
Sr 421.552†	97859.1	0.1200	mg/L	0.00036	0.1200	mg/L	0.00036	0.30%
Ti 334.903†	75.8	0.00360	mg/L	0.000458	0.00360	mg/L	0.000458	12.71%
Tl 190.801†	17.5	0.00846	mg/L	0.002488	0.00846	mg/L	0.002488	29.41%
V 292.402†	178.4	0.00119	mg/L	0.000140	0.00119	mg/L	0.000140	11.77%
Zn 206.200†	-3.8	0.00103	mg/L	0.000682	0.00103	mg/L	0.000682	66.19%

Sequence No.: 18
 Sample ID: YE66 E WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 367
 Date Collected: 4/7/2014 3:41:06 PM
 Data Type: Original

Nebulizer Parameters: YE66 E WMN

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE66 E WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	3009525.6	102.5	%	0.43			0.42%
ScR 361.383	258061.0	103.6	%	1.01			0.97%
Ag 328.068†	17.6	0.00016	mg/L	0.000106	0.00016	mg/L	64.41%
Al 308.215†	8.1	0.00617	mg/L	0.001786	0.00617	mg/L	28.96%
As 188.979†	17.6	0.00949	mg/L	0.002562	0.00949	mg/L	27.01%
B 249.677†	246.9	0.04335	mg/L	0.001813	0.04335	mg/L	4.18%
Ba 233.527†	21.7	0.00552	mg/L	0.000609	0.00552	mg/L	11.05%
Be 313.042†	-5.9	-0.00001	mg/L	0.000034	-0.00001	mg/L	278.52%
Ca 317.933†	127905.1	12.74	mg/L	0.124	12.74	mg/L	0.97%
Cd 228.802†	-9.3	-0.00035	mg/L	0.000056	-0.00035	mg/L	16.01%
Co 228.616†	47.4	0.00116	mg/L	0.000071	0.00116	mg/L	6.10%
Cr 267.716†	6.8	0.00081	mg/L	0.000084	0.00081	mg/L	10.47%
Cu 324.752†	17.3	-0.00001	mg/L	0.000184	-0.00001	mg/L	>999.9%
Fe 273.955†	23.2	0.01884	mg/L	0.004616	0.01884	mg/L	24.50%
K 766.490†	3433.4	1.496	mg/L	0.0127	1.496	mg/L	0.85%
Mg 279.077†	5346.4	4.665	mg/L	0.0413	4.665	mg/L	0.89%
Mn 257.610†	683.4	0.02098	mg/L	0.000384	0.02098	mg/L	1.83%
Mo 202.031†	43.3	0.00220	mg/L	0.000323	0.00220	mg/L	14.68%
Na 589.592†	174055.6	13.10	mg/L	0.149	13.10	mg/L	1.14%
Na 330.237†	288.5	13.08	mg/L	0.139	13.08	mg/L	1.07%
Ni 231.604†	3.2	0.00092	mg/L	0.000956	0.00092	mg/L	103.68%
Pb 220.353†	-7.6	-0.00090	mg/L	0.000964	-0.00090	mg/L	107.52%
Sb 206.836†	-7.4	-0.00247	mg/L	0.002242	-0.00247	mg/L	90.82%
Se 196.026†	9.1	0.00670	mg/L	0.000952	0.00670	mg/L	14.21%
Si 288.158†	19968.7	11.19	mg/L	0.142	11.19	mg/L	1.27%
Sn 189.927†	-19.6	-0.00432	mg/L	0.001084	-0.00432	mg/L	25.09%
Sr 421.552†	97918.7	0.1201	mg/L	0.00149	0.1201	mg/L	1.24%
Ti 334.903†	47.7	0.00193	mg/L	0.000375	0.00193	mg/L	19.40%
Tl 190.801†	13.0	0.00628	mg/L	0.001526	0.00628	mg/L	24.28%
V 292.402†	172.2	0.00115	mg/L	0.000110	0.00115	mg/L	9.50%
Zn 206.200†	-3.0	0.00125	mg/L	0.000245	0.00125	mg/L	19.57%

Sequence No.: 19
 Sample ID: YE66 ESPK WMN
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 368
 Date Collected: 4/7/2014 3:45:21 PM
 Data Type: Original

Nebulizer Parameters: YE66 ESPK WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE66 ESPK WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	3013672.3	102.7	%	0.52				0.50%
ScR 361.383	256020.5	102.8	%	1.42				1.38%
Ag 328.068†	91972.9	0.4592	mg/L	0.00773	0.4592	mg/L	0.00773	1.68%
Al 308.215†	2597.2	1.994	mg/L	0.0269	1.994	mg/L	0.0269	1.35%
As 188.979†	3663.4	2.184	mg/L	0.0133	2.184	mg/L	0.0133	0.61%
B 249.677†	241.8	0.04140	mg/L	0.000319	0.04140	mg/L	0.000319	0.77%
Ba 233.527†	8010.7	2.042	mg/L	0.0178	2.042	mg/L	0.0178	0.87%
Be 313.042†	242035.0	0.4814	mg/L	0.00325	0.4814	mg/L	0.00325	0.68%
Ca 317.933†	230216.6	22.93	mg/L	0.083	22.93	mg/L	0.083	0.36%
Cd 228.802†	17574.2	0.5407	mg/L	0.00658	0.5407	mg/L	0.00658	1.22%
Co 228.616†	20509.9	0.5038	mg/L	0.00586	0.5038	mg/L	0.00586	1.16%
Cr 267.716†	2632.7	0.5164	mg/L	0.00651	0.5164	mg/L	0.00651	1.26%
Cu 324.752†	143423.0	0.5020	mg/L	0.00540	0.5020	mg/L	0.00540	1.08%
Fe 273.955†	2523.6	2.049	mg/L	0.0307	2.049	mg/L	0.0307	1.50%
K 766.490†	26773.7	11.67	mg/L	0.092	11.67	mg/L	0.092	0.79%
Mg 279.077†	17311.5	15.11	mg/L	0.209	15.11	mg/L	0.209	1.39%
Mn 257.610†	17190.7	0.5301	mg/L	0.00773	0.5301	mg/L	0.00773	1.46%
Mo 202.031†	60.8	0.00301	mg/L	0.000187	0.00301	mg/L	0.000187	6.21%
Na 589.592†	313367.7	23.59	mg/L	0.049	23.59	mg/L	0.049	0.21%
Na 330.237†	519.3	23.40	mg/L	0.051	23.40	mg/L	0.051	0.22%
Ni 231.604†	1791.5	0.5099	mg/L	0.00659	0.5099	mg/L	0.00659	1.29%
Pb 220.353†	17290.6	2.059	mg/L	0.0239	2.059	mg/L	0.0239	1.16%
Sb 206.836†	14.3	-0.00027	mg/L	0.002441	-0.00027	mg/L	0.002441	896.62%
Se 196.026†	3184.6	2.354	mg/L	0.0236	2.354	mg/L	0.0236	1.00%
Si 288.158†	20356.0	11.41	mg/L	0.134	11.41	mg/L	0.134	1.18%
Sn 189.927†	-28.7	-0.00574	mg/L	0.002176	-0.00574	mg/L	0.002176	37.90%
Sr 421.552†	516766.1	0.6337	mg/L	0.00232	0.6337	mg/L	0.00232	0.37%
Ti 334.903†	52.9	0.00143	mg/L	0.000825	0.00143	mg/L	0.000825	57.92%
Tl 190.801†	4266.6	2.054	mg/L	0.0120	2.054	mg/L	0.0120	0.58%
V 292.402†	76497.3	0.5118	mg/L	0.00525	0.5118	mg/L	0.00525	1.03%
Zn 206.200†	1846.2	0.5196	mg/L	0.00826	0.5196	mg/L	0.00826	1.59%

Sequence No.: 20
 Sample ID: YF21 ADUP LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 369
 Date Collected: 4/7/2014 3:49:21 PM
 Data Type: Original

Nebulizer Parameters: YF21 ADUP LEN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YF21 ADUP LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2841985.6	96.84	%	0.592				0.61%
ScR 361.383	248227.9	99.69	%	0.348				0.35%
Ag 328.068†	3889.7	0.01954	mg/L	0.005396	0.09768	mg/L	0.026982	27.62%
Al 308.215†	264.8	0.2040	mg/L	0.00121	1.020	mg/L	0.0060	0.59%
As 188.979†	21.6	0.01106	mg/L	0.001620	0.05530	mg/L	0.008101	14.65%
B 249.677†	68.2	0.01196	mg/L	0.000924	0.05979	mg/L	0.004618	7.72%
Ba 233.527†	711.3	0.1792	mg/L	0.00056	0.8961	mg/L	0.00279	0.31%
Be 313.042†	41.0	0.00008	mg/L	0.000016	0.00041	mg/L	0.000080	19.72%
Ca 317.933†	210327.5	20.95	mg/L	0.068	104.7	mg/L	0.34	0.33%
Cd 228.802†	110.1	0.00331	mg/L	0.000049	0.01657	mg/L	0.000245	1.48%
Co 228.616†	281.6	0.00689	mg/L	0.000169	0.03445	mg/L	0.000845	2.45%
Cr 267.716†	288.9	0.05698	mg/L	0.000897	0.2849	mg/L	0.00448	1.57%
Cu 324.752†	14830.7	0.05246	mg/L	0.000757	0.2623	mg/L	0.00378	1.44%
Fe 273.955†	16686.3	13.57	mg/L	0.103	67.85	mg/L	0.516	0.76%
K 766.490†	2911.1	1.268	mg/L	0.0162	6.342	mg/L	0.0809	1.28%
Mg 279.077†	1541.9	1.335	mg/L	0.0041	6.673	mg/L	0.0204	0.31%
Mn 257.610†	23434.2	0.7223	mg/L	0.00310	3.611	mg/L	0.0155	0.43%
Mo 202.031†	48.5	0.00236	mg/L	0.000017	0.01179	mg/L	0.000087	0.74%
Na 589.592†	4726595.7	355.8	mg/L	1.61	1779	mg/L	8.05	0.45%
Na 330.237†	7819.5	356.0	mg/L	1.01	1780	mg/L	5.04	0.28%
Ni 231.604†	148.1	0.04223	mg/L	0.001514	0.2111	mg/L	0.00757	3.59%
Pb 220.353†	3185.7	0.3787	mg/L	0.00344	1.894	mg/L	0.0172	0.91%
Sb 206.836†	39.4	0.01205	mg/L	0.000783	0.06024	mg/L	0.003915	6.50%
Se 196.026†	3.5	0.00258	mg/L	0.000934	0.01292	mg/L	0.004670	36.15%
Si 288.158†	1468.7	0.8232	mg/L	0.03765	4.116	mg/L	0.1883	4.57%
Sn 189.927†	-29.7	-0.00635	mg/L	0.000856	-0.03173	mg/L	0.004280	13.49%
Sr 421.552†	65258.9	0.08003	mg/L	0.000396	0.4001	mg/L	0.00198	0.49%
Ti 334.903†	57.0	0.00189	mg/L	0.001021	0.00947	mg/L	0.005107	53.91%
Tl 190.801†	11.1	0.00687	mg/L	0.001100	0.03433	mg/L	0.005502	16.03%
V 292.402†	99.9	0.00024	mg/L	0.000066	0.00122	mg/L	0.000329	27.02%
Zn 206.200†	5893.2	1.651	mg/L	0.0015	8.256	mg/L	0.0073	0.09%

Sequence No.: 21
 Sample ID: YF21 A LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 370
 Date Collected: 4/7/2014 3:53:38 PM
 Data Type: Original

Nebulizer Parameters: YF21 A LEN

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: YF21 A LEN

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2837875.8	96.70	%	0.614				0.64%
ScR 361.383	248680.8	99.87	%	0.547				0.55%
Ag 328.068†	-2.6	0.00011	mg/L	0.000127	0.00055	mg/L	0.000635	114.36%
Al 308.215†	258.1	0.1989	mg/L	0.00174	0.9943	mg/L	0.00871	0.88%
As 188.979†	19.0	0.00955	mg/L	0.000551	0.04777	mg/L	0.002755	5.77%
B 249.677†	65.8	0.01154	mg/L	0.000570	0.05772	mg/L	0.002851	4.94%
Ba 233.527†	705.9	0.1779	mg/L	0.00056	0.8893	mg/L	0.00279	0.31%
Be 313.042†	26.1	0.00005	mg/L	0.000011	0.00026	mg/L	0.000054	20.98%
Ca 317.933†	206289.6	20.55	mg/L	0.080	102.7	mg/L	0.40	0.39%
Cd 228.802†	110.0	0.00332	mg/L	0.000077	0.01658	mg/L	0.000387	2.33%
Co 228.616†	274.5	0.00672	mg/L	0.000102	0.03358	mg/L	0.000510	1.52%
Cr 267.716†	280.5	0.05533	mg/L	0.000864	0.2766	mg/L	0.00432	1.56%
Cu 324.752†	14656.7	0.05185	mg/L	0.000474	0.2592	mg/L	0.00237	0.91%
Fe 273.955†	16437.1	13.37	mg/L	0.044	66.83	mg/L	0.220	0.33%
K 766.490†	2885.1	1.257	mg/L	0.0123	6.285	mg/L	0.0615	0.98%
Mg 279.077†	1524.3	1.320	mg/L	0.0040	6.598	mg/L	0.0198	0.30%
Mn 257.610†	23038.2	0.7101	mg/L	0.00200	3.550	mg/L	0.0100	0.28%
Mo 202.031†	53.5	0.00264	mg/L	0.000213	0.01322	mg/L	0.001066	8.07%
Na 589.592†	4640322.8	349.3	mg/L	2.83	1747	mg/L	14.13	0.81%
Na 330.237†	7481.3	340.6	mg/L	1.13	1703	mg/L	5.64	0.33%
Ni 231.604†	143.0	0.04076	mg/L	0.001016	0.2038	mg/L	0.00508	2.49%
Pb 220.353†	3131.4	0.3722	mg/L	0.00123	1.861	mg/L	0.0061	0.33%
Sb 206.836†	28.4	0.00849	mg/L	0.002220	0.04244	mg/L	0.011100	26.16%
Se 196.026†	7.1	0.00523	mg/L	0.005779	0.02613	mg/L	0.028896	110.60%
Si 288.158†	1500.2	0.8408	mg/L	0.03096	4.204	mg/L	0.1548	3.68%
Sn 189.927†	-25.7	-0.00517	mg/L	0.000312	-0.02587	mg/L	0.001558	6.02%
Sr 421.552†	64463.1	0.07905	mg/L	0.000319	0.3953	mg/L	0.00160	0.40%
Ti 334.903†	55.0	0.00180	mg/L	0.000640	0.00901	mg/L	0.003200	35.51%
Tl 190.801†	13.2	0.00786	mg/L	0.001457	0.03932	mg/L	0.007285	18.53%
V 292.402†	95.1	0.00021	mg/L	0.000061	0.00107	mg/L	0.000305	28.47%
Zn 206.200†	5826.5	1.633	mg/L	0.0040	8.163	mg/L	0.0200	0.25%

Sequence No.: 22
 Sample ID: YF21 ASPK LEN
 Analyst: EL
 Dilution: 5.000000X

Autosampler Location: 371
 Date Collected: 4/7/2014 3:57:55 PM
 Data Type: Original

Nebulizer Parameters: YF21 ASPK LEN

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YF21 ASPK LEN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc.	Units		
ScA 357.253	2884813.1		98.30 %	0.334				0.34%
ScR 361.383	247589.4		99.44 %	0.945				0.95%
Ag 328.068†	40048.4		0.2000 mg/L	0.00075	1.000 mg/L	0.0038		0.38%
Al 308.215†	1234.8		0.9487 mg/L	0.00709	4.743 mg/L	0.0354		0.75%
As 188.979†	1364.7		0.8123 mg/L	0.00664	4.062 mg/L	0.0332		0.82%
B 249.677†	66.9		0.01133 mg/L	0.000305	0.05667 mg/L	0.001524		2.69%
Ba 233.527†	3745.9		0.9526 mg/L	0.01060	4.763 mg/L	0.0530		1.11%
Be 313.042†	96340.2		0.1916 mg/L	0.00142	0.9581 mg/L	0.00710		0.74%
Ca 317.933†	240133.5		23.92 mg/L	0.150	119.6 mg/L	0.75		0.63%
Cd 228.802†	6819.5		0.2099 mg/L	0.00131	1.049 mg/L	0.0066		0.62%
Co 228.616†	8023.5		0.1971 mg/L	0.00085	0.9853 mg/L	0.00424		0.43%
Cr 267.716†	1272.1		0.2501 mg/L	0.00253	1.250 mg/L	0.0126		1.01%
Cu 324.752†	70880.0		0.2487 mg/L	0.00124	1.243 mg/L	0.0062		0.50%
Fe 273.955†	17458.7		14.20 mg/L	0.148	70.98 mg/L	0.741		1.04%
K 766.490†	11867.1		5.170 mg/L	0.0396	25.85 mg/L	0.198		0.77%
Mg 279.077†	5837.4		5.084 mg/L	0.0605	25.42 mg/L	0.303		1.19%
Mn 257.610†	29540.3		0.9106 mg/L	0.00942	4.553 mg/L	0.0471		1.03%
Mo 202.031†	56.8		0.00277 mg/L	0.000154	0.01385 mg/L	0.000768		5.55%
Na 589.592†	4693434.5		353.3 mg/L	2.42	1767 mg/L	12.12		0.69%
Na 330.237†	7640.1		347.8 mg/L	4.06	1739 mg/L	20.30		1.17%
Ni 231.604†	816.0		0.2323 mg/L	0.00241	1.162 mg/L	0.0120		1.04%
Pb 220.353†	9584.1		1.141 mg/L	0.0078	5.703 mg/L	0.0388		0.68%
Sb 206.836†	34.9		0.00877 mg/L	0.001482	0.04385 mg/L	0.007410		16.90%
Se 196.026†	1098.5		0.8119 mg/L	0.00955	4.060 mg/L	0.0477		1.18%
Si 288.158†	1449.9		0.8140 mg/L	0.03212	4.070 mg/L	0.1606		3.95%
Sn 189.927†	-29.4		-0.00586 mg/L	0.001614	-0.02932 mg/L	0.008070		27.53%
Sr 421.552†	223462.5		0.2740 mg/L	0.00199	1.370 mg/L	0.0100		0.73%
Ti 334.903†	44.9		0.00093 mg/L	0.000399	0.00466 mg/L	0.001993		42.79%
Tl 190.801†	1572.7		0.7585 mg/L	0.00483	3.793 mg/L	0.0242		0.64%
V 292.402†	28621.8		0.1911 mg/L	0.00093	0.9553 mg/L	0.00466		0.49%
Zn 206.200†	6300.7		1.766 mg/L	0.0190	8.828 mg/L	0.0950		1.08%

Sequence No.: 23
 Sample ID: CV 9
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/7/2014 4:02:13 PM
 Data Type: Original

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2954572.5	100.7	%	0.55			0.54%
ScR 361.383	247263.5	99.31	%	0.308			0.31%
Ag 328.068†	210293.3	1.050	mg/L	0.0073	1.050 mg/L	0.0073	0.69%
Al 308.215†	2626.2	1.992	mg/L	0.0100	1.992 mg/L	0.0100	0.50%
As 188.979†	3333.4	2.022	mg/L	0.0052	2.022 mg/L	0.0052	0.26%
B 249.677†	5786.3	1.015	mg/L	0.0011	1.015 mg/L	0.0011	0.11%
Ba 233.527†	3984.9	1.015	mg/L	0.0022	1.015 mg/L	0.0022	0.22%
Be 313.042†	498414.6	0.9913	mg/L	0.00956	0.9913 mg/L	0.00956	0.96%
Ca 317.933†	20716.3	2.063	mg/L	0.0025	2.063 mg/L	0.0025	0.12%
Cd 228.802†	32981.2	1.026	mg/L	0.0057	1.026 mg/L	0.0057	0.55%
Co 228.616†	39880.1	0.9782	mg/L	0.00689	0.9782 mg/L	0.00689	0.70%
Cr 267.716†	5240.2	1.031	mg/L	0.0010	1.031 mg/L	0.0010	0.09%
Cu 324.752†	283067.1	0.9905	mg/L	0.00055	0.9905 mg/L	0.00055	0.06%
Fe 273.955†	2523.2	2.045	mg/L	0.0098	2.045 mg/L	0.0098	0.48%
K 766.490†	46049.1	20.06	mg/L	0.038	20.06 mg/L	0.038	0.19%
Mg 279.077†	2254.1	1.974	mg/L	0.0065	1.974 mg/L	0.0065	0.33%
Mn 257.610†	31924.6	0.9844	mg/L	0.00403	0.9844 mg/L	0.00403	0.41%
Mo 202.031†	17480.1	0.9675	mg/L	0.00575	0.9675 mg/L	0.00575	0.59%
Na 589.592†	690516.3	51.98	mg/L	0.060	51.98 mg/L	0.060	0.11%
Na 330.237†	1130.6	51.53	mg/L	0.062	51.53 mg/L	0.062	0.12%
Ni 231.604†	3567.1	1.017	mg/L	0.0014	1.017 mg/L	0.0014	0.13%
Pb 220.353†	16623.9	1.980	mg/L	0.0118	1.980 mg/L	0.0118	0.59%
Sb 206.836†	6407.5	2.090	mg/L	0.0082	2.090 mg/L	0.0082	0.39%
Se 196.026†	2710.2	2.003	mg/L	0.0085	2.003 mg/L	0.0085	0.42%
Si 288.158†	3530.3	1.983	mg/L	0.0383	1.983 mg/L	0.0383	1.93%
Sn 189.927†	3332.6	0.9989	mg/L	0.00134	0.9989 mg/L	0.00134	0.13%
Sr 421.552†	836898.7	1.026	mg/L	0.0019	1.026 mg/L	0.0019	0.19%
Ti 334.903†	16940.2	1.005	mg/L	0.0039	1.005 mg/L	0.0039	0.38%
Tl 190.801†	4094.7	1.968	mg/L	0.0071	1.968 mg/L	0.0071	0.36%
V 292.402†	150845.3	1.009	mg/L	0.0050	1.009 mg/L	0.0050	0.49%
Zn 206.200†	3604.6	1.010	mg/L	0.0011	1.010 mg/L	0.0011	0.11%

Sequence No.: 24
 Sample ID: CB9
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/7/2014 4:06:17 PM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2991912.6	101.9	%	0.16			0.15%
ScR 361.383	253391.3	101.8	%	0.41			0.40%
Ag 328.068†	6.4	0.00003	mg/L	0.000174	0.00003 mg/L	0.000174	547.90%
Al 308.215†	6.8	0.00521	mg/L	0.004417	0.00521 mg/L	0.004417	84.76%
As 188.979†	-1.8	-0.00101	mg/L	0.001675	-0.00101 mg/L	0.001675	165.59%
B 249.677†	0.2	0.00004	mg/L	0.000925	0.00004 mg/L	0.000925	>999.9%
Ba 233.527†	2.1	0.00054	mg/L	0.000650	0.00054 mg/L	0.000650	120.60%
Be 313.042†	19.1	0.00004	mg/L	0.000027	0.00004 mg/L	0.000027	71.56%
Ca 317.933†	5.5	0.00055	mg/L	0.001293	0.00055 mg/L	0.001293	236.34%
Cd 228.802†	-5.0	-0.00015	mg/L	0.000131	-0.00015 mg/L	0.000131	86.89%
Co 228.616†	1.7	0.00004	mg/L	0.000141	0.00004 mg/L	0.000141	355.96%
Cr 267.716†	-1.1	-0.00022	mg/L	0.000251	-0.00022 mg/L	0.000251	113.19%
Cu 324.752†	-242.7	-0.00085	mg/L	0.000024	-0.00085 mg/L	0.000024	2.80%
Fe 273.955†	2.1	0.00169	mg/L	0.000603	0.00169 mg/L	0.000603	35.77%
K 766.490†	11.8	0.00515	mg/L	0.011121	0.00515 mg/L	0.011121	215.81%
Mg 279.077†	-5.4	-0.00471	mg/L	0.002525	-0.00471 mg/L	0.002525	53.66%
Mn 257.610†	-1.2	-0.00004	mg/L	0.000111	-0.00004 mg/L	0.000111	298.09%
Mo 202.031†	14.4	0.00080	mg/L	0.000154	0.00080 mg/L	0.000154	19.29%
Na 589.592†	476.1	0.03584	mg/L	0.004798	0.03584 mg/L	0.004798	13.39%
Na 330.237†	3.0	0.1390	mg/L	0.29874	0.1390 mg/L	0.29874	214.97%
Ni 231.604†	-2.1	-0.00061	mg/L	0.001926	-0.00061 mg/L	0.001926	315.83%
Pb 220.353†	2.9	0.00035	mg/L	0.000999	0.00035 mg/L	0.000999	287.03%
Sb 206.836†	24.4	0.00797	mg/L	0.002738	0.00797 mg/L	0.002738	34.34%
Se 196.026†	-3.1	-0.00232	mg/L	0.003150	-0.00232 mg/L	0.003150	136.02%
Si 288.158†	0.3	0.00017	mg/L	0.008657	0.00017 mg/L	0.008657	>999.9%
Sn 189.927†	4.3	0.00128	mg/L	0.000679	0.00128 mg/L	0.000679	53.05%
Sr 421.552†	115.9	0.00014	mg/L	0.000043	0.00014 mg/L	0.000043	30.39%
Ti 334.903†	21.0	0.00125	mg/L	0.000280	0.00125 mg/L	0.000280	22.48%
Tl 190.801†	7.2	0.00345	mg/L	0.001541	0.00345 mg/L	0.001541	44.63%
V 292.402†	21.5	0.00014	mg/L	0.000064	0.00014 mg/L	0.000064	45.37%
Zn 206.200†	-1.1	-0.00032	mg/L	0.000735	-0.00032 mg/L	0.000735	230.90%

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 4-8-14

	Analyst	Peer	Comment
<u>72</u>	<u>PA 4-9-14</u>	<u>PA 4-9-14</u>	
Logbook:			
Analyst, Date, Method info	/	✓	
Sample ID's	/	✓	
Standard/QC solution ID's recorded	/	✓	
Prep codes	/	✓	
Dilution factors	/	✓	
Crossouts/Corrections/Deletions	/	✓	
Calibration:			
Blank & Standard intensities	/	✓	
Standard deviations	/	✓	
Curve fit	/	✓	
Calibration Verification:			
ICV/CCV	/	✓	
ICB/CCB	/	✓	
Samples:			
RSD's & SD's	/	✓	
Internal Standards	/	✓	
Carry-over	/	✓	
Method QC:			
CRI/CRA	/	✓	
ICSA/ICSAB	/	✓	
Post Spikes/Serial Dilutions	—	—	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	/	✓	
Matrix Spikes	/	✓	
Matrix Duplicates	/	✓	
Method Blanks	/	✓	
Data Distribution:			
Requested elements/isotope identified	/	✓	
Correct samples identified for distribution	/	✓	
Raw data match distributed data	/	✓	
Data filename correct	/	✓	
Necessary Analysts Notes and CAF's	—	—	



IEC Date: 3-26-14

Analysis Date: 4-8-14

Analyst: 9L

LR Date: 1-3-14

Page: 1 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		22222870			C1355 Error
		↓	↓		
		2			C1427
		3			C1428
		4			C1429
		↓	↓		
		5			C1430
		STD 0			C1355
		2			C1427
		3			C1428
		4			C1429
		5			C1430
		ICV			C1377
		ICB			
		ICF			C1357
		ICSA			C532
		ICBAB			C533
		CCV1			
		CCB1			
		YE 70 MBI	TWC		
		↓	↓		
		MBZ	WMM		
		B	TWC		
		C	↓		
		ADP			✓
		A			
		↓	↓		
		ASPK			✓



IEC Date: _____

Analysis Date: 4-8-14

Analyst: SL

LR Date: _____

Page: 2 of 4

All corrections made by analyst unless otherwise noted. EX 4-8-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YE70 MB1PK	TWC		
		YE66 MB25PK	WMN		✓ 0.0000 ICP PK B1845
		B1 → CCU2			
		CCB2			
		YE70 ID	TWC		
		G	WMN		
		H			
		I			
		F02Q			✓
		F			
		F5PK			✓ 0.0000 ICP PK B1845, 0.0162 56 2464
		B2			
		B3 → YE70 MB29PK	WMN		✓
		CCU			
		CCB			
		YF57 A	WMN		
		B			
		C			
		D			
		E			
		F			
		G			
		H			
	✓	I			AS LR Run 2x



IEC Date: —

Analysis Date: 4-8-14

Analyst: EL

LR Date: —

Page: 3 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
	✓	YF57 J	WMM		AS CLR Run 24
		CCU			
		CCB			
	✓	YF57 K	WMM		
		L			
		M			
		N			
		O			
		P			
		Q			
		R			
		S			
		T			
		CCU			
		CCB			
		YF57 MB	WMM		
		U			
		V			
		W			
		X			
		Y			
		Z		2	
		J			
		K			



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7300
Serial No. - 077C8121202

IEC Date:

Analysis Date: 4-8-24

Analyst: EL

LR Date:

Page: 4 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YF57 MBSPK	WMN		✓ 0.1050L ICP Spike B1845
		CCV			
		CCB			
		YF42 MB	LEN	5	
		YF43 MB	TWC		
		↓ A	↓		
		YF42 ADU	LEN	5	✓
		↓ A	↓	↓	
		↓ ASPK	↓	↓	✓
		YF43 MBSPK	TWC		✓
		CCV			
		CCB			
		YF13 MB	TWC		
		↓ ADU	↓		✓
		↓ A	↓		
		↓ ASPK	↓		✓
		↓ MBSPK	↓		
		CCV			
		CCB			
		Rinse/OE			
		<i>[Signature]</i>			
		<u>4-8-24</u>			

Nebulizer Parameters: Hg ReAlign

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

4/8/2014 9:13:04 AM Hg ReAlign... Actual peak offset (nm): 0.004
 Drift (nm): -0.000 Slit adjustment: 0

Analysis Begun

Start Time: 4/8/2014 9:13:32 AM	Plasma On Time: 4/8/2014 8:25:20 AM
Logged In Analyst: Metals	Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202	Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif

Batch ID:

Results Data Set: FAST-Verify-Install

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST

Method Last Saved: 8/13/2012 7:13:22 AM

IEC File: IEC010314C.iec

MSF File:

Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1

Autosampler Location: 1

Sample ID: B1

Date Collected: 4/8/2014 9:13:41 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: B1

Analyte	Back Pressure	Flow
All	214.0 kPa	0.75 L/min

=====
Analysis Begun

Start Time: 4/8/2014 9:36:42 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/8/2014 8:25:20 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif
Batch ID:
Results Data Set: I2140408
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: ~~Calib Blank 1~~
22222
4-8-14
Autosampler Location: 1
Date Collected: 4/8/2014 9:36:43 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
ScA 357.253	2835921.7	2429.15	0.09%	100.0	%
ScR 361.383	241544.7	2078.41	0.86%	100.0	%
Ag 328.068†	-12.9	42.85	333.15%	[0.00]	mg/L
Al 308.215†	116.2	8.05	6.93%	[0.00]	mg/L
As 188.979†	-10.8	0.60	5.56%	[0.00]	mg/L
B 249.677†	18.5	3.70	19.96%	[0.00]	mg/L
Ba 233.527†	18.0	3.78	21.03%	[0.00]	mg/L
Be 313.042†	685.4	22.44	3.27%	[0.00]	mg/L
Ca 317.933†	-130.1	5.07	3.90%	[0.00]	mg/L
Cd 228.802†	280.7	4.20	1.50%	[0.00]	mg/L
Co 228.616†	-69.5	5.82	8.38%	[0.00]	mg/L
Cr 267.716†	-91.3	3.60	3.95%	[0.00]	mg/L
Cu 324.752†	4070.2	26.82	0.66%	[0.00]	mg/L
Fe 273.955†	47.7	1.18	2.47%	[0.00]	mg/L
K 766.490†	553.3	40.48	7.32%	[0.00]	mg/L
Mg 279.077†	55.7	6.15	11.04%	[0.00]	mg/L
Mn 257.610†	153.3	1.88	1.22%	[0.00]	mg/L
Mo 202.031†	53.4	2.75	5.15%	[0.00]	mg/L
Na 589.592†	-213.6	25.64	12.01%	[0.00]	mg/L
Na 330.237†	-153.4	4.23	2.76%	[0.00]	mg/L
Ni 231.604†	-16.2	5.29	32.57%	[0.00]	mg/L
Pb 220.353†	54.9	1.14	2.08%	[0.00]	mg/L
Sb 206.836†	75.8	7.17	9.46%	[0.00]	mg/L
Se 196.026†	-29.6	2.69	9.07%	[0.00]	mg/L
Si 288.158†	82.2	8.81	10.72%	[0.00]	mg/L
Sn 189.927†	-6.6	1.21	18.41%	[0.00]	mg/L
Sr 421.552†	143.0	27.72	19.38%	[0.00]	mg/L
Ti 334.903†	-35.6	4.95	13.91%	[0.00]	mg/L
Tl 190.801†	-35.4	1.61	4.55%	[0.00]	mg/L
V 292.402†	108.4	19.81	18.28%	[0.00]	mg/L
Zn 206.200†	8.8	2.74	31.21%	[0.00]	mg/L

=====
Sequence No.: 2
Sample ID: ~~STD2~~
22222
4-8-14
Autosampler Location: 2
Date Collected: 4/8/2014 9:40:43 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: STD2

Mean Corrected Calib

Analyte	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2812981.3	14772.88	0.53%	99.19 %
ScR 361.383	236117.0	1288.44	0.55%	97.75 %
Ba 233.527†	39001.3	47.29	0.12%	[10] mg/L
Cd 228.802†	324685.3	857.51	0.26%	[10] mg/L
Co 228.616†	409159.5	559.36	0.14%	[10] mg/L
Cr 267.716†	51954.6	122.68	0.24%	[10] mg/L
Cu 324.752†	2894888.8	4665.28	0.16%	[10] mg/L
Mn 257.610†	340775.7	1189.34	0.35%	[10] mg/L
V 292.402†	1515749.2	5310.84	0.35%	[10] mg/L

Sequence No.: 3
 Sample ID: ~~STD3~~ *22222 4-8-14*
 Autosampler Location: 3
 Date Collected: 4/8/2014 9:42:30 AM
 Data Type: Original

Nebulizer Parameters: STD3
 Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2802226.4	27079.34	0.97%	98.81 %
ScR 361.383	238181.1	1684.41	0.71%	98.61 %
Ag 328.068†	200805.6	1374.75	0.68%	[1.0] mg/L
As 188.979†	17120.9	37.29	0.22%	[10] mg/L
B 249.677†	57854.4	285.39	0.49%	[10] mg/L
Be 313.042†	2629639.7	21521.97	0.82%	[5.0] mg/L
Na 589.592†	680502.7	8069.98	1.19%	[50] mg/L
Ni 231.604†	35225.2	280.56	0.80%	[10] mg/L
Pb 220.353†	85294.6	414.49	0.49%	[10] mg/L
Se 196.026†	13963.9	12.00	0.09%	[10] mg/L
Sr 421.552†	4204150.9	43027.72	1.02%	[5] mg/L
Tl 190.801†	20723.0	106.04	0.51%	[10] mg/L
Zn 206.200†	36311.9	196.34	0.54%	[10] mg/L

Sequence No.: 4
 Sample ID: ~~STD4~~ *22222 4-8-14*
 Autosampler Location: 4
 Date Collected: 4/8/2014 9:44:47 AM
 Data Type: Original

Nebulizer Parameters: STD4
 Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2851598.8	14616.50	0.51%	100.6 %
ScR 361.383	241541.6	2086.43	0.86%	100.00 %
Mo 202.031†	183863.9	1492.51	0.81%	[10] mg/L
Sb 206.836†	30976.1	199.06	0.64%	[10] mg/L
Si 288.158†	17860.5	327.00	1.83%	[10] mg/L
Sn 189.927†	34565.3	361.55	1.05%	[10] mg/L
Ti 334.903†	171806.6	1344.06	0.78%	[10] mg/L

Sequence No.: 5
 Sample ID: ~~STD5~~ *22222 4-8-14*
 Autosampler Location: 5
 Date Collected: 4/8/2014 9:47:01 AM
 Data Type: Original

Nebulizer Parameters: STD5
 Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2666813.9	21725.43	0.81%	94.04	%
ScR 361.383	234447.8	703.91	0.30%	97.06	%
Al 308.215†	39331.5	303.85	0.77%	[30]	mg/L
Ca 317.933†	304428.3	684.23	0.22%	[30]	mg/L
Fe 273.955†	127739.3	217.12	0.17%	[100]	mg/L
K 766.490†	231970.2	1285.68	0.55%	[100]	mg/L
Mg 279.077†	34634.6	238.11	0.69%	[30]	mg/L
Na 330.237†	2243.6	15.91	0.71%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	200800	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1311	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1712	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5785	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3900	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	525900	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	10150	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	32470	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40920	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5195	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	289500	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1277	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2320	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1154	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	34080	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18390	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13610	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	22.44	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3523	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8529	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3098	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1396	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1786	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3457	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	840800	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	17180	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2072	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	151600	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3631	0.00000	1.000000	

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Analysis Begun

Start Time: 4/8/2014 9:48:34 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/8/2014 8:25:20 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0408.sif
Batch ID:
Results Data Set: I2140408
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 4/8/2014 9:48:35 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 215.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2843685.4	7898.14	0.28%	100.0 %
ScR 361.383	237982.1	1583.67	0.67%	100.0 %
Ag 328.068†	48.8	15.04	30.85%	[0.00] mg/L
Al 308.215†	125.1	7.80	6.23%	[0.00] mg/L
As 188.979†	-8.8	2.20	25.04%	[0.00] mg/L
B 249.677†	46.8	4.89	10.44%	[0.00] mg/L
Ba 233.527†	18.5	2.57	13.94%	[0.00] mg/L
Be 313.042†	680.6	1.71	0.25%	[0.00] mg/L
Ca 317.933†	-121.4	9.89	8.15%	[0.00] mg/L
Cd 228.802†	280.5	3.50	1.25%	[0.00] mg/L
Co 228.616†	-77.7	8.45	10.87%	[0.00] mg/L
Cr 267.716†	-93.6	3.76	4.02%	[0.00] mg/L
Cu 324.752†	4160.0	23.99	0.58%	[0.00] mg/L
Fe 273.955†	57.5	5.56	9.68%	[0.00] mg/L
K 766.490†	558.0	20.81	3.73%	[0.00] mg/L
Mg 279.077†	58.7	1.77	3.01%	[0.00] mg/L
Mn 257.610†	153.3	1.00	0.65%	[0.00] mg/L
Mo 202.031†	74.5	3.72	4.99%	[0.00] mg/L
Na 589.592†	-183.7	67.33	36.65%	[0.00] mg/L
Na 330.237†	-153.9	3.06	1.99%	[0.00] mg/L
Ni 231.604†	-18.6	3.05	16.44%	[0.00] mg/L
Pb 220.353†	47.8	0.28	0.58%	[0.00] mg/L
Sb 206.836†	83.5	2.75	3.29%	[0.00] mg/L
Se 196.026†	-32.6	5.97	18.31%	[0.00] mg/L
Si 288.158†	77.8	13.92	17.89%	[0.00] mg/L
Sn 189.927†	-5.9	1.37	23.21%	[0.00] mg/L
Sr 421.552†	144.2	18.31	12.70%	[0.00] mg/L
Ti 334.903†	-22.4	3.71	16.58%	[0.00] mg/L
Tl 190.801†	-34.7	4.58	13.20%	[0.00] mg/L
V 292.402†	79.6	7.13	8.96%	[0.00] mg/L
Zn 206.200†	9.7	2.40	24.63%	[0.00] mg/L

Sequence No.: 2
Sample ID: STD2
Autosampler Location: 2
Date Collected: 4/8/2014 9:52:36 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: STD2
Mean Corrected
Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2840478.7	13681.10	0.48%	99.89	%
ScR 361.383	239144.8	266.16	0.11%	100.5	%
Ba 233.527†	38202.0	213.93	0.56%	[10]	mg/L
Cd 228.802†	322212.0	562.14	0.17%	[10]	mg/L
Co 228.616†	407431.4	871.38	0.21%	[10]	mg/L
Cr 267.716†	50887.7	87.25	0.17%	[10]	mg/L
Cu 324.752†	2873182.5	3616.70	0.13%	[10]	mg/L
Mn 257.610†	331806.1	1128.38	0.34%	[10]	mg/L
V 292.402†	1505703.1	4661.99	0.31%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/8/2014 9:54:23 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	215.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2809786.2	14043.98	0.50%	98.81	%
ScR 361.383	240380.3	442.67	0.18%	101.0	%
Ag 328.068†	200109.4	703.57	0.35%	[1.0]	mg/L
As 188.979†	17039.5	114.64	0.67%	[10]	mg/L
B 249.677†	56847.9	196.55	0.35%	[10]	mg/L
Be 313.042†	2572766.3	22142.74	0.86%	[5.0]	mg/L
Na 589.592†	664265.0	4423.70	0.67%	[50]	mg/L
Ni 231.604†	34716.1	159.95	0.46%	[10]	mg/L
Pb 220.353†	85173.7	527.82	0.62%	[10]	mg/L
Se 196.026†	13881.8	134.58	0.97%	[10]	mg/L
Sr 421.552†	4109551.8	26630.05	0.65%	[5]	mg/L
Tl 190.801†	20696.2	175.27	0.85%	[10]	mg/L
Zn 206.200†	35686.4	133.19	0.37%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/8/2014 9:56:40 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2846130.5	5731.77	0.20%	100.1	%
ScR 361.383	239048.9	795.17	0.33%	100.4	%
Mo 202.031†	183009.1	619.54	0.34%	[10]	mg/L
Sb 206.836†	30807.3	75.31	0.24%	[10]	mg/L
Si 288.158†	17166.8	221.67	1.29%	[10]	mg/L
Sn 189.927†	34228.5	217.10	0.63%	[10]	mg/L
Ti 334.903†	169808.2	973.93	0.57%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/8/2014 9:58:54 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected		Std.Dev.	RSD	Calib	
	Intensity				Conc.	Units
ScA 357.253	2680982.8		4172.73	0.16%	94.28	%
ScR 361.383	236035.9		1212.84	0.51%	99.18	%
Al 308.215†	38611.4		426.37	1.10%	[30]	mg/L
Ca 317.933†	299224.9		596.10	0.20%	[30]	mg/L
Fe 273.955†	125198.1		329.35	0.26%	[100]	mg/L
K 766.490†	229158.7		806.82	0.35%	[100]	mg/L
Mg 279.077†	34064.0		365.77	1.07%	[30]	mg/L
Na 330.237†	2201.5		23.55	1.07%	[100]	mg/L

 Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	200100	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1287	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1704	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5685	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3820	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	514600	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9974	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	32220	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40740	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5089	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	287300	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1252	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2292	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1135	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	33180	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	18300	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13290	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	22.01	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3472	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8517	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3081	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1388	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1717	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3423	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	821900	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	16980	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2070	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	150600	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3569	0.00000	1.000000	

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Analysis Begun

Start Time: 4/8/2014 10:28:27 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/8/2014 8:25:20 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140408

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: TCV

Autosampler Location: 7

Date Collected: 4/8/2014 10:28:28 AM

Data Type: Original

Dilution: 1.000000X

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Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

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Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2805010.6	98.64 %	0.723			0.73%
ScR 361.383	233881.6	98.28 %	0.620			0.63%
Ag 328.068†	212286.2	1.061 mg/L	0.0044	1.061 mg/L	0.0044	0.41%
Al 308.215†	2620.6	2.004 mg/L	0.0315	2.004 mg/L	0.0315	1.57%
As 188.979†	3376.4	2.013 mg/L	0.0202	2.013 mg/L	0.0202	1.00%
B 249.677†	5778.1	1.015 mg/L	0.0102	1.015 mg/L	0.0102	1.00%
Ba 233.527†	3916.6	1.025 mg/L	0.0072	1.025 mg/L	0.0072	0.70%
Be 313.042†	506762.5	0.9846 mg/L	0.00661	0.9846 mg/L	0.00661	0.67%
Ca 317.933†	20748.2	2.080 mg/L	0.0219	2.080 mg/L	0.0219	1.05%
Cd 228.802†	33646.8	1.035 mg/L	0.0042	1.035 mg/L	0.0042	0.40%
Co 228.616†	40627.5	0.9953 mg/L	0.00310	0.9953 mg/L	0.00310	0.31%
Cr 267.716†	5254.7	1.032 mg/L	0.0105	1.032 mg/L	0.0105	1.01%
Cu 324.752†	285420.9	0.9931 mg/L	0.00194	0.9931 mg/L	0.00194	0.19%
Fe 273.955†	2572.0	2.048 mg/L	0.0225	2.048 mg/L	0.0225	1.10%
K 766.490†	45872.5	20.02 mg/L	0.008	20.02 mg/L	0.008	0.04%
Mg 279.077†	2256.6	1.994 mg/L	0.0171	1.994 mg/L	0.0171	0.86%
Mn 257.610†	32421.4	0.9775 mg/L	0.00219	0.9775 mg/L	0.00219	0.22%
Mo 202.031†	17922.0	0.9793 mg/L	0.00337	0.9793 mg/L	0.00337	0.34%
Na 589.592†	688493.6	51.82 mg/L	0.139	51.82 mg/L	0.139	0.27%
Na 330.237†	1134.1	51.47 mg/L	0.223	51.47 mg/L	0.223	0.43%
Ni 231.604†	3555.4	1.024 mg/L	0.0098	1.024 mg/L	0.0098	0.96%
Pb 220.353†	17077.4	2.006 mg/L	0.0118	2.006 mg/L	0.0118	0.59%
Sb 206.836†	6491.8	2.106 mg/L	0.0183	2.106 mg/L	0.0183	0.87%
Se 196.026†	2757.4	1.985 mg/L	0.0161	1.985 mg/L	0.0161	0.81%
Si 288.158†	3598.8	2.101 mg/L	0.0348	2.101 mg/L	0.0348	1.66%
Sn 189.927†	3425.1	1.002 mg/L	0.0088	1.002 mg/L	0.0088	0.88%
Sr 421.552†	837530.7	1.019 mg/L	0.0019	1.019 mg/L	0.0019	0.19%
Ti 334.903†	17006.7	1.000 mg/L	0.0004	1.000 mg/L	0.0004	0.04%
Tl 190.801†	4140.5	1.992 mg/L	0.0170	1.992 mg/L	0.0170	0.85%
V 292.402†	152610.5	1.018 mg/L	0.0056	1.018 mg/L	0.0056	0.55%
Zn 206.200†	3621.0	1.015 mg/L	0.0085	1.015 mg/L	0.0085	0.84%

User canceled analysis.

=====
Analysis Begun

Start Time: 4/8/2014 10:38:27 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/8/2014 8:25:20 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSET.sif

Batch ID:

Results Data Set: I2140408

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 2
 Sample ID: 7CB

Autosampler Location: 1
 Date Collected: 4/8/2014 10:38:29 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2843139.0	99.98 %		0.625			0.62%
ScR 361.383	240637.9	101.1 %		0.47			0.47%
Ag 328.068†	-22.8	-0.00011 mg/L		0.000104	-0.00011 mg/L	0.000104	91.22%
Al 308.215†	-2.1	-0.00165 mg/L		0.011183	-0.00165 mg/L	0.011183	677.55%
As 188.979†	-0.7	-0.00039 mg/L		0.000781	-0.00039 mg/L	0.000781	202.16%
B 249.677†	-13.8	-0.00243 mg/L		0.000366	-0.00243 mg/L	0.000366	15.04%
Ba 233.527†	2.2	0.00058 mg/L		0.000603	0.00058 mg/L	0.000603	104.81%
Be 313.042†	47.1	0.00009 mg/L		0.000010	0.00009 mg/L	0.000010	10.86%
Ca 317.933†	-18.1	-0.00182 mg/L		0.001717	-0.00182 mg/L	0.001717	94.38%
Cd 228.802†	0.5	0.00002 mg/L		0.000092	0.00002 mg/L	0.000092	470.20%
Co 228.616†	5.3	0.00013 mg/L		0.000068	0.00013 mg/L	0.000068	52.44%
Cr 267.716†	4.0	0.00079 mg/L		0.000705	0.00079 mg/L	0.000705	89.17%
Cu 324.752†	88.9	0.00031 mg/L		0.000183	0.00031 mg/L	0.000183	59.20%
Fe 273.955†	-7.7	-0.00618 mg/L		0.001263	-0.00618 mg/L	0.001263	20.43%
K 766.490†	-8.1	-0.00355 mg/L		0.010138	-0.00355 mg/L	0.010138	285.35%
Mg 279.077†	-8.0	-0.00706 mg/L		0.009905	-0.00706 mg/L	0.009905	140.33%
Mn 257.610†	-2.3	-0.00007 mg/L		0.000096	-0.00007 mg/L	0.000096	137.06%
Mo 202.031†	1.2	0.00006 mg/L		0.000484	0.00006 mg/L	0.000484	754.96%
Na 589.592†	-40.2	-0.00303 mg/L		0.002349	-0.00303 mg/L	0.002349	77.64%
Na 330.237†	2.6	0.1196 mg/L		0.10394	0.1196 mg/L	0.10394	86.94%
Ni 231.604†	7.2	0.00209 mg/L		0.000592	0.00209 mg/L	0.000592	28.31%
Pb 220.353†	2.2	0.00026 mg/L		0.000353	0.00026 mg/L	0.000353	136.99%
Sb 206.836†	22.9	0.00742 mg/L		0.001299	0.00742 mg/L	0.001299	17.51%
Se 196.026†	3.5	0.00252 mg/L		0.003091	0.00252 mg/L	0.003091	122.55%
Si 288.158†	3.7	0.00217 mg/L		0.010063	0.00217 mg/L	0.010063	463.57%
Sn 189.927†	3.1	0.00091 mg/L		0.000728	0.00091 mg/L	0.000728	79.74%
Sr 421.552†	1.7	0.00000 mg/L		0.000023	0.00000 mg/L	0.000023	>999.9%
Ti 334.903†	7.4	0.00044 mg/L		0.000209	0.00044 mg/L	0.000209	47.77%
Tl 190.801†	-1.0	-0.00049 mg/L		0.001105	-0.00049 mg/L	0.001105	226.89%
V 292.402†	7.4	0.00005 mg/L		0.000031	0.00005 mg/L	0.000031	58.87%
Zn 206.200†	1.1	0.00031 mg/L		0.000553	0.00031 mg/L	0.000553	180.22%

Sequence No.: 3
Sample ID: CRI

Autosampler Location: 301
Date Collected: 4/8/2014 10:42:29 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2848992.8	100.2	%	0.21			0.21%
ScR 361.383	243012.7	102.1	%	0.29			0.28%
Ag 328.068†	603.3	0.00302	mg/L	0.000158	0.00302 mg/L	0.000158	5.24%
Al 308.215†	57.0	0.04421	mg/L	0.004322	0.04421 mg/L	0.004322	9.78%
As 188.979†	83.5	0.04911	mg/L	0.002117	0.04911 mg/L	0.002117	4.31%
B 249.677†	98.0	0.01723	mg/L	0.000776	0.01723 mg/L	0.000776	4.50%
Ba 233.527†	8.3	0.00216	mg/L	0.000352	0.00216 mg/L	0.000352	16.32%
Be 313.042†	486.3	0.00094	mg/L	0.000043	0.00094 mg/L	0.000043	4.52%
Ca 317.933†	455.5	0.04566	mg/L	0.000592	0.04566 mg/L	0.000592	1.30%
Cd 228.802†	81.0	0.00227	mg/L	0.000105	0.00227 mg/L	0.000105	4.60%
Co 228.616†	130.8	0.00320	mg/L	0.000077	0.00320 mg/L	0.000077	2.40%
Cr 267.716†	30.0	0.00589	mg/L	0.000667	0.00589 mg/L	0.000667	11.31%
Cu 324.752†	613.2	0.00213	mg/L	0.000139	0.00213 mg/L	0.000139	6.52%
Fe 273.955†	52.5	0.04194	mg/L	0.000529	0.04194 mg/L	0.000529	1.26%
K 766.490†	1054.2	0.4600	mg/L	0.00413	0.4600 mg/L	0.00413	0.90%
Mg 279.077†	58.3	0.05137	mg/L	0.006334	0.05137 mg/L	0.006334	12.33%
Mn 257.610†	30.1	0.00091	mg/L	0.000125	0.00091 mg/L	0.000125	13.71%
Mo 202.031†	76.7	0.00419	mg/L	0.000233	0.00419 mg/L	0.000233	5.55%
Na 589.592†	6674.4	0.5024	mg/L	0.00288	0.5024 mg/L	0.00288	0.57%
Na 330.237†	17.3	0.7821	mg/L	0.08739	0.7821 mg/L	0.08739	11.17%
Ni 231.604†	43.1	0.01243	mg/L	0.000942	0.01243 mg/L	0.000942	7.58%
Pb 220.353†	173.3	0.02037	mg/L	0.000411	0.02037 mg/L	0.000411	2.02%
Sb 206.836†	157.3	0.05106	mg/L	0.001063	0.05106 mg/L	0.001063	2.08%
Se 196.026†	70.6	0.05086	mg/L	0.001773	0.05086 mg/L	0.001773	3.49%
Si 288.158†	103.8	0.06050	mg/L	0.004381	0.06050 mg/L	0.004381	7.24%
Sn 189.927†	33.2	0.00973	mg/L	0.000425	0.00973 mg/L	0.000425	4.37%
Sr 421.552†	816.5	0.00099	mg/L	0.000018	0.00099 mg/L	0.000018	1.82%
Ti 334.903†	74.9	0.00440	mg/L	0.000236	0.00440 mg/L	0.000236	5.35%
Tl 190.801†	102.8	0.04965	mg/L	0.000877	0.04965 mg/L	0.000877	1.77%
V 292.402†	460.5	0.00308	mg/L	0.000157	0.00308 mg/L	0.000157	5.11%
Zn 206.200†	35.1	0.00984	mg/L	0.000896	0.00984 mg/L	0.000896	9.10%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 4/8/2014 10:46:30 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2761324.3	97.10	%	0.327			0.34%
ScR 361.383	236337.2	99.31	%	0.228			0.23%
Ag 328.068†	-290.3	-0.00084	mg/L	0.000176	-0.00084 mg/L	0.000176	20.93%
Al 308.215†	256474.5	199.3	mg/L	0.68	199.3 mg/L	0.68	0.34%
As 188.979†	57.0	0.02491	mg/L	0.000131	0.02491 mg/L	0.000131	0.53%
B 249.677†	-63.3	-0.01114	mg/L	0.001325	-0.01114 mg/L	0.001325	11.89%
Ba 233.527†	112.7	-0.00109	mg/L	0.000694	-0.00109 mg/L	0.000694	63.40%
Be 313.042†	49.6	0.00009	mg/L	0.000015	0.00009 mg/L	0.000015	16.01%
Ca 317.933†	1005866.3	100.8	mg/L	0.34	100.8 mg/L	0.34	0.33%
Cd 228.802†	39.5	-0.00067	mg/L	0.000169	-0.00067 mg/L	0.000169	25.41%
Co 228.616†	84.1	0.00205	mg/L	0.000173	0.00205 mg/L	0.000173	8.44%
Cr 267.716†	23.7	0.00108	mg/L	0.000568	0.00108 mg/L	0.000568	52.58%
Cu 324.752†	-2508.0	-0.00052	mg/L	0.000019	-0.00052 mg/L	0.000019	3.67%
Fe 273.955†	247969.9	198.1	mg/L	0.60	198.1 mg/L	0.60	0.30%
K 766.490†	2.1	0.00092	mg/L	0.007969	0.00092 mg/L	0.007969	864.77%
Mg 279.077†	115120.9	101.2	mg/L	0.28	101.2 mg/L	0.28	0.28%
Mn 257.610†	36.0	-0.00137	mg/L	0.000070	-0.00137 mg/L	0.000070	5.11%
Mo 202.031†	49.6	0.00115	mg/L	0.000082	0.00115 mg/L	0.000082	7.14%
Na 589.592†	43.1	0.00325	mg/L	0.002830	0.00325 mg/L	0.002830	87.15%
Na 330.237†	16.3	0.1260	mg/L	0.14290	0.1260 mg/L	0.14290	113.46%
Ni 231.604†	3.4	0.00101	mg/L	0.000236	0.00101 mg/L	0.000236	23.45%
Pb 220.353†	-379.1	-0.00407	mg/L	0.000269	-0.00407 mg/L	0.000269	6.62%
Sb 206.836†	67.5	0.02167	mg/L	0.000774	0.02167 mg/L	0.000774	3.57%
Se 196.026†	49.8	0.03585	mg/L	0.002154	0.03585 mg/L	0.002154	6.01%
Si 288.158†	-20.5	0.00012	mg/L	0.007009	0.00012 mg/L	0.007009	>999.9%
Sn 189.927†	-95.6	-0.01571	mg/L	0.001588	-0.01571 mg/L	0.001588	10.11%
Sr 421.552†	4591.5	0.00559	mg/L <i>Cond.</i>	0.000032	0.00559 mg/L	0.000032	0.57%
Ti 334.903†	148.9	0.00165	mg/L	0.000539	0.00165 mg/L	0.000539	32.79%
Tl 190.801†	-41.4	0.00280	mg/L	0.001277	0.00280 mg/L	0.001277	45.62%
V 292.402†	1612.7	-0.00045	mg/L	0.000299	-0.00045 mg/L	0.000299	66.88%
Zn 206.200†	10.3	0.00288	mg/L	0.000764	0.00288 mg/L	0.000764	26.52%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 4/8/2014 10:50:45 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2739953.9	96.35 %	0.307			0.32%
ScR 361.383	233429.3	98.09 %	0.649			0.66%
Ag 328.068†	216851.4	1.085 mg/L	0.0042	1.085 mg/L	0.0042	0.39%
Al 308.215†	259654.2	201.7 mg/L	0.72	201.7 mg/L	0.72	0.35%
As 188.979†	1762.8	1.025 mg/L	0.0047	1.025 mg/L	0.0047	0.46%
B 249.677†	-47.6	-0.01040 mg/L	0.001689	-0.01040 mg/L	0.001689	16.24%
Ba 233.527†	4026.5	1.023 mg/L	0.0134	1.023 mg/L	0.0134	1.31%
Be 313.042†	516457.2	1.003 mg/L	0.0053	1.003 mg/L	0.0053	0.53%
Ca 317.933†	1017423.1	102.0 mg/L	0.11	102.0 mg/L	0.11	0.11%
Cd 228.802†	33377.2	1.030 mg/L	0.0032	1.030 mg/L	0.0032	0.31%
Co 228.616†	39062.3	0.9585 mg/L	0.00296	0.9585 mg/L	0.00296	0.31%
Cr 267.716†	5226.7	1.023 mg/L	0.0098	1.023 mg/L	0.0098	0.96%
Cu 324.752†	306084.0	1.074 mg/L	0.0042	1.074 mg/L	0.0042	0.39%
Fe 273.955†	251575.8	200.9 mg/L	0.99	200.9 mg/L	0.99	0.49%
K 766.490†	6.3	0.00276 mg/L	0.009692	0.00276 mg/L	0.009692	351.10%
Mg 279.077†	112580.0	99.01 mg/L	0.155	99.01 mg/L	0.155	0.16%
Mn 257.610†	31956.0	0.9609 mg/L	0.00480	0.9609 mg/L	0.00480	0.50%
Mo 202.031†	56.4	0.00150 mg/L	0.000187	0.00150 mg/L	0.000187	12.44%
Na 589.592†	35.7	0.00269 mg/L	0.001502	0.00269 mg/L	0.001502	55.89%
Na 330.237†	23.2	0.1524 mg/L	0.04504	0.1524 mg/L	0.04504	29.56%
Ni 231.604†	3434.0	0.9893 mg/L	0.00787	0.9893 mg/L	0.00787	0.80%
Pb 220.353†	8003.2	0.9811 mg/L	0.00192	0.9811 mg/L	0.00192	0.20%
Sb 206.836†	3223.0	1.036 mg/L	0.0034	1.036 mg/L	0.0034	0.32%
Se 196.026†	1428.4	1.028 mg/L	0.0056	1.028 mg/L	0.0056	0.54%
Si 288.158†	-47.4	-0.01124 mg/L	0.004575	-0.01124 mg/L	0.004575	40.68%
Sn 189.927†	-93.2	-0.01427 mg/L	0.001950	-0.01427 mg/L	0.001950	13.66%
Sr 421.552†	4614.0	0.00561 mg/L	0.000023	0.00561 mg/L	0.000023	0.41%
Ti 334.903†	139.7	0.00083 mg/L	0.000333	0.00083 mg/L	0.000333	40.25%
Tl 190.801†	1945.4	0.9535 mg/L	0.00535	0.9535 mg/L	0.00535	0.56%
V 292.402†	150639.1	0.9935 mg/L	0.00251	0.9935 mg/L	0.00251	0.25%
Zn 206.200†	3464.7	0.9712 mg/L	0.00944	0.9712 mg/L	0.00944	0.97%

Sequence No.: 6
Sample ID: CV 1

Autosampler Location: 7
Date Collected: 4/8/2014 10:54:46 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2823794.7	99.30 %	0.076			0.08%
ScR 361.383	241212.8	101.4 %	0.75			0.74%
Ag 328.068†	213593.4	1.068 mg/L	0.0054	1.068 mg/L	0.0054	0.51%
Al 308.215†	2572.3	1.966 mg/L	0.0296	1.966 mg/L	0.0296	1.50%
As 188.979†	3401.1	2.027 mg/L	0.0067	2.027 mg/L	0.0067	0.33%
B 249.677†	5700.3	1.002 mg/L	0.0095	1.002 mg/L	0.0095	0.95%
Ba 233.527†	3868.9	1.012 mg/L	0.0103	1.012 mg/L	0.0103	1.02%
Be 313.042†	501852.7	0.9751 mg/L	0.00528	0.9751 mg/L	0.00528	0.54%
Ca 317.933†	20454.0	2.051 mg/L	0.0197	2.051 mg/L	0.0197	0.96%
Cd 228.802†	33812.6	1.040 mg/L	0.0050	1.040 mg/L	0.0050	0.48%
Co 228.616†	40883.0	1.002 mg/L	0.0059	1.002 mg/L	0.0059	0.59%
Cr 267.716†	5192.7	1.020 mg/L	0.0104	1.020 mg/L	0.0104	1.02%
Cu 324.752†	287702.8	1.001 mg/L	0.0033	1.001 mg/L	0.0033	0.33%
Fe 273.955†	2534.9	2.018 mg/L	0.0180	2.018 mg/L	0.0180	0.89%
K 766.490†	45078.1	19.67 mg/L	0.117	19.67 mg/L	0.117	0.59%
Mg 279.077†	2225.7	1.966 mg/L	0.0179	1.966 mg/L	0.0179	0.91%
Mn 257.610†	31963.6	0.9637 mg/L	0.00127	0.9637 mg/L	0.00127	0.13%
Mo 202.031†	17930.8	0.9797 mg/L	0.00289	0.9797 mg/L	0.00289	0.29%
Na 589.592†	675107.2	50.82 mg/L	0.189	50.82 mg/L	0.189	0.37%
Na 330.237†	1113.6	50.54 mg/L	0.606	50.54 mg/L	0.606	1.20%
Ni 231.604†	3523.4	1.015 mg/L	0.0109	1.015 mg/L	0.0109	1.07%
Pb 220.353†	17150.7	2.015 mg/L	0.0076	2.015 mg/L	0.0076	0.38%
Sb 206.836†	6572.6	2.132 mg/L	0.0106	2.132 mg/L	0.0106	0.50%
Se 196.026†	2785.4	2.005 mg/L	0.0116	2.005 mg/L	0.0116	0.58%
Si 288.158†	3480.0	2.032 mg/L	0.0572	2.032 mg/L	0.0572	2.82%
Sn 189.927†	3436.9	1.006 mg/L	0.0039	1.006 mg/L	0.0039	0.39%
Sr 421.552†	823470.8	1.002 mg/L	0.0030	1.002 mg/L	0.0030	0.30%
Ti 334.903†	16792.1	0.9876 mg/L	0.00477	0.9876 mg/L	0.00477	0.48%
Tl 190.801†	4148.0	1.996 mg/L	0.0041	1.996 mg/L	0.0041	0.21%
V 292.402†	153618.7	1.024 mg/L	0.0038	1.024 mg/L	0.0038	0.37%
Zn 206.200†	3576.6	1.003 mg/L	0.0083	1.003 mg/L	0.0083	0.83%

Sequence No.: 7
Sample ID: CB^l

Autosampler Location: 1
Date Collected: 4/8/2014 11:00:12 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2859689.2	100.6	%	0.31			0.30%
ScR 361.383	241921.2	101.7	%	0.20			0.20%
Ag 328.068†	-18.9	-0.00009	mg/L	0.000155	-0.00009 mg/L	0.000155	163.38%
Al 308.215†	-5.9	-0.00461	mg/L	0.007359	-0.00461 mg/L	0.007359	159.47%
As 188.979†	1.5	0.00092	mg/L	0.001236	0.00092 mg/L	0.001236	134.24%
B 249.677†	-14.4	-0.00253	mg/L	0.001766	-0.00253 mg/L	0.001766	69.75%
Ba 233.527†	-2.2	-0.00058	mg/L	0.001295	-0.00058 mg/L	0.001295	225.01%
Be 313.042†	33.6	0.00007	mg/L	0.000005	0.00007 mg/L	0.000005	8.03%
Ca 317.933†	-22.0	-0.00221	mg/L	0.000211	-0.00221 mg/L	0.000211	9.56%
Cd 228.802†	-1.4	-0.00005	mg/L	0.000014	-0.00005 mg/L	0.000014	30.62%
Co 228.616†	10.5	0.00026	mg/L	0.000085	0.00026 mg/L	0.000085	33.05%
Cr 267.716†	0.7	0.00013	mg/L	0.000156	0.00013 mg/L	0.000156	118.47%
Cu 324.752†	42.9	0.00015	mg/L	0.000047	0.00015 mg/L	0.000047	31.31%
Fe 273.955†	-7.2	-0.00577	mg/L	0.001721	-0.00577 mg/L	0.001721	29.80%
K 766.490†	-24.0	-0.01049	mg/L	0.034460	-0.01049 mg/L	0.034460	328.56%
Mg 279.077†	-1.4	-0.00123	mg/L	0.005963	-0.00123 mg/L	0.005963	485.24%
Mn 257.610†	-1.7	-0.00005	mg/L	0.000031	-0.00005 mg/L	0.000031	61.10%
Mo 202.031†	-0.8	-0.00004	mg/L	0.000123	-0.00004 mg/L	0.000123	290.02%
Na 589.592†	-30.6	-0.00230	mg/L	0.002022	-0.00230 mg/L	0.002022	87.85%
Na 330.237†	7.4	0.3383	mg/L	0.17864	0.3383 mg/L	0.17864	52.81%
Ni 231.604†	3.1	0.00090	mg/L	0.001266	0.00090 mg/L	0.001266	141.11%
Pb 220.353†	3.8	0.00044	mg/L	0.000118	0.00044 mg/L	0.000118	26.75%
Sb 206.836†	27.8	0.00904	mg/L	0.001564	0.00904 mg/L	0.001564	17.30%
Se 196.026†	3.0	0.00213	mg/L	0.001573	0.00213 mg/L	0.001573	73.86%
Si 288.158†	-0.9	-0.00050	mg/L	0.001716	-0.00050 mg/L	0.001716	341.49%
Sn 189.927†	0.6	0.00017	mg/L	0.000867	0.00017 mg/L	0.000867	504.93%
Sr 421.552†	24.3	0.00003	mg/L	0.000036	0.00003 mg/L	0.000036	123.18%
Ti 334.903†	12.1	0.00072	mg/L	0.000219	0.00072 mg/L	0.000219	30.69%
Tl 190.801†	-0.3	-0.00017	mg/L	0.000243	-0.00017 mg/L	0.000243	144.79%
V 292.402†	2.3	0.00002	mg/L	0.000073	0.00002 mg/L	0.000073	466.66%
Zn 206.200†	2.5	0.00071	mg/L	0.000291	0.00071 mg/L	0.000291	40.84%

Sequence No.: 8
 Sample ID: YE70 MB1 TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 304
 Date Collected: 4/8/2014 11:04:13 AM
 Data Type: Original

Nebulizer Parameters: YE70 MB1 TWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE70 MB1 TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2872841.1	101.0	%	0.74			0.73%
ScR 361.383	245003.8	103.0	%	0.34			0.33%
Ag 328.068†	-31.3	-0.00016	mg/L	0.000145	-0.00016 mg/L	0.000145	92.93%
Al 308.215†	8.8	0.00686	mg/L	0.005671	0.00686 mg/L	0.005671	82.63%
As 188.979†	-1.2	-0.00073	mg/L	0.000559	-0.00073 mg/L	0.000559	76.98%
B 249.677†	-12.0	-0.00212	mg/L	0.001169	-0.00212 mg/L	0.001169	55.29%
Ba 233.527†	1.1	0.00029	mg/L	0.000492	0.00029 mg/L	0.000492	170.74%
Be 313.042†	-6.0	-0.00001	mg/L	0.000022	-0.00001 mg/L	0.000022	186.45%
Ca 317.933†	66.8	0.00670	mg/L	0.001544	0.00670 mg/L	0.001544	23.06%
Cd 228.802†	-2.8	-0.00008	mg/L	0.000177	-0.00008 mg/L	0.000177	213.13%
Co 228.616†	11.4	0.00028	mg/L	0.000151	0.00028 mg/L	0.000151	53.95%
Cr 267.716†	7.7	0.00151	mg/L	0.000374	0.00151 mg/L	0.000374	24.72%
Cu 324.752†	228.5	0.00080	mg/L	0.000135	0.00080 mg/L	0.000135	16.91%
Fe 273.955†	-3.2	-0.00259	mg/L	0.002583	-0.00259 mg/L	0.002583	99.85%
K 766.490†	0.6	0.00025	mg/L	0.004089	0.00025 mg/L	0.004089	>999.9%
Mg 279.077†	0.7	0.00060	mg/L	0.004439	0.00060 mg/L	0.004439	740.05%
Mn 257.610†	-1.0	-0.00003	mg/L	0.000107	-0.00003 mg/L	0.000107	351.61%
Mo 202.031†	-19.8	-0.00108	mg/L	0.000451	-0.00108 mg/L	0.000451	41.72%
Na 589.592†	72.3	0.00544	mg/L	0.001427	0.00544 mg/L	0.001427	26.23%
Na 330.237†	6.4	0.2914	mg/L	0.15773	0.2914 mg/L	0.15773	54.12%
Ni 231.604†	5.0	0.00143	mg/L	0.000711	0.00143 mg/L	0.000711	49.62%
Pb 220.353†	-1.5	-0.00017	mg/L	0.000354	-0.00017 mg/L	0.000354	203.24%
Sb 206.836†	-3.2	-0.00106	mg/L	0.001107	-0.00106 mg/L	0.001107	104.96%
Se 196.026†	4.0	0.00289	mg/L	0.001854	0.00289 mg/L	0.001854	64.16%
Si 288.158†	35.6	0.02073	mg/L	0.004815	0.02073 mg/L	0.004815	23.23%
Sn 189.927†	-0.6	-0.00016	mg/L	0.000387	-0.00016 mg/L	0.000387	235.17%
Sr 421.552†	21.7	0.00003	mg/L	0.000007	0.00003 mg/L	0.000007	26.02%
Ti 334.903†	-5.0	-0.00030	mg/L	0.000505	-0.00030 mg/L	0.000505	170.57%
Tl 190.801†	1.6	0.00078	mg/L	0.001486	0.00078 mg/L	0.001486	190.65%
V 292.402†	8.0	0.00006	mg/L	0.000186	0.00006 mg/L	0.000186	316.48%
Zn 206.200†	3.6	0.00101	mg/L	0.000551	0.00101 mg/L	0.000551	54.48%

Sequence No.: 9
Sample ID: YE70 MB2 WMN
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 305
Date Collected: 4/8/2014 11:08:14 AM
Data Type: Original

Nebulizer Parameters: YE70 MB2 WMN

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YE70 MB2 WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2930868.2	103.1	%	0.83			0.81%
ScR 361.383	249699.9	104.9	%	0.78			0.75%
Ag 328.068†	-54.6	-0.00027	mg/L	0.000266	-0.00027 mg/L	0.000266	97.65%
Al 308.215†	-2.7	-0.00210	mg/L	0.005334	-0.00210 mg/L	0.005334	254.33%
As 188.979†	1.8	0.00101	mg/L	0.003488	0.00101 mg/L	0.003488	344.37%
B 249.677†	-19.1	-0.00336	mg/L	0.000149	-0.00336 mg/L	0.000149	4.44%
Ba 233.527†	-2.5	-0.00065	mg/L	0.000330	-0.00065 mg/L	0.000330	51.00%
Be 313.042†	40.8	0.00008	mg/L	0.000025	0.00008 mg/L	0.000025	31.91%
Ca 317.933†	43.2	0.00433	mg/L	0.000956	0.00433 mg/L	0.000956	22.06%
Cd 228.802†	3.4	0.00010	mg/L	0.000089	0.00010 mg/L	0.000089	87.60%
Co 228.616†	18.6	0.00046	mg/L	0.000091	0.00046 mg/L	0.000091	19.86%
Cr 267.716†	2.3	0.00045	mg/L	0.000901	0.00045 mg/L	0.000901	200.73%
Cu 324.752†	8.9	0.00003	mg/L	0.000154	0.00003 mg/L	0.000154	488.70%
Fe 273.955†	-9.6	-0.00769	mg/L	0.002150	-0.00769 mg/L	0.002150	27.95%
K 766.490†	-24.0	-0.01048	mg/L	0.005496	-0.01048 mg/L	0.005496	52.42%
Mg 279.077†	-6.7	-0.00593	mg/L	0.003903	-0.00593 mg/L	0.003903	65.78%
Mn 257.610†	-5.5	-0.00017	mg/L	0.000050	-0.00017 mg/L	0.000050	30.20%
Mo 202.031†	-30.1	-0.00165	mg/L	0.000183	-0.00165 mg/L	0.000183	11.09%
Na 589.592†	21.7	0.00163	mg/L	0.003175	0.00163 mg/L	0.003175	194.43%
Na 330.237†	5.9	0.2677	mg/L	0.25212	0.2677 mg/L	0.25212	94.18%
Ni 231.604†	7.0	0.00201	mg/L	0.000921	0.00201 mg/L	0.000921	45.81%
Pb 220.353†	2.7	0.00032	mg/L	0.000472	0.00032 mg/L	0.000472	148.08%
Sb 206.836†	-22.4	-0.00727	mg/L	0.002559	-0.00727 mg/L	0.002559	35.19%
Se 196.026†	6.9	0.00496	mg/L	0.001681	0.00496 mg/L	0.001681	33.88%
Si 288.158†	-19.7	-0.01148	mg/L	0.002430	-0.01148 mg/L	0.002430	21.17%
Sn 189.927†	1.0	0.00029	mg/L	0.000344	0.00029 mg/L	0.000344	116.60%
Sr 421.552†	19.3	0.00002	mg/L	0.000008	0.00002 mg/L	0.000008	32.41%
Ti 334.903†	-14.2	-0.00084	mg/L	0.000417	-0.00084 mg/L	0.000417	49.92%
Tl 190.801†	8.9	0.00431	mg/L	0.001722	0.00431 mg/L	0.001722	39.92%
V 292.402†	0.7	0.00001	mg/L	0.000163	0.00001 mg/L	0.000163	>999.9%
Zn 206.200†	2.1	0.00058	mg/L	0.000435	0.00058 mg/L	0.000435	74.97%

Sequence No.: 10
 Sample ID: YE70 B TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 306
 Date Collected: 4/8/2014 11:12:14 AM
 Data Type: Original

Nebulizer Parameters: YE70 B TWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE70 B TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2840307.9	99.88 %	0.446			0.45%
ScR 361.383	240495.7	101.1 %	0.87			0.86%
Ag 328.068†	-40.8	-0.00007 mg/L	0.000081	-0.00007 mg/L	0.000081	115.26%
Al 308.215†	-3.1	-0.00296 mg/L	0.002306	-0.00296 mg/L	0.002306	78.03%
As 188.979†	23.6	0.01202 mg/L	0.001405	0.01202 mg/L	0.001405	11.68%
B 249.677†	47.0	0.00827 mg/L	0.000714	0.00827 mg/L	0.000714	8.64%
Ba 233.527†	12.0	0.00312 mg/L	0.000363	0.00312 mg/L	0.000363	11.61%
Be 313.042†	12.8	0.00002 mg/L	0.000036	0.00002 mg/L	0.000036	210.40%
Ca 317.933†	206697.4	20.72 mg/L	0.032	20.72 mg/L	0.032	0.16%
Cd 228.802†	-3.7	-0.00017 mg/L	0.000068	-0.00017 mg/L	0.000068	40.34%
Co 228.616†	7.1	0.00017 mg/L	0.000083	0.00017 mg/L	0.000083	48.35%
Cr 267.716†	158.3	0.03017 mg/L	0.000706	0.03017 mg/L	0.000706	2.34%
Cu 324.752†	416.0	0.00134 mg/L	0.000141	0.00134 mg/L	0.000141	10.50%
Fe 273.955†	111.9	0.08919 mg/L	0.000168	0.08919 mg/L	0.000168	0.19%
K 766.490†	6512.0	2.842 mg/L	0.0423	2.842 mg/L	0.0423	1.49%
Mg 279.077†	9484.2	8.350 mg/L	0.0950	8.350 mg/L	0.0950	1.14%
Mn 257.610†	59.5	0.00165 mg/L	0.000091	0.00165 mg/L	0.000091	5.53%
Mo 202.031†	72.5	0.00364 mg/L	0.000341	0.00364 mg/L	0.000341	9.37%
Na 589.592†	259395.3	19.52 mg/L	0.074	19.52 mg/L	0.074	0.38%
Na 330.237†	436.2	19.69 mg/L	0.118	19.69 mg/L	0.118	0.60%
Ni 231.604†	68.8	0.01981 mg/L	0.001784	0.01981 mg/L	0.001784	9.00%
Pb 220.353†	-16.4	-0.00187 mg/L	0.001073	-0.00187 mg/L	0.001073	57.35%
Sb 206.836†	-1.0	-0.00068 mg/L	0.001177	-0.00068 mg/L	0.001177	172.79%
Se 196.026†	4.8	0.00347 mg/L	0.003976	0.00347 mg/L	0.003976	114.49%
Si 288.158†	26608.2	15.50 mg/L	0.157	15.50 mg/L	0.157	1.01%
Sn 189.927†	-30.1	-0.00627 mg/L	0.000725	-0.00627 mg/L	0.000725	11.55%
Sr 421.552†	118666.6	0.1444 mg/L	0.00048	0.1444 mg/L	0.00048	0.33%
Ti 334.903†	18.0	-0.00041 mg/L	0.000240	-0.00041 mg/L	0.000240	58.42%
Tl 190.801†	9.2	0.00433 mg/L	0.000632	0.00433 mg/L	0.000632	14.59%
V 292.402†	4626.6	0.03085 mg/L	0.000325	0.03085 mg/L	0.000325	1.05%
Zn 206.200†	-6.2	0.00116 mg/L	0.000346	0.00116 mg/L	0.000346	29.77%

Sequence No.: 11
Sample ID: YE70 C TWC
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 307
Date Collected: 4/8/2014 11:16:29 AM
Data Type: Original

Nebulizer Parameters: YE70 C TWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YE70 C TWC

Table with 8 columns: Analyte, Mean Corrected Intensity, Conc. Units, Calib., Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 12
 Sample ID: YE70 ADUP TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 308
 Date Collected: 4/8/2014 11:20:44 AM
 Data Type: Original

Nebulizer Parameters: YE70 ADUP TWC

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

Mean Data: YE70 ADUP TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2814380.6	98.97 %	0.486			0.49%
ScR 361.383	241268.3	101.4 %	0.59			0.58%
Ag 328.068†	-45.8	-0.00008 mg/L	0.000142	-0.00008 mg/L	0.000142	170.90%
Al 308.215†	1.9	0.00104 mg/L	0.004540	0.00104 mg/L	0.004540	435.79%
As 188.979†	21.3	0.01049 mg/L	0.001774	0.01049 mg/L	0.001774	16.92%
B 249.677†	41.1	0.00724 mg/L	0.000415	0.00724 mg/L	0.000415	5.74%
Ba 233.527†	11.4	0.00298 mg/L	0.000429	0.00298 mg/L	0.000429	14.37%
Be 313.042†	52.8	0.00010 mg/L	0.000023	0.00010 mg/L	0.000023	23.75%
Ca 317.933†	228851.1	22.94 mg/L	0.157	22.94 mg/L	0.157	0.68%
Cd 228.802†	3.5	0.00004 mg/L	0.000044	0.00004 mg/L	0.000044	100.23%
Co 228.616†	3.9	0.00009 mg/L	0.000079	0.00009 mg/L	0.000079	85.27%
Cr 267.716†	24.1	0.00394 mg/L	0.000499	0.00394 mg/L	0.000499	12.65%
Cu 324.752†	288.8	0.00090 mg/L	0.000078	0.00090 mg/L	0.000078	8.74%
Fe 273.955†	-5.6	-0.00472 mg/L	0.002879	-0.00472 mg/L	0.002879	61.04%
K 766.490†	5339.8	2.330 mg/L	0.0126	2.330 mg/L	0.0126	0.54%
Mg 279.077†	7350.4	6.471 mg/L	0.0388	6.471 mg/L	0.0388	0.60%
Mn 257.610†	8.2	0.00011 mg/L	0.000059	0.00011 mg/L	0.000059	53.85%
Mo 202.031†	55.4	0.00267 mg/L	0.000180	0.00267 mg/L	0.000180	6.75%
Na 589.592†	240968.9	18.14 mg/L	0.070	18.14 mg/L	0.070	0.39%
Na 330.237†	412.5	18.60 mg/L	0.209	18.60 mg/L	0.209	1.13%
Ni 231.604†	6.6	0.00190 mg/L	0.001346	0.00190 mg/L	0.001346	70.89%
Pb 220.353†	-12.8	-0.00149 mg/L	0.000543	-0.00149 mg/L	0.000543	36.33%
Sb 206.836†	-5.5	-0.00181 mg/L	0.002003	-0.00181 mg/L	0.002003	110.84%
Se 196.026†	4.2	0.00301 mg/L	0.002588	0.00301 mg/L	0.002588	86.00%
Si 288.158†	33141.1	19.31 mg/L	0.047	19.31 mg/L	0.047	0.25%
Sn 189.927†	-30.0	-0.00600 mg/L	0.001770	-0.00600 mg/L	0.001770	29.50%
Sr 421.552†	84415.0	0.1027 mg/L	0.00039	0.1027 mg/L	0.00039	0.38%
Ti 334.903†	22.6	-0.00029 mg/L	0.000280	-0.00029 mg/L	0.000280	95.64%
Tl 190.801†	8.8	0.00415 mg/L	0.000969	0.00415 mg/L	0.000969	23.37%
V 292.402†	4282.9	0.02847 mg/L	0.000075	0.02847 mg/L	0.000075	0.26%
Zn 206.200†	-4.6	0.00232 mg/L	0.000566	0.00232 mg/L	0.000566	24.44%

Sequence No.: 13
 Sample ID: YE70 A TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 309
 Date Collected: 4/8/2014 11:24:59 AM
 Data Type: Original

Nebulizer Parameters: YE70 A TWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YE70 A TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2831366.8	99.57	%	0.163			0.16%
ScR 361.383	244389.4	102.7	%	0.29			0.28%
Ag 328.068†	-22.6	0.00004	mg/L	0.000160	0.00004 mg/L	0.000160	434.37%
Al 308.215†	1.1	0.00035	mg/L	0.003644	0.00035 mg/L	0.003644	>999.9%
As 188.979†	22.8	0.01135	mg/L	0.001350	0.01135 mg/L	0.001350	11.89%
B 249.677†	49.7	0.00874	mg/L	0.000808	0.00874 mg/L	0.000808	9.24%
Ba 233.527†	10.0	0.00261	mg/L	0.000669	0.00261 mg/L	0.000669	25.59%
Be 313.042†	5.3	0.00000	mg/L	0.000017	0.00000 mg/L	0.000017	553.74%
Ca 317.933†	235452.9	23.61	mg/L	0.008	23.61 mg/L	0.008	0.03%
Cd 228.802†	-3.5	-0.00018	mg/L	0.000166	-0.00018 mg/L	0.000166	93.59%
Co 228.616†	4.2	0.00010	mg/L	0.000053	0.00010 mg/L	0.000053	52.72%
Cr 267.716†	22.6	0.00364	mg/L	0.000937	0.00364 mg/L	0.000937	25.76%
Cu 324.752†	205.6	0.00060	mg/L	0.000192	0.00060 mg/L	0.000192	31.69%
Fe 273.955†	-6.3	-0.00529	mg/L	0.000843	-0.00529 mg/L	0.000843	15.93%
K 766.490†	5352.5	2.336	mg/L	0.0306	2.336 mg/L	0.0306	1.31%
Mg 279.077†	7445.7	6.554	mg/L	0.0394	6.554 mg/L	0.0394	0.60%
Mn 257.610†	7.2	0.00007	mg/L	0.000049	0.00007 mg/L	0.000049	67.05%
Mo 202.031†	53.5	0.00256	mg/L	0.000385	0.00256 mg/L	0.000385	15.05%
Na 589.592†	245820.3	18.50	mg/L	0.030	18.50 mg/L	0.030	0.16%
Na 330.237†	415.5	18.73	mg/L	0.256	18.73 mg/L	0.256	1.36%
Ni 231.604†	10.9	0.00314	mg/L	0.001312	0.00314 mg/L	0.001312	41.74%
Pb 220.353†	-17.2	-0.00201	mg/L	0.000335	-0.00201 mg/L	0.000335	16.65%
Sb 206.836†	-6.7	-0.00222	mg/L	0.000423	-0.00222 mg/L	0.000423	19.09%
Se 196.026†	6.8	0.00491	mg/L	0.001927	0.00491 mg/L	0.001927	39.28%
Si 288.158†	33189.8	19.33	mg/L	0.037	19.33 mg/L	0.037	0.19%
Sn 189.927†	-35.7	-0.00758	mg/L	0.000794	-0.00758 mg/L	0.000794	10.48%
Sr 421.552†	86404.0	0.1051	mg/L	0.00026	0.1051 mg/L	0.00026	0.25%
Ti 334.903†	30.6	0.00013	mg/L	0.000635	0.00013 mg/L	0.000635	477.61%
Tl 190.801†	5.9	0.00276	mg/L	0.001520	0.00276 mg/L	0.001520	55.03%
V 292.402†	4376.2	0.02908	mg/L	0.000089	0.02908 mg/L	0.000089	0.31%
Zn 206.200†	-4.2	0.00244	mg/L	0.000308	0.00244 mg/L	0.000308	12.61%

Sequence No.: 14
 Sample ID: YE70 ASPK TWC
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 310
 Date Collected: 4/8/2014 11:29:14 AM
 Data Type: Original

Nebulizer Parameters: YE70 ASPK TWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE70 ASPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2830458.5	99.53 %	0.372			0.37%
ScR 361.383	241362.5	101.4 %	0.60			0.59%
Ag 328.068†	109426.7	0.5472 mg/L	0.00346	0.5472 mg/L	0.00346	0.63%
Al 308.215†	2683.3	2.077 mg/L	0.0139	2.077 mg/L	0.0139	0.67%
As 188.979†	3607.7	2.114 mg/L	0.0118	2.114 mg/L	0.0118	0.56%
B 249.677†	63.1	0.01003 mg/L	0.000459	0.01003 mg/L	0.000459	4.58%
Ba 233.527†	8130.4	2.128 mg/L	0.0081	2.128 mg/L	0.0081	0.38%
Be 313.042†	261709.9	0.5085 mg/L	0.00129	0.5085 mg/L	0.00129	0.25%
Ca 317.933†	339597.5	34.05 mg/L	0.183	34.05 mg/L	0.183	0.54%
Cd 228.802†	17362.2	0.5283 mg/L	0.00094	0.5283 mg/L	0.00094	0.18%
Co 228.616†	20736.0	0.5087 mg/L	0.00035	0.5087 mg/L	0.00035	0.07%
Cr 267.716†	2726.0	0.5338 mg/L	0.00429	0.5338 mg/L	0.00429	0.80%
Cu 324.752†	149737.7	0.5211 mg/L	0.00077	0.5211 mg/L	0.00077	0.15%
Fe 273.955†	2636.4	2.102 mg/L	0.0191	2.102 mg/L	0.0191	0.91%
K 766.490†	29036.5	12.67 mg/L	0.050	12.67 mg/L	0.050	0.40%
Mg 279.077†	18767.9	16.52 mg/L	0.030	16.52 mg/L	0.030	0.18%
Mn 257.610†	16508.2	0.4977 mg/L	0.00058	0.4977 mg/L	0.00058	0.12%
Mo 202.031†	68.6	0.00322 mg/L	0.000269	0.00322 mg/L	0.000269	8.36%
Na 589.592†	391346.6	29.46 mg/L	0.106	29.46 mg/L	0.106	0.36%
Na 330.237†	666.0	29.90 mg/L	0.322	29.90 mg/L	0.322	1.08%
Ni 231.604†	1809.2	0.5214 mg/L	0.00514	0.5214 mg/L	0.00514	0.99%
Pb 220.353†	17417.5	2.046 mg/L	0.0028	2.046 mg/L	0.0028	0.14%
Sb 206.836†	6539.4	2.118 mg/L	0.0081	2.118 mg/L	0.0081	0.38%
Se 196.026†	2857.4	2.058 mg/L	0.0068	2.058 mg/L	0.0068	0.33%
Si 288.158†	33634.8	19.60 mg/L	0.037	19.60 mg/L	0.037	0.19%
Sn 189.927†	-50.9	-0.00950 mg/L	0.000761	-0.00950 mg/L	0.000761	8.01%
Sr 421.552†	515735.3	0.6275 mg/L	0.00093	0.6275 mg/L	0.00093	0.15%
Ti 334.903†	42.5	-0.00001 mg/L	0.000269	-0.00001 mg/L	0.000269	>999.9%
Tl 190.801†	4260.1	2.053 mg/L	0.0161	2.053 mg/L	0.0161	0.78%
V 292.402†	82645.4	0.5510 mg/L	0.00243	0.5510 mg/L	0.00243	0.44%
Zn 206.200†	1804.7	0.5097 mg/L	0.00258	0.5097 mg/L	0.00258	0.51%

Sequence No.: 15

Sample ID: YE70 MB1SPK TWC

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 311

Date Collected: 4/8/2014 11:33:15 AM

Data Type: Original

Nebulizer Parameters: YE70 MB1SPK TWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE70 MB1SPK TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2837632.7		99.79 %	0.494				0.49%
ScR 361.383	242039.0		101.7 %	0.53				0.52%
Ag 328.068†	109582.0		0.5478 mg/L	0.00398	0.5478 mg/L	0.00398		0.73%
Al 308.215†	2680.4		2.075 mg/L	0.0149	2.075 mg/L	0.0149		0.72%
As 188.979†	3569.2		2.094 mg/L	0.0136	2.094 mg/L	0.0136		0.65%
B 249.677†	-10.0		-0.00285 mg/L	0.000533	-0.00285 mg/L	0.000533		18.72%
Ba 233.527†	8151.1		2.133 mg/L	0.0167	2.133 mg/L	0.0167		0.78%
Be 313.042†	262852.7		0.5107 mg/L	0.00101	0.5107 mg/L	0.00101		0.20%
Ca 317.933†	102116.6		10.24 mg/L	0.009	10.24 mg/L	0.009		0.09%
Cd 228.802†	17362.4		0.5285 mg/L	0.00364	0.5285 mg/L	0.00364		0.69%
Co 228.616†	20998.2		0.5151 mg/L	0.00292	0.5151 mg/L	0.00292		0.57%
Cr 267.716†	2719.9		0.5333 mg/L	0.00383	0.5333 mg/L	0.00383		0.72%
Cu 324.752†	148396.3		0.5166 mg/L	0.00270	0.5166 mg/L	0.00270		0.52%
Fe 273.955†	2636.7		2.103 mg/L	0.0245	2.103 mg/L	0.0245		1.16%
K 766.490†	23547.6		10.28 mg/L	0.033	10.28 mg/L	0.033		0.32%
Mg 279.077†	11964.4		10.54 mg/L	0.079	10.54 mg/L	0.079		0.75%
Mn 257.610†	16652.0		0.5022 mg/L	0.00155	0.5022 mg/L	0.00155		0.31%
Mo 202.031†	11.9		0.00049 mg/L	0.000230	0.00049 mg/L	0.000230		46.86%
Na 589.592†	141429.2		10.65 mg/L	0.036	10.65 mg/L	0.036		0.34%
Na 330.237†	249.1		11.10 mg/L	0.159	11.10 mg/L	0.159		1.43%
Ni 231.604†	1836.7		0.5293 mg/L	0.00519	0.5293 mg/L	0.00519		0.98%
Pb 220.353†	17617.1		2.069 mg/L	0.0143	2.069 mg/L	0.0143		0.69%
Sb 206.836†	6747.6		2.185 mg/L	0.0093	2.185 mg/L	0.0093		0.43%
Se 196.026†	2870.3		2.067 mg/L	0.0096	2.067 mg/L	0.0096		0.46%
Si 288.158†	102.4		0.06329 mg/L	0.024032	0.06329 mg/L	0.024032		37.97%
Sn 189.927†	-17.1		-0.00245 mg/L	0.000440	-0.00245 mg/L	0.000440		17.92%
Sr 421.552†	430090.5		0.5233 mg/L	0.00134	0.5233 mg/L	0.00134		0.26%
Ti 334.903†	15.5		0.00009 mg/L	0.000290	0.00009 mg/L	0.000290		329.59%
Tl 190.801†	4281.2		2.064 mg/L	0.0124	2.064 mg/L	0.0124		0.60%
V 292.402†	78460.1		0.5232 mg/L	0.00474	0.5232 mg/L	0.00474		0.91%
Zn 206.200†	1835.9		0.5148 mg/L	0.00530	0.5148 mg/L	0.00530		1.03%

Sequence No.: 16

Sample ID: YE66 MB2SPK WMN

Analyst: EL

Dilution: 1.000000X

Autosampler Location: 312

Date Collected: 4/8/2014 11:37:15 AM

Data Type: Original

Nebulizer Parameters: YE66 MB2SPK WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YE66 MB2SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2903371.8	102.1	%	0.24				0.23%
ScR 361.383	247324.2	103.9	%	0.49				0.47%
Ag 328.068†	102003.3	0.5099	mg/L	0.00515	0.5099	mg/L	0.00515	1.01%
Al 308.215†	2646.5	2.049	mg/L	0.0093	2.049	mg/L	0.0093	0.46%
As 188.979†	3716.1	2.180	mg/L	0.0015	2.180	mg/L	0.0015	0.07%
B 249.677†	-13.9	-0.00353	mg/L	0.000533	-0.00353	mg/L	0.000533	15.11%
Ba 233.527†	7976.6	2.088	mg/L	0.0129	2.088	mg/L	0.0129	0.62%
Be 313.042†	246575.2	0.4791	mg/L	0.00258	0.4791	mg/L	0.00258	0.54%
Ca 317.933†	101278.7	10.15	mg/L	0.011	10.15	mg/L	0.011	0.11%
Cd 228.802†	17982.0	0.5473	mg/L	0.00593	0.5473	mg/L	0.00593	1.08%
Co 228.616†	20891.9	0.5125	mg/L	0.00478	0.5125	mg/L	0.00478	0.93%
Cr 267.716†	2694.3	0.5283	mg/L	0.00288	0.5283	mg/L	0.00288	0.55%
Cu 324.752†	146085.6	0.5085	mg/L	0.00536	0.5085	mg/L	0.00536	1.05%
Fe 273.955†	2573.4	2.052	mg/L	0.0111	2.052	mg/L	0.0111	0.54%
K 766.490†	23615.9	10.31	mg/L	0.054	10.31	mg/L	0.054	0.52%
Mg 279.077†	11920.1	10.50	mg/L	0.052	10.50	mg/L	0.052	0.49%
Mn 257.610†	16393.4	0.4944	mg/L	0.00138	0.4944	mg/L	0.00138	0.28%
Mo 202.031†	-3.6	-0.00035	mg/L	0.000277	-0.00035	mg/L	0.000277	78.30%
Na 589.592†	141161.9	10.63	mg/L	0.030	10.63	mg/L	0.030	0.28%
Na 330.237†	239.3	10.65	mg/L	0.079	10.65	mg/L	0.079	0.74%
Ni 231.604†	1823.8	0.5245	mg/L	0.00342	0.5245	mg/L	0.00342	0.65%
Pb 220.353†	17793.2	2.090	mg/L	0.0197	2.090	mg/L	0.0197	0.94%
Sb 206.836†	85.9	0.02284	mg/L	0.004020	0.02284	mg/L	0.004020	17.60%
Se 196.026†	3263.2	2.350	mg/L	0.0102	2.350	mg/L	0.0102	0.43%
Si 288.158†	-14.9	-0.00496	mg/L	0.001760	-0.00496	mg/L	0.001760	35.46%
Sn 189.927†	-17.3	-0.00374	mg/L	0.000530	-0.00374	mg/L	0.000530	14.18%
Sr 421.552†	423789.8	0.5156	mg/L	0.00115	0.5156	mg/L	0.00115	0.22%
Ti 334.903†	1.1	-0.00075	mg/L	0.000262	-0.00075	mg/L	0.000262	34.80%
Tl 190.801†	4327.0	2.086	mg/L	0.0059	2.086	mg/L	0.0059	0.28%
V 292.402†	77831.9	0.5191	mg/L	0.00611	0.5191	mg/L	0.00611	1.18%
Zn 206.200†	1874.4	0.5255	mg/L	0.00319	0.5255	mg/L	0.00319	0.61%

YE66:00195

Sequence No.: 17
Sample ID: B1
Analyst: EL
Dilution: 1.000000X

Autosampler Location: 313
Date Collected: 4/8/2014 11:41:15 AM
Data Type: Original

Nebulizer Parameters: B1

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: B1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2840705.2	99.90	%	0.599				0.60%
ScR 361.383	242388.5	101.9	%	0.57				0.55%
Ag 328.068†	-23.5	-0.00012	mg/L	0.000121	-0.00012	mg/L	0.000121	103.34%
Al 308.215†	-3.5	-0.00268	mg/L	0.000334	-0.00268	mg/L	0.000334	12.44%
As 188.979†	0.1	0.00001	mg/L	0.000763	0.00001	mg/L	0.000763	>999.9%
B 249.677†	-22.2	-0.00391	mg/L	0.001448	-0.00391	mg/L	0.001448	37.08%
Ba 233.527†	1.7	0.00044	mg/L	0.000399	0.00044	mg/L	0.000399	90.57%
Be 313.042†	40.9	0.00008	mg/L	0.000029	0.00008	mg/L	0.000029	36.46%
Ca 317.933†	55.8	0.00560	mg/L	0.001067	0.00560	mg/L	0.001067	19.06%
Cd 228.802†	2.8	0.00009	mg/L	0.000179	0.00009	mg/L	0.000179	203.63%
Co 228.616†	6.1	0.00015	mg/L	0.000026	0.00015	mg/L	0.000026	17.25%
Cr 267.716†	1.0	0.00020	mg/L	0.000303	0.00020	mg/L	0.000303	153.34%
Cu 324.752†	107.9	0.00038	mg/L	0.000212	0.00038	mg/L	0.000212	56.32%
Fe 273.955†	-6.9	-0.00548	mg/L	0.001799	-0.00548	mg/L	0.001799	32.81%
K 766.490†	37.9	0.01655	mg/L	0.019709	0.01655	mg/L	0.019709	119.09%
Mg 279.077†	-1.0	-0.00091	mg/L	0.006638	-0.00091	mg/L	0.006638	727.26%
Mn 257.610†	-3.2	-0.00010	mg/L	0.000069	-0.00010	mg/L	0.000069	71.30%
Mo 202.031†	-16.6	-0.00091	mg/L	0.000244	-0.00091	mg/L	0.000244	26.81%
Na 589.592†	324.2	0.02440	mg/L	0.003652	0.02440	mg/L	0.003652	14.97%
Na 330.237†	9.4	0.4258	mg/L	0.18348	0.4258	mg/L	0.18348	43.09%
Ni 231.604†	2.9	0.00085	mg/L	0.000893	0.00085	mg/L	0.000893	105.10%
Pb 220.353†	4.5	0.00053	mg/L	0.000711	0.00053	mg/L	0.000711	133.40%
Sb 206.836†	18.6	0.00604	mg/L	0.002941	0.00604	mg/L	0.002941	48.66%
Se 196.026†	2.1	0.00151	mg/L	0.000736	0.00151	mg/L	0.000736	48.79%
Si 288.158†	27.0	0.01574	mg/L	0.013474	0.01574	mg/L	0.013474	85.58%
Sn 189.927†	0.5	0.00015	mg/L	0.000749	0.00015	mg/L	0.000749	504.01%
Sr 421.552†	161.3	0.00020	mg/L	0.000030	0.00020	mg/L	0.000030	15.51%
Ti 334.903†	-17.1	-0.00101	mg/L	0.000344	-0.00101	mg/L	0.000344	34.22%
Tl 190.801†	2.8	0.00135	mg/L	0.001602	0.00135	mg/L	0.001602	118.91%
V 292.402†	46.6	0.00031	mg/L	0.000120	0.00031	mg/L	0.000120	38.64%
Zn 206.200†	4.1	0.00115	mg/L	0.000805	0.00115	mg/L	0.000805	69.80%

Sequence No.: 18
 Sample ID: CV 2
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 4/8/2014 11:45:14 AM
 Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2826907.6	99.41	%	0.477				0.48%
ScR 361.383	238159.5	100.1	%	0.77				0.77%
Ag 328.068†	213163.4	1.066	mg/L	0.0114	1.066	mg/L	0.0114	1.07%
Al 308.215†	2606.2	1.993	mg/L	0.0233	1.993	mg/L	0.0233	1.17%
As 188.979†	3356.6	2.002	mg/L	0.0095	2.002	mg/L	0.0095	0.48%
B 249.677†	5770.3	1.014	mg/L	0.0083	1.014	mg/L	0.0083	0.82%
Ba 233.527†	3924.3	1.027	mg/L	0.0126	1.027	mg/L	0.0126	1.23%
Be 313.042†	499497.4	0.9705	mg/L	0.00387	0.9705	mg/L	0.00387	0.40%
Ca 317.933†	20667.6	2.072	mg/L	0.0193	2.072	mg/L	0.0193	0.93%
Cd 228.802†	33501.4	1.030	mg/L	0.0133	1.030	mg/L	0.0133	1.29%
Co 228.616†	40694.2	0.9969	mg/L	0.01286	0.9969	mg/L	0.01286	1.29%
Cr 267.716†	5247.8	1.031	mg/L	0.0096	1.031	mg/L	0.0096	0.93%
Cu 324.752†	287341.5	0.9998	mg/L	0.00084	0.9998	mg/L	0.00084	0.08%
Fe 273.955†	2540.9	2.023	mg/L	0.0207	2.023	mg/L	0.0207	1.02%
K 766.490†	45916.4	20.04	mg/L	0.043	20.04	mg/L	0.043	0.22%
Mg 279.077†	2244.3	1.983	mg/L	0.0233	1.983	mg/L	0.0233	1.18%
Mn 257.610†	32028.9	0.9657	mg/L	0.00270	0.9657	mg/L	0.00270	0.28%
Mo 202.031†	17808.1	0.9730	mg/L	0.01530	0.9730	mg/L	0.01530	1.57%
Na 589.592†	685753.9	51.62	mg/L	0.167	51.62	mg/L	0.167	0.32%
Na 330.237†	1128.0	51.19	mg/L	0.483	51.19	mg/L	0.483	0.94%
Ni 231.604†	3570.5	1.029	mg/L	0.0085	1.029	mg/L	0.0085	0.83%
Pb 220.353†	16988.3	1.996	mg/L	0.0308	1.996	mg/L	0.0308	1.55%
Sb 206.836†	6474.7	2.100	mg/L	0.0047	2.100	mg/L	0.0047	0.22%
Se 196.026†	2746.9	1.978	mg/L	0.0113	1.978	mg/L	0.0113	0.57%
Si 288.158†	3562.6	2.080	mg/L	0.0445	2.080	mg/L	0.0445	2.14%
Sn 189.927†	3391.2	0.9924	mg/L	0.00517	0.9924	mg/L	0.00517	0.52%
Sr 421.552†	833491.4	1.014	mg/L	0.0022	1.014	mg/L	0.0022	0.22%
Ti 334.903†	16860.4	0.9916	mg/L	0.00353	0.9916	mg/L	0.00353	0.36%
Tl 190.801†	4119.7	1.982	mg/L	0.0025	1.982	mg/L	0.0025	0.13%
V 292.402†	152925.1	1.020	mg/L	0.0113	1.020	mg/L	0.0113	1.11%
Zn 206.200†	3608.6	1.012	mg/L	0.0108	1.012	mg/L	0.0108	1.07%

Sequence No.: 19
 Sample ID: CB 2
 Analyst: EL
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 4/8/2014 11:49:18 AM
 Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2840743.4	99.90	%	0.359			0.36%
ScR 361.383	242337.5	101.8	%	0.60			0.58%
Ag 328.068†	20.4	0.00010	mg/L	0.000170	0.00010	0.000170	167.08%
Al 308.215†	-4.3	-0.00333	mg/L	0.004229	-0.00333	0.004229	127.18%
As 188.979†	0.1	0.00004	mg/L	0.001633	0.00004	0.001633	>999.9%
B 249.677†	-13.7	-0.00241	mg/L	0.000807	-0.00241	0.000807	33.51%
Ba 233.527†	-0.5	-0.00014	mg/L	0.001138	-0.00014	0.001138	819.04%
Be 313.042†	47.2	0.00009	mg/L	0.000022	0.00009	0.000022	24.28%
Ca 317.933†	-11.4	-0.00115	mg/L	0.000905	-0.00115	0.000905	78.91%
Cd 228.802†	6.3	0.00020	mg/L	0.000055	0.00020	0.000055	27.45%
Co 228.616†	7.2	0.00018	mg/L	0.000125	0.00018	0.000125	70.92%
Cr 267.716†	6.9	0.00137	mg/L	0.000787	0.00137	0.000787	57.62%
Cu 324.752†	141.8	0.00049	mg/L	0.000084	0.00049	0.000084	17.10%
Fe 273.955†	-10.7	-0.00852	mg/L	0.000901	-0.00852	0.000901	10.58%
K 766.490†	-37.6	-0.01643	mg/L	0.004827	-0.01643	0.004827	29.38%
Mg 279.077†	-7.2	-0.00634	mg/L	0.003103	-0.00634	0.003103	48.91%
Mn 257.610†	-3.6	-0.00011	mg/L	0.000088	-0.00011	0.000088	81.50%
Mo 202.031†	1.4	0.00008	mg/L	0.000590	0.00008	0.000590	760.27%
Na 589.592†	-14.7	-0.00111	mg/L	0.003534	-0.00111	0.003534	319.18%
Na 330.237†	3.6	0.1622	mg/L	0.26333	0.1622	0.26333	162.40%
Ni 231.604†	5.9	0.00169	mg/L	0.001251	0.00169	0.001251	73.87%
Pb 220.353†	2.5	0.00029	mg/L	0.000642	0.00029	0.000642	218.92%
Sb 206.836†	32.0	0.01038	mg/L	0.004244	0.01038	0.004244	40.88%
Se 196.026†	-0.7	-0.00048	mg/L	0.001576	-0.00048	0.001576	331.53%
Si 288.158†	9.1	0.00532	mg/L	0.009112	0.00532	0.009112	171.42%
Sn 189.927†	2.7	0.00079	mg/L	0.000288	0.00079	0.000288	36.69%
Sr 421.552†	-13.8	-0.00002	mg/L	0.000037	-0.00002	0.000037	220.77%
Ti 334.903†	3.8	0.00022	mg/L	0.000739	0.00022	0.000739	333.58%
Tl 190.801†	-0.1	-0.00006	mg/L	0.000408	-0.00006	0.000408	632.45%
V 292.402†	1.7	0.00002	mg/L	0.000269	0.00002	0.000269	>999.9%
Zn 206.200†	-1.0	-0.00028	mg/L	0.000095	-0.00028	0.000095	33.60%

General Chemistry Raw Data
Analyst Notes and Raw Data

ARI Job ID: YE66

W
031-14

HEXAVALENT CHROMIUM BENCHSHEET						Date / Time: 3/28/14 9:15		
Diphenyl carbazide colorimetric (SW-846 7196A)						Analyst: APD		
REAGENTS				pH METER				
Sulfuric Acid: 10317C				Meter ID: ACCUMET AR60				
Acetone: NA				Electrode ID: SN1320016P 16				
Diphenylcarbazine: C001179								
CALIBRATION								
Cr+6 Curve Standard		ARI ID: C000892		Date Prepared:				
Stock	0.0709	g K2Cr2O7 to	500	mL =	50.1	mg/L Cr+6		
Intermediate	5	mL Stock to	50	mL =	5.01	mg/L Cr+6		
Standard Curve Data				final volume of prepared standards = 50 mL				
TIME:		Instrument Used:						
ml	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk	Regression Data			
Intermediate		1	2	Corr Abs	Conc = (abs-intercept)/slope			
0.0	0.00	0.000		0.000	intercept = 0.0008			
0.1	0.01	0.008		0.008	slope = 0.8023			
0.5	0.05	0.041		0.041	r = 1.000			
1.0	0.10	0.082		0.082	Comment: Calibration OK!			
5.0	0.50	0.403		0.403	maxabs = 0.805			
10.0	1.00	0.805		0.805				
Calibration Verification Standard								
Source	ERA # 160412/ B001620			Stock Conc	1,000 mg/L Cr+6			
DQL Int=	0.10	ml stock to	10	mL pH2 =	10.00 mg/L Cr+6			
DQL =	0.20	ml DQL Int. to	50	mL pH2 =	0.04 mg/L Cr+6			
CVS =	0.025	ml stock to	100	mL pH2 =	0.25 mg/L Cr+6			
Prep Check Standard								
Dilution	0.50	ml stock to	40.00	mL DI =	0.63 mg/L Cr+6			
SAMPLE DATA Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL								
mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)								
SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data				Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm	(mg/L)		
ICB		1.000	1		0.000	-0.001	< 0.01	Blk OK
ICV		1.000	1		0.204	0.253	0.253	101.33%
Prep Blk		1.250	1		-0.001	-0.003	< 0.01	Blk OK
Prep Chk		1.250	1		0.404	0.628	0.628	100.27%
DQL		1.250	1		0.013	0.019	0.019	
YE66 A1		1.250	1		0.000	-0.001	< 0.01	
YE66 A1 dup		1.250	1		0.001	0.006	< 0.01	RPD NA
YE66 A1 ms		1.250	1		0.040	0.061	0.061	% Rec= 97.6
Spike at	0.050	ml stock to	40	mLsample=	0.063 mg/L			Validated
YE66 B1		1.250	1		0.001	0.000	< 0.01	
YE66 C1		1.250	1		0.000	-0.001	< 0.01	
YE66 D1		1.250	1		0.001	0.000	< 0.01	
CCB		1.000	1		-0.001	-0.002	< 0.01	Blk OK
CCV		1.000	1		0.203	0.252	0.252	100.83%

HEXAVALENT CHROMIUM BENCHSHEET

Diphenyl carbazide colorimetric (SW-846 7196A)

Date / Time: APD
 Analyst: 3/28/14 9:15

REAGENTS ID
 Sulfuric Acid: 10317C
 Acetone: NA
 Diphenylcarbazine: C001179

pH METER
 Meter ID: ACCUMET
 Electrode ID: SA132001616

CALIBRATION

Cr+6 Curve Standard		ARI ID: <u>C000892</u>		Date Prepared:	
Stock	<u>0.0709</u>	g K2Cr2O7 to	<u>500</u>	mL =	<u>50.1</u> mg/L Cr+6
Intermediate	<u>5</u>	mL Stock to	<u>50</u>	mL =	<u>5.01</u> mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL

TIME:		Instrument Used:		
ml	Conc (mg/l)	Absorbance @ 540 nm		Avg Blk
Intermediate		1	2	Corr Abs
0.0	0.00	<u>0.000</u>		= blank abs
0.1	0.01	<u>0.006</u>		
0.5	0.05	<u>0.041</u>		
1.0	0.10	<u>0.082</u>		
5.0	0.50	<u>0.403</u>		
10.0	1.00	<u>0.805</u>		

Regression Data
 Conc = (abs-intercept)/slope
 intercept =
 slope =
 r =
 Comment:
 maxabs =

Calibration Verification Standard

Source	<u>ERA # 160412/ B001620</u>	Stock Conc	<u>1,000</u> mg/L Cr+6
DQL Int. =	<u>0.10</u> ml stock to	mL pH2 =	<u>10.00</u> mg/L Cr+6
DQL =	<u>0.20</u> ml DQL Int. to	mL pH2 =	<u>0.04</u> mg/L Cr+6
CVS =	<u>0.025</u> ml stock to	mL pH2 =	<u>0.25</u> mg/L Cr+6

Prep Check Standard

Dilution 0.50 ml stock to 40.00 mL DI = 0.63 mg/L Cr+6

SAMPLE DATA Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL

mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data			Corrected (mg/L)	NOTES
			dilution	Background	ABS @ 540nm (mg/L)		
ICB		1.000	1		<u>0.600</u>		
ICV		1.000	1		<u>0.204</u>		
Prep Blk		1.250	1		<u>-0.001</u>		
Prep Chk		1.250	1		<u>0.404</u>		
DQL		1.250	1		<u>0.013</u>		
YE66 A1		1.250	1		<u>0.000</u>		
YE66 A1 dup		1.250	1		<u>0.001</u>		RPD NA
YE66 A1 ms		1.250	1		<u>0.040</u>		NA
Spike at	<u>0.050</u>	mL stock to	<u>40</u>	mLsample =	<u>0.063</u>	mg/L	NA
YE66 B1		1.250	1		<u>0.001</u>		
YE66 C1		1.250	1		<u>0.000</u>		
YE66 D1		1.250	1		<u>0.001</u>		
CCB		1.000	1		<u>-0.001</u>		
CCV		1.000	1		<u>0.203</u>		
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
		1.250	1				
CCB		1.000	1				
CCV		1.000	1				

TEST SETUP
GENESYS 10 v2.021 2G2G048006

ID#	Abs 540nm
1	0.000

Standard Curve 17:08 28Mar14
 Test Name CHROME 6
 Date Standards Measured 28Mar14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On

2	0.204
---	-------

3	-0.001
---	--------

4	0.404
---	-------

5	0.013
---	-------

6	0.000
---	-------

7	0.001
---	-------

8	0.040
---	-------

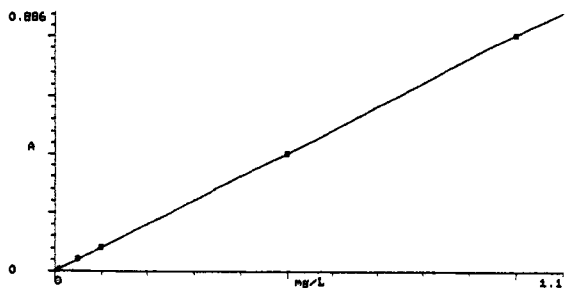
9	0.001
---	-------

10	0.000
----	-------

11	0.001
----	-------

12	-0.001
----	--------

13	0.203
----	-------



Curve Fit Linear
 Slope 0.805
 Intercept 0.000557
 Std Dev 0.001
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.041
0.100	0.082
0.500	0.403
1.000	0.805

APD
3/28/14

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-XT-C 17:09 28Mar14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



ARI Job No.: YE66

Client ID: GeoEng.

Parameter: Cr 6+

Client Project: _____

List problems, concerns, corrective actions and any other pertinent information

Samples were filtered asap on arrival in lab. @ 9:15
Samples then brought to Metals fridge.

Analyst Initials:

W

Date:

7-28-14

Table of Contents: ARI Job YG94, YG95

Client: GeoEngineers

Project: 0504-095-00 Aladden Plating

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133
Signature

April-24-2014
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 29, 2014

Ian Young
GeoEngineers, Inc.
1101 Fawcett, Suite 200
Tacoma, WA 98402

RE: Aladden Plating, 0504-095-00
ARI Job Nos.: YG94 & YG95

Dear Ian:

Please find enclosed the Chain-of-Custody records (COCs), sample receipt documentation, and the data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.



Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile YG94_YG95

Enclosures

Chain of Custody Documentation

ARI Job ID: YG94, YG95

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: V199 Turn-around Requested: _____
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Date: 3/24/14
 Page: 6 of 14
 No. of Coolers: 2 Cooler Temps: 20.5, 5.8

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Field	
BEI-SBL-05-1	3/24	1110	S	1	X		X		
BEI-SBL-3-3.5		1111			X		X		
BEI-SBL-5-5.5		1115			X		X		
BEI-SBL-7-7.5		1116			X		X		
BEI-SBL-9-9.5		1117						X	
BEI-SBL-11-11.5		1121						X	
BEI-SBL-13-13.5		1122						X	
BEI-SBL-14.5-15		1123						X	
Comments/Special Instructions					Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)		
1 Metals include: chromium, nickel, lead					Printed Name: <u>Paul Robinette</u>	Printed Name: <u>Paul Robinette</u>	Printed Name: _____		
2 Dissolved Nickel not field filtered					Company: <u>GeoE</u>	Company: <u>ARI</u>	Company: _____		
Date & Time: <u>3/25/14 13:15</u>					Date & Time: <u>3/25/14 13:15</u>	Date & Time: _____			

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSD/PAF/SEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 403 Turn-around Requested: _____
 ARI Client Company: GeoEngineers Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00 Samplers: Paul Robinette

Date: 3/24
 Page: 7 of 14
 No. of Coolers: 2
 Cooler Temps: 05, 5.8

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments	
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold			
GEI-SB7-05-1	3/21	1140	S	1	X						
GEI-SB7-3-3.5		1141			X						
GEI-SB7a-5-5.5		1152			X						
GEI-SB7a-7-7.5		1157			X						
GEI-SB7a-9-9.5		1158									
GEI-SB7a-11-11.5		1200							X		
GEI-SB7a-13-13.5		1201							X		
GEI-SB7a-14.5-15		1202							X		
Comments/Special Instructions					Received by: (Signature) <i>Paul Robinette</i>	Relinquished by: (Signature) <i>R. J. Nelson</i>	Received by: (Signature)	Relinquished by: (Signature)			
1 Metals include: chromium, nickel, lead					Printed Name: <i>Paul Robinette</i>	Printed Name: <i>R. J. Nelson</i>	Printed Name:	Printed Name:			
2 Dissolved Nickel not field filtered					Company: <i>GeoE</i>	Company:	Company:	Company:			
	Date & Time: <i>3/25/14 13:15</i>	Date & Time:	Date & Time:	Date & Time:	Date & Time: <i>3/25/14 13:15</i>	Date & Time:	Date & Time:	Date & Time:			

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by work order or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **433**
 Turn-around Requested:
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Date: **3/24/14**
 Page: **8** of **14**
 No. of Coolers: **2** Cooler Temp: **0558**

Analysis Requested

Total Metals EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Lead
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X

Sample ID	Date	Time	Matrix	No. Containers	Received by:		Relinquished by:		Notes/Comments
					(Signature)	(Signature)	Printed Name:	Printed Name:	
GEI-SBB-05-1	3/24	1224	S	1	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
GEI-SBB-3-3.5		1225			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
GEI-SBB-5-8.5		1226			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
GEI-SBB-7-7.5		1227			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
GEI-SBB-9-9.5		1228			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
GEI-SBB-11-11.5		1230			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
GEI-SBB-13-13.5		1231			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
GEI-SBB-14.5-15		1232			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
Comments/Special Instructions					Received by: (Signature)	Relinquished by: (Signature)	Printed Name:	Printed Name:	
1 Metals include: chromium, nickel, lead					<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
2 Dissolved Nickel not field filtered					<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
Date & Time:					Company: ARI	Company: ARI	Company:	Company:	
					Date & Time: 3/25/14 13:15	Date & Time: 3/25/14 13:15	Date & Time:	Date & Time:	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under: PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: 609
 Turn-around Requested: _____
 Date: 3/24/14
 ARI Client Company: **GeoEngineers**
 Phone: 253-383-4940
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 No. of Coolers: 2
 Cooler Temps: 05, 5.8

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments	
					Total Metals EPA 200.7/6010C	Dissolved Nickel EPA 200.7/8010C	Hexavalent Chromium EPA 200/6010C	Field			
6EI-SB9-05-1	3/24	1319	S	1	X			X			
6EI-SB9-3-3.5	}	1320	}	}	X			X			
6EI-SB9-5-5.5		1323			X			X			
6EI-SB9-7-7.5	}	1324	}	}	X			X			
6EI-SB9-9-9.5		1325			X			X			
6EI-SB9-11-11.5	}	1329	}	}				X			
6EI-SB9-13-13.5		1330						X			
6EI-SB9-14.5-15	}	1331	}	}				X			
Comments/Special Instructions					Received by: (Signature) <i>Paul Robinette</i>	Received by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>
1 Metals include: chromium, nickel, lead					Printed Name: <i>Paul Robinette</i>	Printed Name: <i>[Name]</i>	Printed Name: <i>[Name]</i>	Printed Name: <i>[Name]</i>	Printed Name: <i>[Name]</i>	Printed Name: <i>[Name]</i>	Printed Name: <i>[Name]</i>
2 Dissolved Nickel not field filtered					Company: <i>GEI</i>	Company: <i>ARI</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>
Date & Time: <i>3/25/14 13:15</i>					Date & Time: <i>3/25/14 13:15</i>	Date & Time: <i>3/25/14 13:15</i>	Date & Time: <i>3/25/14 13:15</i>	Date & Time: <i>3/25/14 13:15</i>	Date & Time: <i>3/25/14 13:15</i>	Date & Time: <i>3/25/14 13:15</i>	Date & Time: <i>3/25/14 13:15</i>

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEPSIMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **4035**
 Turn-around Requested: _____
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Date: **3/24/14**
 Page: **10** of **14**
 No. of Coolers: **2**
 Cooler Temps: **05, 5.8**



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold	
GET-SBID-05-1	3/24	1341	S	1	✓				
GET-SBID-3-3.5	}	1342	}	}	✓				
GET-SBID-5-5.5		1347			✓				
GET-SBID-7-7.5		1348			✓				
GET-SBID-9-9.5		1349			✓				
GET-SBID-11-11.5	}	1351	}	}					
GET-SBID-13-13.5		1352							
GET-SBID-14.5-15		1354							
Comments/Special Instructions					Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)		
1 Metals include: chromium, nickel, lead					Printed Name: Paul Robinette	Printed Name: Paul Robinette	Printed Name:		
2 Dissolved Nickel not field filtered					Company: GET	Company: ARI	Company:		
Date/Time: 3/25/14 13:15					Date & Time: 3/25/14 13:15	Date & Time: 3/25/14 13:15	Date & Time:		

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSD/DAP/SEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: GeoEngineer

Project Name: Aladdin Pkting

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: VE33

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? ... YES NO

Were custody papers properly filled out (ink, signed, etc.) ... YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1100

- .5 5.8

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 122912224

Cooler Accepted by: _____

Date: 3/25/14

Time: 1315

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Was Sample Split by ARI: YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JM Date: 3/26/14 Time: 1029

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
<u>GEL-SB8-0-0.5</u>	<u>GEL-SB8-05-1</u>		

Additional Notes, Discrepancies, & Resolutions:

All samples that are on page 7 of COCs were collected 3/24/14, COC says 3/21/14.

By: JM Date: 3/27/14

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: Y32
 Turn-around Requested: _____
 Date: 3/24/14
 ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 No. of Coolers: 2
 Cooler Temps: -05/58

Analysis Requested

Sample ID	Date	Time	Matrix	No. Containers	Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold	Notes/Comments
GET-SB1-051	3/24	824	S	1	X				
GET-SB1-3-3.5		825		1	X				
GET-SB1-5-5.5		827		1	X				
GET-SB1-7-7.5		828		1	X				
GET-SB1-9-9.5		829		1			X		
GET-SB1-11-11.5		840		1			X		
GET-SB1-13-13.5		841		1			X		
GET-SB1-14.5-15		842		1			X		

Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette

Comments/Special Instructions	Received by: (Signature)	Printed Name:	Company:	Date & Time:
1 Metals include: chromium, nickel, lead	<i>Paul Robinette</i>	<u>Paul Robinette</u>	<u>GeoEngineers</u>	<u>3/25/14 12:05</u>
2 Dissolved Nickel not field filtered	<i>Rich Nelson</i>	<u>Rich Nelson</u>	<u>ARI</u>	<u>3/25/14 13:15</u>

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Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

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ARI Assigned Number: 1632
 Date: 3/24
 Page: 2 of 14
 No. of Coolers: 2
 Cooler Temps: 05.58

Turn-around Requested:
 Phone: 253-383-4940
 GeoEngineers
 Client Contact: Ian Young
 Client Project Name: Aladden Plating

Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Field ¹		
BEI-SB2-05-1	3/24	903	S	1	X					
BEI-SB2-3-3.5	}	904	}	}	X					
BEI-SB2-5-5.5		906			X					
BEI-SB2-7-7.5	}	907	}	}	X					
BEI-SB2-9-9.5		908			X					
BEI-SB2-11-11.5	}	914	}	}			X			
BEI-SB2-13-13.5		915							X	
BEI-SB2-14.5-15	}	916	}	}				X		

Comments/Special Instructions:
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Received by: (Signature) [Signature] Printed Name: Paul Robinette Company: ARI Date & Time: 3/25/24 13:15
 Relinquished by: (Signature) [Signature] Printed Name: Rich Nelson Company: ARI Date & Time: 3/25/19 13:15

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

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Chain of Custody Record & Laboratory Analysis Request

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Date: 3/29/14
 Page: 3 of 14
 No. of Coolers: 2
 Cooler Temps: 05, 58

ARI Assigned Number: 4692
 Turn-around Requested:
 ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young

Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments	
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	As	Pb		Cd
GEI-SB3-05-1	3/24	937	S	1	X						
GEI-SB3-3-3.5		938		1	X						
GEI-SB3-5-5.5		942		1	X						
GEI-SB3-7-7.5		943		1	X						
GEI-SB3-9-9.5		944		1	X						
GEI-SB3-11-11.5		948		1	X						
GEI-SB3-13-13.5		949		1	X						
GEI-SB3-14.5-15		950		1	X						

Comments/Special Instructions
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by: Paul Robinette
 Signature: [Signature]
 Printed Name: Paul Robinette
 Company: GEI
 Date & Time: 3/25/14 13:15

Received by: [Signature]
 Signature: [Signature]
 Printed Name: Ric's Works
 Company: ARI
 Date & Time: 3/25/14 13:15

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
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 206-696-6200 206-695-6201 (fax)



ARI Assigned Number: 101 Turn-around Requested: 3/24/14
 ARI Client Company: GeoEngineers Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 No. of Coolers: 2 Cooler Temps: 05, 58

Sample ID	Samplers:			Analysis Requested				Notes/Comments
	Date	Time	Matrix	No. Containers	Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	
GEI-SB4-0.5-1	3/24	1005	S	1	X		X	
GEI-SB4-3-3.5		1006			X		X	
GEI-SB4-5-5.5		1011			X		X	
GEI-SB4-7-7.5		1012			X		X	
GEI-SB4-9-9.5		1013						X
GEI-SB4-11-11.5		1019						X
GEI-SB4-13-13.5		1020						X
GEI-SB4-14.5-15		1021						X
Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered Received by: <u>Paul Robinette</u> (Signature) Printed Name: <u>Paul Robinette</u> Company: <u>GEI</u> Date & Time: <u>3/25/14 13:15</u> Relinquished by: <u>Rick Wilson</u> (Signature) Printed Name: <u>Rick Wilson</u> Company: <u>ARI</u> Date & Time: <u>3/25/14 17:15</u>								

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by work order or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

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 Analytical Chemists and Consultants
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ARI Assigned Number: Y836
 Turn-around Requested: _____
 Date: 3/25
 Page: 5 of 14
 No. of Coolers: 2
 Cooler Temps: 0.5-5.8

ARI Client Company: GeoEngineers Phone: 253-383-4940
 Client Contact: Ian Young

Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold	
BEI-SBS-05-1	3/24	1039	S	1	X				
BEI-SBS-3-3.5	}	1040	}	}	X				
BEI-SBS-5-5.5		1043			X				
BEI-SBS-7-7.5	}	1044	}	}	X				
BEI-SBS-9-9.5		1045			X				
BEI-SBS-11-11.5	}	1052	}	}			X		
BEI-SBS-13-13.5		1053							
BEI-SBS-14.5-15	}	1054	}	}			X		

Comments/Special Instructions
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by: Paul Robinette (Signature)
 Printed Name: Paul Robinette
 Company: GEI
 Date & Time: 3/25/05 13:15

Received by: _____ (Signature)
 Printed Name: R. S. Wilson
 Company: ARI
 Date & Time: 3/25/05 13:15

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

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Cooler Receipt Form

ARI Client: GeoEngineer

Project Name: Aladdin Plating

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: VE32

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1400

Temp Gun ID#: 122412224
-0.5 5.8

If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by: _____ Date: 3/25/14 Time: 1315

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: _____ NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JM Date: 3/26/14 Time: 1010

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Chain of Custody Record & Laboratory Analysis Request

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 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: 104
 Turn-around Requested:
 Date: 3/25/14
 Page: 11 of 14
 No. of Coolers: 2
 Cooler Temps: 0.5, 5.8

ARI Client Company: GeoEngineers Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating

Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments	
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Chromium EPA 200/6010C		Relinquished by: (Signature) Printed Name: Company: Date & Time:
BEI-SB11-0.5-1	3/24	1408	S	1	X					
BEI-SB11-3-3.5	}	1409	}	}	X					
BEI-SB11-5-5.5		1413			X					
BEI-SB11-7-7.5	}	1414	}	}	X					
BEI-SB11-9-9.5		1415			X					
BEI-SB11-11-11.5	}	1421	}	}				X		
BEI-SB11-13-13.5		1422								X
BEI-SB11-14.5-14	}	1423	}	}				X		
Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered										
Relinquished by: (Signature) <u>Paul Robinette</u> Printed Name: <u>Paul Robinette</u> Company: <u>GeoE</u> Date & Time: <u>3/25/14 13:15</u>					Received by: (Signature) <u>[Signature]</u> Printed Name: <u>Rick Hudson</u> Company: <u>ARI</u> Date & Time: <u>3/25/14 13:15</u>					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

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 Analytical Chemists and Consultants
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 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: 164
 Turn-around Requested: _____
 Date: 3/29/14
 ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young
 Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 No. of Coolers: 2
 Cooler Temps: 055.6

Sample ID	Samplers:			Analysis Requested					Notes/Comments
	Date	Time	Matrix	No. Containers	Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	PCPD	
BEI-SB12-6.5-1	3/24	1430	S	1	X				
BEI-SB12-3-3.5		1437			X				
BEI-SB12-5-5.5		1442			X				
BEI-SB12-7-7.5		1441			X				
BEI-SB12-9-9.5		1442			X				
BEI-SB12-11-11.5		1445					X		
BEI-SB12-13-13.5		1446					X		
BEI-SB12-14.5-15		1447					X		
Comments/Special Instructions 1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered									
Relinquished by: <u>Paul Robinette</u> (Signature) Printed Name: <u>PAUL ROBINETTE</u> Company: <u>BEI</u> Date & Time: <u>3/25/14 19:15</u>					Received by: _____ (Signature) Printed Name: _____ Company: _____ Date & Time: _____				

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **4630**
 Turn-around Requested: **3/24/14**
 ARI Client Company: **GeoEngineers**
 Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Date: **3/24/14**
 Page: **13** of **14**
 No. of Coolers: **2**
 Cooler Temps: **0.5, 5.8**

ARI Assigned Number: **4630**
 Turn-around Requested: **3/24/14**
 ARI Client Company: **GeoEngineers**
 Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Date: **3/24/14**
 Page: **13** of **14**
 No. of Coolers: **2**
 Cooler Temps: **0.5, 5.8**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200.7/6010C	Other	
GEI-SB13-05-1	3/24	1503	S	1	X				
GEI-SB13-3-3.5		1504			X				
GEI-SB13-5-5.5		1507			X				
GEI-SB13-7-7.5		1508			X				
GEI-SB13-9-9.5		1509					X		
GEI-SB13-11-11.5		1513					X		
GEI-SB13-13-13.5		1514					X		
GEI-SB13-14.5-15		1515					X		
Comments/Special Instructions					Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)		
1 Metals include: chromium, nickel, lead					Printed Name: Paul Robinette	Printed Name: Paul Robinette	Printed Name: Rich Huber		
2 Dissolved Nickel not field filtered					Company: GEI	Company: ARI	Company: ARI		
Date & Time: 3/25/14 13:15					Date & Time: 3/25/14 13:15	Date & Time: 3/25/14 13:15	Date & Time: 3/25/14 13:15		

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Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Chain-of-Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Date: 3/24/14
 Page: 14 of 14
 No. of Coolers: 2
 Cooler Temps: 0.5 5.8

ARI Assigned Number: VEA
 Turn-around Requested:
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments	
					Total Metals EPA 200.7/8010C	Dissolved Nickel ²⁺ EPA 200.7/8010C	Hexavalent Chromium EPA 200/6010C	Hold		
GEI-SB14-05-1	3/24	1526	S	1	X		X			
GEI-SB14-3-3.5		1527			X		X			
GEI-SB14-5-5.5		1530			X		X			
GEI-SB14-7-7.5		1531			X		X			
GEI-SB14-9-9.5		1532						X		
GEI-SB14-11-11.5		1537						X		
BEI-SB14-13-13.5		1538						X		
GEI-SB14-14.5-15		1539						X		
Comments/Special instructions					Relinquished by: (Signature) <i>Paul Robinette</i> Printed Name: Paul Robinette Company: GEI Date & Time: 3/25/14 13:15		Received by: (Signature) <i>Rick Hudson</i> Printed Name: Rick Hudson Company: ARI Date & Time: 3/25/14 13:15			
1 Metals include: chromium, nickel, lead										
2 Dissolved Nickel not field filtered										

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Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSEDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: GeoEngineer

Project Name: Aladden Plating

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: VE34

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (Ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 14.00

Time: _____

If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by: _____ Date: 3/25/14 Time: 1315

Temp Gun ID#: 122412224

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: _____ NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JM Date: 3/26/14 Time: 1051

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Subject: Aladdin Plating - Additional Soil Analysis Request

From: Ian Young <iyoung@geoengineers.com>

Date: 4/15/2014 8:02 AM

To: "Cheronne Oreiro (cheronneo@arilabs.com)" <cheronneo@arilabs.com>

CC: Bob Congleton <bob@arilabs.com>, "Mark J. Lybeer" <mlybeer@geoengineers.com>

Hi Cheronne,

I've reviewed the recent soils data we received for the Aladdin Plating project, and based on those data I wish to request additional analyses of some of the soil samples we submitted on hold. Attached is a scan of the updated COCs with the additional analyses requested. In essence, our goal was to first assess metals concentrations in shallow soils, then, where concentrations exceeded MTCA cleanup values, analyse deeper soil samples for those particular metals. For the sake of clarity, the analyses we're requesting are as follows, all on standard turn-around:

GEI-SB3-9-9.5

GEI-SB3-11-11.5

GEI-SB3-13-13.5

GEI-SB3-14-14.5

All for **Hexavalent Chromium** by EPA 200/6010C, Total **Lead** by EPA 200.7/6010C

GEI-SB4-9-9.5

GEI-SB4-11-11.5

GEI-SB4-13-13.5

GEI-SB4-14-14.5

Hexavalent Chromium by EPA 200/6010C, Total **Lead** by EPA 200.7/6010C, Total **Nickel** by EPA 200.7/6010C

GEI-SB6-9-9.5

GEI-SB6-11-11.5

GEI-SB6-13-13.5

GEI-SB6-14-14.5

Hexavalent Chromium by EPA 200/6010C, Total **Lead** by EPA 200.7/6010C, Total **Nickel** by EPA 200.7/6010C

GEI-SB7a-9-9.5

GEI-SB7a -11-11.5

GEI-SB7a -13-13.5

GEI-SB7a -14-14.5

Hexavalent Chromium by EPA 200/6010C, Total **Lead** by EPA 200.7/6010C, Total **Nickel** by EPA 200.7/6010C

GEI-SB8-9-9.5

GEI-SB8-11-11.5

GEI-SB8-13-13.5

GEI-SB8-14-14.5

Total **Lead** by EPA 200.7/6010C, Total **Nickel** by EPA 200.7/6010C

GEI-SB9-9-9.5

GEI-SB9-11-11.5

GEI-SB9-13-13.5

GEI-SB9-14-14.5

Total **Lead** by EPA 200.7/6010C, Total **Nickel** by EPA 200.7/6010C

GEI-SB10-9-9.5

GEI-SB10-11-11.5

GEI-SB10-13-13.5

GEI-SB10-14-14.5

Total **Lead** by EPA 200.7/6010C, Total **Nickel** by EPA 200.7/6010C

GEI-SB14-9-9.5

GEI-SB14-11-11.5

GEI-SB14-13-13.5

GEI-SB14-14-14.5

Total **Nickel** by EPA 200.7/6010C

I'll be leaving for a brief vacation later this morning, but I'll have limited e-mail and mobile phone access. If you need to reach me for clarification on anything, my mobile number will be the best bet (206.920.8635). I'll be back in the office on Thursday morning, April 17.

One last request – please provide me with a pre-invoicing cost estimate for these additional analyses for budgeting purposes.

Thanks, Cheronne, and I'll be in touch soon.

Ian Young, LG

Geologist | GeoEngineers, Inc.

Telephone: 206.518.5142

Fax: 206.728.2732

Mobile: 206.920.8635

Email: iyoung@geoengineers.com

600 Stewart Street, Suite 1700

Seattle, WA 98101

www.geoengineers.com

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— Attachments: —

Aladdin Addtl Soil 041514.pdf

5.5 MB

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 4930
 Turn-around Requested: _____
 Date: 3/24/14
 Page: 6 of 14
 No. of Coolers: 2
 Cooler Temps: 0.5, 5.8



ARI Client Company: **GeoEngineers**
 Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**

Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**
 Sample ID: _____
 Date: _____
 Time: _____
 Matrix: _____
 No. Containers: _____

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Field	Hexavalent Chromium	Total Lead		Total Nickel
BEI-SBL6-05-1	3/24	1110	S	1	X		X					
BEI-SBL6-3-3.5		1111			X		X					
BEI-SBL6-5-5.5		1115			X		X					
BEI-SBL6-7-7.5		1116			X		X					
BEI-SBL6-9-9.5		1117			X		X					
BEI-SBL6-11-11.5		1121					X					
BEI-SBL6-13-13.5		1122					X					
BEI-SBL6-14.5-15		1123					X					
Comments/Special Instructions					Relinquished by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)					
1 Metals include: chromium, nickel, lead					Printed Name: <i>Paul Robinette</i>	Printed Name: <i>Rich Wilson</i>	Printed Name:					
2 Dissolved Nickel not field filtered					Company: <i>ARI</i>	Company:	Company:					
Date & Time: <i>3/25/14 13:15</i>					Date & Time: <i>3/25/14 13:15</i>	Date & Time:	Date & Time:					

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02550 1050

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: *1005*
 Turn-around Requested: *3/24*
 Date: *3/24*
 ARI Client Company: **GeoEngineers**
 Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Hold	Hexavalent Chromium	Total Lead	

6EI-SB77-0.5-1	3/21	1140	S	1	X																	
6EI-SB77-3.3-5	}	1141	}	}	X																	
6EI-SB77a-5-5.5		1152			X																	
6EI-SB77a-7-7.5	}	1157	}	}	X																	
6EI-SB77a-9-9.5		1158			X																	
6EI-SB77a-11-11.5	}	1200	}	}																		
6EI-SB77a-13-13.5		1201																				
6EI-SB77a-14.5-15	1202																					
Comments/Special Instructions					Relinquished by: (Signature) <i>Paul Robinette</i>		Received by: (Signature) <i>R. J. Hudson</i>		Relinquished by: (Signature)		Received by: (Signature)		Printed Name: <i>Paul Robinette</i>		Printed Name: <i>R. J. Hudson</i>		Company: <i>GEES</i>		Company:		Date & Time: <i>3/25/24 13:15</i>	
1 Metals include: chromium, nickel, lead					Date & Time: <i>3/25/24 13:15</i>		Date & Time: <i>3/25/19 13:15</i>		Date & Time:		Date & Time:		Date & Time:		Date & Time:		Date & Time:		Date & Time:		Date & Time:	
2 Dissolved Nickel not field filtered					Date & Time: <i>3/25/24 13:15</i>		Date & Time: <i>3/25/19 13:15</i>		Date & Time:		Date & Time:		Date & Time:		Date & Time:		Date & Time:		Date & Time:		Date & Time:	

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **VE55** Turn-around Requested: _____ Date: **3/24/14**

ARI Client Company: **GeoEngineers** Phone: **253-383-4940** Page: **8** of **14**

Client Contact: **Ian Young** No. of Coolers: **2** Cooler Temps: **0.5, 5.8**

Client Project Name: **Aladden Plating** Samplers: **Paul Robinette**

Client Project #: **0504-095-00**



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments										
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Heavy Metal	Hexavalent Chromium	Total Lead		Total Nickel									
GEI-SBB-05-1	3/24	1224	S	1	X		X														
GEI-SBB-3-3.5		1225			X		X														
GEI-SBB-5-8.5		1226			X		X														
GEI-SBB-7-7.5		1227			X		X														
GEI-SBB-9-9.5		1228			X		X														
GEI-SBB-11-11.5		1230							X												
GEI-SBB-13-13.5		1231							X												
GEI-SBB-14.5-15		1232							X												
Comments/Special Instructions					Relinquished by: (Signature) <i>Paul Robinette</i> Printed Name: Paul Robinette Company: GEI		Received by: (Signature) <i>Ry Hansen</i> Printed Name: Ry Hansen Company: ARI														
1 Metals include: chromium, nickel, lead 2 Dissolved Nickel not field filtered					Date & Time: 3/25/14 13:15		Date & Time: 3/25/14 13:15														

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 4235
 Turn-around Requested: _____
 Date: 3/24/14
 Page: 9 of 14
 No. of Coolers: 2
 Cooler Temps: 05.58



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 Analytical Chemists and Consultants
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 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**

Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Lead	Hexavalent Chromium	Total Lead		Total Nickel
GEI-SB9-0.5-1	3/24	1319	S	1	X		X					
GEI-SB9-3-3.5	}	1320	}	}	X		X					
GEI-SB9-5-5.5		1323			X		X					
GEI-SB9-7-7.5	}	1324	}	}	X		X					
GEI-SB9-9-9.5		1325			X		X					
GEI-SB9-11-11.5	}	1329	}	}			X					
GEI-SB9-13-13.5		1330					X					
GEI-SB9-14.5-15	}	1331	}	}			X					
										X		
Comments/Special Instructions					Relinquished by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)					
1 Metals include: chromium, nickel, lead					Printed Name: Paul Robinette	Printed Name: Paul Robinette	Printed Name: Rich Hudson					
2 Dissolved Nickel not field filtered					Company: GEI	Company: ARI	Company:					
					Date & Time: 3/25/14 13:15	Date & Time: 3/25/14 13:15	Date & Time:					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

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Chain of Custody Record & Laboratory Analysis Request

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 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Date: 3/24/14
 Page: 10 of 14
 No. of Coolers: 2
 Cooler Temps: 05.5, 8

ARI Assigned Number: 453
 Turn-around Requested:
 ARI Client Company: GeoEngineers
 Phone: 253-383-4940
 Client Contact: Ian Young

Client Project Name: Aladden Plating
 Client Project #: 0504-095-00
 Samplers: Paul Robinette

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments			
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	HMB	Hach/Lant	Chromium		Total Lead	Total Nickel	
GET-5B10-05-1	3/24	1341	S	1	X									
GET-5B10-3-35		1342			X									
GET-5B10-5-5.5		1347			X									
GET-5B10-7-2.5		1348			X									
GET-5B10-9-9.5		1349			X									
GET-5B10-11-12.5		1351				X								
GET-5B10-13-13.5		1352				X								
GET-5B10-14.5-15		1354				X								

Comments/Special Instructions:
 1 Metals include: chromium, nickel, lead
 2 Dissolved Nickel not field filtered

Relinquished by: (Signature) [Signature]
 Printed Name: Paul Robinette
 Company: GEI

Received by: (Signature) [Signature]
 Printed Name: Rich Wilson
 Company: API

Date & Time: 3/25/14 13:15

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDAP/SEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 1632 Turn-around Requested: _____ Date: 3/24/14

ARI Client Company: GeoEngineers Phone: 253-383-4940 Page: 3 of 14

Client Contact: Ian Young No. of Coolers: 2 Cooler Temp: 0.5, 5.8

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					Total Metals EPA 200.7/6010C	Dissolved Nickel ²⁺ EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	HCLD	Hexavalent Chromium	Total Lead		Total Nickel
GEI-SB3-05-1	3/24	937	S	1	X		X					
GEI-SB3-3-3.5		938			X		X					
GEI-SB3-5-5.5		942			X		X					
GEI-SB3-7-7.5		943			X		X					
GEI-SB3-9-9.5		944										
GEI-SB3-11-11.5		948					X					
GEI-SB3-13-13.5		949					X					
GEI-SB3-14.5-15		950					X					
Comments/Special Instructions					Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature)						
1 Metals include: chromium, nickel, lead					Printed Name: <u>Paul Robinette</u>	Printed Name						
2 Dissolved Nickel not field filtered					Company: <u>GEI</u>	Company:						
					Date & Time: <u>3/25/14 13:15</u>	Date & Time:						

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

1632 1632 1632

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **4634**
 Turn-around Requested:
 Date: **3/25/14** of **14**
 Page: **4** of **14**
 No. of Coolers: **9**
 Cooler Temps: **05-58**



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00**
 Samplers: **Paul Robinette**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					Total Metals EPA 200.7/6010C	Dissolved Nickel EPA 200.7/6010C	Hexavalent Chromium EPA 200.7/6010C	Chromium EPA 200.7/6010C	Total Lead	Total Nickel		
GEI-SB4-0.5-1	3/24	1005	S	1	X		X					
GEI-SB4-3-3.5		1006			X		X					
GEI-SB4-5-5.5		1011			X		X					
GEI-SB4-7-7.5		1012			X		X					
GEI-SB4-9-9.5		1013						X	X	X		
GEI-SB4-11-11.5		1019						X	X	X		
GEI-SB4-13-13.5		1020						X	X	X		
GEI-SB4-14.5-15		1021						X	X	X		
Comments/Special Instructions					Relinquished by: (Signature) <i>Paul Robinette</i> Printed Name: Paul Robinette Company: GEI			Received by: (Signature) <i>Rick Hight</i> Printed Name: Rick Hight Company: ARI			Date & Time: 3/25/14 13:15	
1 Metals include: chromium, nickel, lead					Relinquished by: (Signature) _____ Printed Name: _____ Company: _____			Received by: (Signature) _____ Printed Name: _____ Company: _____			Date & Time: _____	
2 Dissolved Nickel not field filtered					Relinquished by: (Signature) _____ Printed Name: _____ Company: _____			Received by: (Signature) _____ Printed Name: _____ Company: _____			Date & Time: _____	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSD/DAP/SEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **YE 34** Turn-around Requested: _____
 ARI Client Company: **GeoEngineers** Phone: **253-383-4940**
 Client Contact: **Ian Young**
 Client Project Name: **Aladden Plating**
 Client Project #: **0504-095-00** Samplers: **Paul Robinette**

Date: **3/24/14**
 Page: **14** of **14**
 No. of Coolers: **2** Coolert Temps: **0.5 5.8**

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments		
					Total Metals ¹ EPA 200.7/6010C	Dissolved Nickel ² EPA 200.7/6010C	Hexavalent Chromium EPA 200/6010C	Other	Chromium		Lead	Nickel
GEI-SB14-0.5-1	3/24	1526	S	1	X		X	Hex	Chrom			
GEI-SB14-3-3.5		1527			X		X	Hex	Chrom			
GEI-SB14-5-5.5		1530			X		X	Hex	Chrom			
GEI-SB14-7-7.5		1531			X		X	Hex	Chrom			
GEI-SB14-9-9.5		1532										
GEI-SB14-11-11.5		1537										
GEI-SB14-13-13.5		1538										
GEI-SB14-14.5-15		1539										
Comments/Special Instructions					Reinquired by (Signature)	Received by (Signature)						
1 Metals include: chromium, nickel, lead					Paul Robinette	Paul Robinette						
2 Dissolved Nickel not field filtered					Paul Robinette	Paul Robinette						
					Company: ARI	Company: ARI						
					Date & Time: 3/25/14 13:15	Date & Time: 3/25/14 13:15						

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: YG94, YG95



Case Narrative

Client: GeoEngineers
Project: Aladden Plating, 0504-095-00
ARI Job Nos.: YG94 & YG95

Sample Receipt

Thirty-two soil samples were removed from archive on April 15, 2014 and logged under ARI jobs YG94 and YG95. The samples were analyzed for metals and hexavalent chromium, as requested. For details regarding sample receipt, please refer to the Cooler Receipt Forms.

Total Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters (Hexavalent Chromium)

The sample and associated laboratory QC were prepared and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The SRM percent recoveries were within control limits.

The matrix spike percent recoveries were within control limits.

The replicate RPD of hexavalent chromium was outside the control limit for sample **GEI-SB6-9-9.5**. All other quality control parameters were met for this analysis. No corrective action was taken.

Sample ID Cross Reference Report



ARI Job No: YG94
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. GEI-SB6-9-9.5	YG94A	14-7231	Soil	03/24/14 11:17	03/25/14 13:15
2. GEI-SB6-11-11.5	YG94B	14-7232	Soil	03/24/14 11:21	03/25/14 13:15
3. GEI-SB6-13-13.5	YG94C	14-7233	Soil	03/24/14 11:22	03/25/14 13:15
4. GEI-SB6-14.5-15	YG94D	14-7234	Soil	03/24/14 11:23	03/25/14 13:15
5. GEI-SB7a-9-9.5	YG94E	14-7235	Soil	03/24/14 11:58	03/25/14 13:15
6. GEI-SB7a-11-11.5	YG94F	14-7236	Soil	03/24/14 12:00	03/25/14 13:15
7. GEI-SB7a-13-13.5	YG94G	14-7237	Soil	03/24/14 12:01	03/25/14 13:15
8. GEI-SB7a-14.5-15	YG94H	14-7238	Soil	03/24/14 12:02	03/25/14 13:15
9. GEI-SB8-9-9.5	YG94I	14-7239	Soil	03/24/14 12:28	03/25/14 13:15
10. GEI-SB8-11-11.5	YG94J	14-7240	Soil	03/24/14 12:30	03/25/14 13:15
11. GEI-SB8-13-13.5	YG94K	14-7241	Soil	03/24/14 12:31	03/25/14 13:15
12. GEI-SB8-14.5-15	YG94L	14-7242	Soil	03/24/14 12:32	03/25/14 13:15
13. GEI-SB9-9-9.5	YG94M	14-7243	Soil	03/24/14 13:25	03/25/14 13:15
14. GEI-SB9-11-11.5	YG94N	14-7244	Soil	03/24/14 13:29	03/25/14 13:15
15. GEI-SB9-13-13.5	YG94O	14-7245	Soil	03/24/14 13:30	03/25/14 13:15
16. GEI-SB9-14.5-15	YG94P	14-7246	Soil	03/24/14 13:31	03/25/14 13:15
17. GEI-SB10-9-9.5	YG94Q	14-7247	Soil	03/24/14 13:49	03/25/14 13:15
18. GEI-SB10-11-11.5	YG94R	14-7248	Soil	03/24/14 13:51	03/25/14 13:15
19. GEI-SB10-13-13.5	YG94S	14-7249	Soil	03/24/14 13:52	03/25/14 13:15
20. GEI-SB10-14.5-15	YG94T	14-7250	Soil	03/24/14 13:54	03/25/14 13:15

Sample ID Cross Reference Report



ARI Job No: YG95
Client: GeoEngineers
Project Event: 0504-095-00
Project Name: Aladden Plating

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. GEI-SB3-9-9.5	YG95A	14-7254	Soil	03/24/14 09:44	03/25/14 13:15
2. GEI-SB3-11-11.5	YG95B	14-7255	Soil	03/24/14 09:48	03/25/14 13:15
3. GEI-SB3-13-13.5	YG95C	14-7256	Soil	03/24/14 09:49	03/25/14 13:15
4. GEI-SB3-14.5-15	YG95D	14-7257	Soil	03/24/14 09:50	03/25/14 13:15
5. GEI-SB4-9-9.5	YG95E	14-7258	Soil	03/24/14 10:13	03/25/14 13:15
6. GEI-SB4-11-11.5	YG95F	14-7259	Soil	03/24/14 10:19	03/25/14 13:15
7. GEI-SB4-13-13.5	YG95G	14-7260	Soil	03/24/14 10:20	03/25/14 13:15
8. GEI-SB4-14.5-15	YG95H	14-7261	Soil	03/24/14 10:21	03/25/14 13:15
9. GEI-SB14-9-9.5	YG95I	14-7262	Soil	03/24/14 15:32	03/25/14 13:15
10. GEI-SB14-11-11.5	YG95J	14-7263	Soil	03/24/14 15:37	03/25/14 13:15
11. GEI-SB14-13-13.5	YG95K	14-7264	Soil	03/24/14 15:38	03/25/14 13:15
12. GEI-SB14-14.5-15	YG95L	14-7265	Soil	03/24/14 15:39	03/25/14 13:15



Analytical Method Information

Analyte	DL	LOQ	Surrogate %R	Duplicate RPD	Matrix Spike %R	RPD	Blank Spike / LCS %R	RPD
Met 6010C (EPA 6010C) in Solid								
Preservation: Cool <6°C								
Container: Glass WM, Clear, 4 oz			Minimum Sample Weight: 100 g			Hold Time: 180 days		
Aluminum	0.757	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Antimony	0.628	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Arsenic	0.333	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Barium	0.133	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Beryllium	0.0160	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Boron	0.739	2.00 mg/kg		20	75 - 125	20	80 - 120	20
Cadmium	0.0180	0.200 mg/kg		20	75 - 125	20	80 - 120	20
Calcium	1.13	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Chromium	0.124	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Cobalt	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Copper	0.0920	0.200 mg/kg		20	75 - 125	20	80 - 120	20
Iron	0.750	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Lead	0.155	2.00 mg/kg		20	75 - 125	20	80 - 120	20
Magnesium	0.961	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Manganese	0.0280	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Molybdenum	0.0790	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Nickel	0.386	1.00 mg/kg		20	75 - 125	20	80 - 120	20
Potassium	6.57	50.0 mg/kg		20	75 - 125	20	80 - 120	20
Selenium	0.499	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Silver	0.0430	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Sodium	1.14	50.0 mg/kg		20	75 - 125	20	80 - 120	20
Sodium-1	114	5000 mg/kg		20	75 - 125	20	80 - 120	20
Strontium	0.00900	0.100 mg/kg		20	75 - 125	20	80 - 120	20
Thallium	0.310	5.00 mg/kg		20	75 - 125	20	80 - 120	20
Tin	0.141	1.00 mg/kg		20	75 - 125	20	80 - 120	20
Titanium	0.211	0.500 mg/kg		20	75 - 125	20	80 - 120	20
Vanadium	0.0270	0.300 mg/kg		20	75 - 125	20	80 - 120	20
Zinc	0.145	1.00 mg/kg		20	75 - 125	20	80 - 120	20



Spike Recovery Control Limits for Conventional Wet Chemistry		
Effective 5/1/09		
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip		
	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

**Metals Analysis
Report and Summary QC Forms**

ARI Job ID: YG94, YG95

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG94

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB6-9-9.5	YG94A	14-7231	
GEI-SB6-9-9.5D	YG94ADUP	14-7231	
GEI-SB6-9-9.5S	YG94ASPK	14-7231	
GEI-SB6-11-11.5	YG94B	14-7232	
PBS	YG94MB1	14-7232	
LCSS	YG94MB1SPK	14-7232	
GEI-SB6-13-13.5	YG94C	14-7233	
GEI-SB6-14.5-15	YG94D	14-7234	
GEI-SB7a-9-9.5	YG94E	14-7235	
GEI-SB7a-11-11.5	YG94F	14-7236	
GEI-SB7a-13-13.5	YG94G	14-7237	
GEI-SB7a-14.5-15	YG94H	14-7238	
GEI-SB8-9-9.5	YG94I	14-7239	
GEI-SB8-11-11.5	YG94J	14-7240	
GEI-SB8-13-13.5	YG94K	14-7241	
GEI-SB8-14.5-15	YG94L	14-7242	
GEI-SB9-9-9.5	YG94M	14-7243	
GEI-SB9-11-11.5	YG94N	14-7244	
GEI-SB9-13-13.5	YG94O	14-7245	
GEI-SB9-14.5-15	YG94P	14-7246	
GEI-SB10-9-9.5	YG94Q	14-7247	

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn

Date: 4/23/14 Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG94

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB10-11-11.5	YG94R	14-7248	
GEI-SB10-13-13.5	YG94S	14-7249	
GEI-SB10-14.5-15	YG94T	14-7250	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn
Date: 4/23/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB6-9-9.5
SAMPLE

Lab Sample ID: YG94A

LIMS ID: 14-7231

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 71.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.44	7	7	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	1.0	3	607	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB6-11-11.5
SAMPLE

Lab Sample ID: YG94B

LIMS ID: 14-7232

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.14	2	38	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.32	1	223	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB6-13-13.5

SAMPLE

Lab Sample ID: YG94C

LIMS ID: 14-7233

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	276	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ


LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: GEI-SB6-14.5-15
SAMPLE

Lab Sample ID: YG94D
LIMS ID: 14-7234
Matrix: Soil
Data Release Authorized: 
Reported: 04/23/14

QC Report No: YG94-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 94.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	175	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB7a-9-9.5

SAMPLE

Lab Sample ID: YG94E

LIMS ID: 14-7235

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 70.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.18	3	4	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.41	1	146	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB7a-11-11.5
SAMPLE

Lab Sample ID: YG94F

LIMS ID: 14-7236

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 85.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.15	2	30	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.34	1	326	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB7a-13-13.5
SAMPLE

Lab Sample ID: YG94G

LIMS ID: 14-7237

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	122	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB7a-14.5-15

SAMPLE

Lab Sample ID: YG94H

LIMS ID: 14-7238

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	240	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB8-9-9.5
SAMPLE

Lab Sample ID: YG94I

LIMS ID: 14-7239

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.14	2	14	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.32	1	167	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB8-11-11.5**
SAMPLE

Lab Sample ID: YG94J

LIMS ID: 14-7240

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.14	2	41	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.32	1	314	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB8-13-13.5**
SAMPLE

Lab Sample ID: YG94K

LIMS ID: 14-7241

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 91.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	39	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.31	1	359	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB8-14.5-15
SAMPLE

Lab Sample ID: YG94L

LIMS ID: 14-7242

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	3	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	184	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB9-9-9.5
SAMPLE

Lab Sample ID: YG94M

LIMS ID: 14-7243

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 86.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.15	2	3	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.34	1	104	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

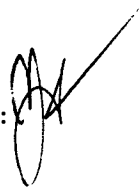
Page 1 of 1

Sample ID: GEI-SB9-11-11.5
SAMPLE

Lab Sample ID: YG94N

LIMS ID: 14-7244

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 90.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.14	2	4	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.32	1	84	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB9-13-13.5
SAMPLE

Lab Sample ID: YG940

LIMS ID: 14-7245

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	74	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB9-14.5-15

SAMPLE

Lab Sample ID: YG94P

LIMS ID: 14-7246

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.29	1	84	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB10-9-9.5

SAMPLE

Lab Sample ID: YG94Q

LIMS ID: 14-7247

Matrix: Soil

Data Release Authorized 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 92.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.14	2	5	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.31	1	105	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB10-11-11.5

SAMPLE

Lab Sample ID: YG94R

LIMS ID: 14-7248

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	28	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	223	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

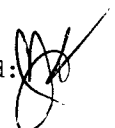
Sample ID: GEI-SB10-13-13.5

SAMPLE

Lab Sample ID: YG94S

LIMS ID: 14-7249

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.29	1	91	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ


LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: GEI-SB10-14.5-15
SAMPLE

Lab Sample ID: YG94T
LIMS ID: 14-7250
Matrix: Soil
Data Release Authorized: 
Reported: 04/23/14

QC Report No: YG94-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 94.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	69	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB6-9-9.5

MATRIX SPIKE

Lab Sample ID: YG94A

LIMS ID: 14-7231

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Lead	6010C	7 U	284	269	106%	
Nickel	6010C	607	709	67.1	152%	H

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB6-9-9.5

DUPLICATE

Lab Sample ID: YG94A

LIMS ID: 14-7231

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG94-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Lead	6010C	7 U	7 U	0.0%	+/- 7	L
Nickel	6010C	607	678	11.1%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: LAB CONTROL

Page 1 of 1

Lab Sample ID: YG94LCS


QC Report No: YG94-GeoEngineers

LIMS ID: 14-7232

Project: Aladden Plating

Matrix: Soil

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 04/23/14

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Lead	6010C	207	200	104%	
Nickel	6010C	55	50	110%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YG94MB


QC Report No: YG94-GeoEngineers

LIMS ID: 14-7232

Project: Aladden Plating

Matrix: Soil

0504-095-00

Data Release Authorized 

Date Sampled: NA

Reported: 04/23/14

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	1	U

Reported in mg/kg (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

Calibration Verification

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YG94



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Lead	PB	ICP	IP042272	2000.0	1939.78	97.0	2000.0	1996.56	99.8	2023.94	101.2	1984.34	99.2	2024.05	101.2	1944.90	97.2
Nickel	NI	ICP	IP042272	1000.0	1025.51	102.6	1000.0	1065.56	106.6	1080.06	108.0	1061.17	106.1	1071.70	107.2	1080.47	108.0

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG94

UNITS: ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Lead	PB	ICP	IP042272	2000.0	2016.12	100.8										
Nickel	NI	ICP	IP042272	1000.0	1073.09	107.3										

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YG94



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Lead	PB	ICP	IP042272	20.0		20.37	101.9										
Nickel	NI	ICP	IP042272	10.0		10.71	107.1										

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YG94

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	CCB1	CCB2	CCB3	CCB4	CCB5	C
Lead	PB	ICP	IP042272	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP042272	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG94

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Lead	PB	ICP	IP042272	3.0	20.0	20.0						U
Nickel	NI	ICP	IP042272	40.0	10.0	10.0						U

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP042272

SDG: YG94

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	209859.3	209653.9	104.8						
Antimony	1000	1000	21.1	1059.1	105.9						
Arsenic	1000	1000	24.7	1061.8	106.2						
Barium	1000	1000	-2.4	999.1	99.9						
Beryllium	1000	1000	0.1	1029.4	102.9						
Boron			-4.0	-5.1							
Cadmium	1000	1000	-1.4	1030.9	103.1						
Calcium	100000	100000	104844.3	104766.9	104.8						
Chromium	1000	1000	1.2	1011.8	101.2						
Cobalt	1000	1000	2.4	957.7	95.8						
Copper	1000	1000	0.0	1070.0	107.0						
Iron	200000	200000	205946.4	206191.0	103.1						
Lead	1000	1000	0.4	992.1	99.2						
Magnesium	100000	100000	106495.0	102811.7	102.8						
Manganese	1000	1000	-1.3	991.1	99.1						
Molybdenum			2.7	2.8							
Nickel	1000	1000	-0.5	1012.3	101.2						
Potassium			-1.1	-5.9							
Selenium	1000	1000	33.8	1073.0	107.3						
Silicon			-7.1	-9.4							
Silver	1000	1000	-0.6	1111.4	111.1						
Sodium			7.7	5.7							
Strontium			5.7	5.7							
Thallium	1000	1000	-5.7	978.4	97.8						
Tin			-11.6	-11.1							
Titanium			2.8	2.5							
Vanadium	1000	1000	1.0	990.0	99.0						
Zinc	1000	1000	3.3	1002.6	100.3						

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG94

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG94

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	13.0001730	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.1504760	0.0000000	-1.1418810	1.4701580	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1914790	0.0000000	0.0000000	0.1186830
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.67	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.1178670	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	5.1456370	0.0000000	0.0000000	0.0000000	0.0000000	0.1519640	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0105370	0.0000000	0.0000000	0.0000000	0.0000000	-0.0428390
Cobalt	228.62	0.0000000	0.0000000	0.0956050	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0031370	0.0000000	-0.1731660	0.0000000	0.0000000	-0.0517650
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.3572290	0.0000000	0.0000000
Lead	220.35	-0.3197610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.8955100	1.3683810	-0.0574840
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6154620	-1.2018020	0.0000000	0.9787120
Manganese	257.61	0.0085510	0.0000000	0.0000000	0.0000000	0.0051490	0.0000000	0.0000000	0.0000000	0.0000000	-0.0059760
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0154460	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.4704930	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.8483140	0.0000000	-0.6009380	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	-0.0065610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0801700	0.0000000	5.8939530	0.4135750	0.0000000	-0.1258020
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1855780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.1006900	0.0000000	0.0000000	0.1910190	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1255090	0.0000000	0.0674860
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0126620	0.0000000	0.0000000	-0.2680380	0.0000000	0.0000000

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG94

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.000000	0.000000	0.000000	2.0154950	0.000000	14.6504130	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.7865220	0.000000	-3.6308690	0.000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.000000	0.000000	0.000000	-35.7069030	0.000000	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.1263190	0.000000	0.000000	0.000000	0.000000	0.2049710	0.000000
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0109650	0.000000	0.2471980	0.000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	0.000000	0.000000	-0.9924980	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0519140	0.000000
Chromium	267.72	0.0714330	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.000000	0.000000	1.7865010	0.000000	0.000000	0.000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.000000	0.000000	0.000000	0.1968290	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	8.0715790	0.000000
Lead	220.35	0.000000	0.000000	0.000000	0.1183620	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.0068080	0.000000	0.000000	0.000000	-0.2132560	0.000000	0.000000	0.000000	-0.0238460	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4243640	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	-0.5233870	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.6221340	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2593400	0.000000
Thallium	190.80	0.000000	0.000000	-1.6229180	0.000000	0.000000	0.000000	165.0683530	0.000000	0.000000	188.8015530
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.0356520	-0.5555490	-0.1890930	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.000000	0.000000	0.000000	0.5783020	0.000000	0.000000	0.000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.000000	-0.0717780	0.000000	0.000000	0.000000	0.000000	0.000000

Preparation Log



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YG94

ANALYSIS METHOD: ICP
ARI PREP CODE: SWC
PREPDATE: 4/18/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB6-9-9.5	YG94A	1.039	0.0	50.0
GEI-SB6-9-9.5D	YG94ADUP	1.040	0.0	50.0
GEI-SB6-9-9.5S	YG94ASPK	1.042	0.0	50.0
GEI-SB6-11-11.5	YG94B	1.009	0.0	50.0
GEI-SB6-13-13.5	YG94C	1.043	0.0	50.0
GEI-SB6-14.5-15	YG94D	1.068	0.0	50.0
GEI-SB7a-9-9.5	YG94E	1.040	0.0	50.0
GEI-SB7a-11-11.5	YG94F	1.021	0.0	50.0
GEI-SB7a-13-13.5	YG94G	1.036	0.0	50.0
GEI-SB7a-14.5-15	YG94H	1.044	0.0	50.0
GEI-SB8-9-9.5	YG94I	1.033	0.0	50.0
GEI-SB8-11-11.5	YG94J	1.016	0.0	50.0
GEI-SB8-13-13.5	YG94K	1.070	0.0	50.0
GEI-SB8-14.5-15	YG94L	1.072	0.0	50.0
GEI-SB9-9-9.5	YG94M	1.008	0.0	50.0
PBS	YG94MB1	1.000	0.0	50.0
LCSS	YG94MB1SPK	1.000	0.0	50.0
GEI-SB9-11-11.5	YG94N	1.046	0.0	50.0
GEI-SB9-13-13.5	YG94O	1.057	0.0	50.0
GEI-SB9-14.5-15	YG94P	1.080	0.0	50.0
GEI-SB10-9-9.5	YG94Q	1.043	0.0	50.0
GEI-SB10-11-11.5	YG94R	1.063	0.0	50.0
GEI-SB10-13-13.5	YG94S	1.080	0.0	50.0
GEI-SB10-14.5-15	YG94T	1.048	0.0	50.0

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YG94

INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP042272
 METHOD: ICP

START DATE: 4/22/2014
 END DATE: 4/22/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN			
S0		1.00	10333																																X	
S2		1.00	10373																																X	
S3		1.00	10392																																X	
S4		1.00	10413																																X	
S5		1.00	10435																																X	
ICV		1.00	10455																															X		
ICB		1.00	10495																																X	
CRI		1.00	10535																																X	
ICSA		1.00	10575																																X	
ICSAB		1.00	11021																																X	
CCV		1.00	11073																																X	
CCB		1.00	11114																																X	
ZZZZZZ	YH41MB1	2.00	11154																																X	
ZZZZZZ	YH44MB	2.00	11194																																	X
ZZZZZZ	YH44A	2.00	11234																																	X
ZZZZZZ	YH44B	2.00	11274																																	X
ZZZZZZ	YH41A	2.00	11314																																	X
ZZZZZZ	YH41B	2.00	11354																																	X
ZZZZZZ	YH41C	2.00	11394																																	X
ZZZZZZ	YH41MB1SPK	2.00	11434																																	X
ZZZZZZ	YH44MBSPK	2.00	11474																																	X
CCV		1.00	11514																																X	
CCB		1.00	11554																																	X
ZZZZZZ	YH530	2.00	11594																																	X
ZZZZZZ	YH53P	2.00	12035																																	X
ZZZZZZ	YH53Q	2.00	12075																																	X
CCV		1.00	12115																																	X
CCB		1.00	12155																																	X
PBS		2.00	12195																																	X
GEI-SB6-9-9.5D	YG94ADUP	2.00	12235																																	X
GEI-SB6-9-9.5	YG94A	2.00	12275																																	X
GEI-SB6-9-9.5S	YG94ASPK	2.00	12315																																	X
ZZZZZZ	ZZZZZZ	2.00	12351																																	X
GEI-SB6-11-11.5	YG94B	2.00	12382																																	X
GEI-SB6-13-13.5	YG94C	2.00	12423																																	X

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YG94

INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP042272
 METHOD: ICP

START DATE: 4/22/2014
 END DATE: 4/22/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN						
GEI-SB6-14.5-15	YG94D	2.00	12463																															X	X				
GEI-SB7a-9-9.5	YG94E	2.00	12503																																X	X			
LCSS	YG94MB1SPK	2.00	12543																																X	X			
CCV	CCV4	1.00	12583																																X	X			
CCB	CCB4	1.00	13023																																	X	X		
GEI-SB7a-11-11.5	YG94F	2.00	13063																																	X	X		
GEI-SB7a-13-13.5	YG94G	2.00	13095																																	X	X		
GEI-SB7a-14.5-15	YG94H	2.00	13135																																	X	X		
GEI-SB8-9-9.5	YG94I	2.00	13175																																	X	X		
GEI-SB8-11-11.5	YG94J	2.00	13215																																	X	X		
GEI-SB8-13-13.5	YG94K	2.00	13255																																	X	X		
GEI-SB8-14.5-15	YG94L	2.00	13295																																	X	X		
GEI-SB9-9-9.5	YG94M	2.00	13335																																	X	X		
GEI-SB9-11-11.5	YG94N	2.00	13375																																	X	X		
GEI-SB9-13-13.5	YG94O	2.00	13415																																	X	X		
CCV	CCV5	1.00	13455																																	X	X		
CCB	CCB5	1.00	13495																																		X	X	
GEI-SB9-14.5-15	YG94P	2.00	13535																																		X	X	
GEI-SB10-9-9.5	YG94Q	2.00	13580																																		X	X	
GEI-SB10-11-11.5	YG94R	2.00	14020																																		X	X	
GEI-SB10-13-13.5	YG94S	2.00	14060																																		X	X	
GEI-SB10-14.5-15	YG94T	2.00	14100																																		X	X	
GEI-SB6-9-9.5D	YG94ADUP	5.00	14140																																		X	X	
GEI-SB6-9-9.5	YG94A	5.00	14180																																		X	X	
GEI-SB6-9-9.5S	YG94ASPX	5.00	14220																																		X	X	
CCV	CCV6	1.00	14260																																		X	X	
CCB	CCB6	1.00	14300																																			X	X

4/22/2014 10:55:12

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: GeoEngineers

PROJECT: Aladden Plating

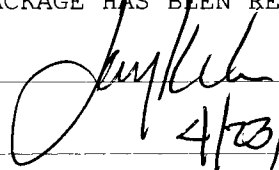
SDG: YG95

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
GEI-SB3-9-9.5	YG95A	14-7254	
GEI-SB3-11-11.5	YG95B	14-7255	
GEI-SB3-13-13.5	YG95C	14-7256	
GEI-SB3-14.5-15	YG95D	14-7257	
GEI-SB4-9-9.5	YG95E	14-7258	
GEI-SB4-9-9.5D	YG95EDUP	14-7258	
GEI-SB4-9-9.5S	YG95ESPK	14-7258	
GEI-SB4-11-11.5	YG95F	14-7259	
PBS	YG95MB1	14-7259	
LCSS	YG95MB1SPK	14-7259	
GEI-SB4-13-13.5	YG95G	14-7260	
GEI-SB4-14.5-15	YG95H	14-7261	
GEI-SB14-9-9.5	YG95I	14-7262	
GEI-SB14-11-11.5	YG95J	14-7263	
GEI-SB14-13-13.5	YG95K	14-7264	
GEI-SB14-14.5-15	YG95L	14-7265	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn
Date: 4/23/04 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB3-9-9.5

SAMPLE

Lab Sample ID: YG95A

LIMS ID: 14-7254

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 81.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.16	2	3	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB3-11-11.5**
SAMPLE

Lab Sample ID: YG95B

LIMS ID: 14-7255

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 86.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.14	2	3	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB3-13-13.5**
SAMPLE

Lab Sample ID: YG95C

LIMS ID: 14-7256

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB3-14.5-15
SAMPLE

Lab Sample ID: YG95D

LIMS ID: 14-7257

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 96.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: **GEI-SB4-9-9.5**
SAMPLE

Lab Sample ID: YG95E
LIMS ID: 14-7258
Matrix: Soil
Data Release Authorized:
Reported: 04/23/14



QC Report No: YG95-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 73.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.18	3	5	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.41	1	61	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB4-11-11.5**
SAMPLE

Lab Sample ID: YG95F

LIMS ID: 14-7259

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 93.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	127	
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	2,410	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: GEI-SB4-13-13.5
SAMPLE

Lab Sample ID: YG95G

LIMS ID: 14-7260

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	84	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: GEI-SB4-14.5-15
SAMPLE

Lab Sample ID: YG95H
LIMS ID: 14-7261
Matrix: Soil
Data Release Authorized
Reported: 04/23/14



QC Report No: YG95-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Percent Total Solids: 93.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.14	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.31	1	448	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB14-9-9.5

SAMPLE

Lab Sample ID: YG95I

LIMS ID: 14-7262

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	138	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: GEI-SB14-11-11.5

SAMPLE

Lab Sample ID: YG95J

LIMS ID: 14-7263

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.32	1	138	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: **GEI-SB14-13-13.5**
SAMPLE

Lab Sample ID: YG95K

LIMS ID: 14-7264

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 95.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	110	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

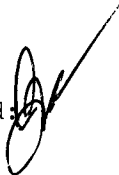
Sample ID: GEI-SB14-14.5-15

SAMPLE

Lab Sample ID: YG95L

LIMS ID: 14-7265

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: 03/24/14

Date Received: 03/25/14

Percent Total Solids: 94.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	127	

Reported in mg/kg-dry (ppm).

U-Analyte undetected at given LOQ


LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB4-9-9.5
MATRIX SPIKE**

Lab Sample ID: YG95E
LIMS ID: 14-7258
Matrix: Soil
Data Release Authorized: 
Reported: 04/23/14

QC Report No: YG95-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Lead	6010C	5	272	272	98.2%	
Nickel	6010C	61	144	67.9	122%	

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked


Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: GEI-SB4-9-9.5
DUPLICATE**

Lab Sample ID: YG95E
LIMS ID: 14-7258
Matrix: Soil
Data Release Authorized: 
Reported: 04/23/14

QC Report No: YG95-GeoEngineers
Project: Aladden Plating
0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Lead	6010C	5	4	22.2%	+/- 3	L
Nickel	6010C	61	67	9.4%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: YG95LCS

LIMS ID: 14-7259

Matrix: Soil

Data Release Authorized: 

Reported: 04/23/14

QC Report No: YG95-GeoEngineers

Project: Aladden Plating

0504-095-00

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Lead	6010C	201	200	100%	
Nickel	6010C	54	50	108%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: YG95MB


QC Report No: YG95-GeoEngineers

LIMS ID: 14-7259

Project: Aladden Plating

Matrix: Soil

0504-095-00

Data Release Authorized: 

Date Sampled: NA

Reported: 04/23/14

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	LOQ	Result	Q
3050B	04/18/14	6010C	04/22/14	7439-92-1	Lead	0.13	2	2	U
3050B	04/18/14	6010C	04/22/14	7440-02-0	Nickel	0.30	1	1	U

Reported in mg/kg (ppm).

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

Calibration Verification

CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YG95



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Lead	PB	ICP	IP042272	2000.0	1939.78	97.0	2000.0	1996.56	99.8	2023.94	101.2	1984.34	99.2	2024.05	101.2	1944.90	97.2
Nickel	NI	ICP	IP042272	1000.0	1025.51	102.6	1000.0	1065.56	106.6	1080.06	108.0	1061.17	106.1	1071.70	107.2	1080.47	108.0

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95

UNITS:ug/L

ANALYTE	EL	M	RUN	CCVTV	CCV6	CCV7	CCV8	CCV9	CCV10	CCV11	%R	
Lead	PB	ICP	IP042272	2000.0	2016.12	100.8	1975.54	98.8	1986.48	99.3	1978.53	98.9
Nickel	NI	ICP	IP042272	1000.0	1073.09	107.3	1054.29	105.4	1049.52	105.0	1061.25	106.1

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Lead	PB	ICP	IP042272	20.0		20.37	101.9										
Nicke1	NI	ICP	IP042272	10.0		10.71	107.1										

Control Limits: no control limits have been established by the EPA at this time.

11 55 55 55 55

Calibration Blanks



CLIENT: GeoEngineers
PROJECT: Aladden Plating
SDG: YG95

UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	CCB1	CCB2	CCB3	CCB4	CCB5
Lead	PB ICP	IP042272	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Nickel	NI ICP	IP042272	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Calibration Blanks



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	C
Lead	PB	ICP	IP042272	3.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	U
Nickel	NI	ICP	IP042272	40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	U

ANALYTICAL RESOURCES

ICP Interference Check Sample



CLIENT: GeoEngineers

ICS SOURCE: I.V.

PROJECT: Aladden Plating

RUNID: IP042272

SDG: YG95

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	209859.3	209653.9	104.8						
Antimony		1000	21.1	1059.1	105.9						
Arsenic		1000	24.7	1061.8	106.2						
Barium		1000	-2.4	999.1	99.9						
Beryllium		1000	0.1	1029.4	102.9						
Boron			-4.0	-5.1							
Cadmium		1000	-1.4	1030.9	103.1						
Calcium	100000	100000	104844.3	104766.9	104.8						
Chromium		1000	1.2	1011.8	101.2						
Cobalt		1000	2.4	957.7	95.8						
Copper		1000	0.0	1070.0	107.0						
Iron	200000	200000	205946.4	206191.0	103.1						
Lead		1000	0.4	992.1	99.2						
Magnesium	100000	100000	106495.0	102811.7	102.8						
Manganese		1000	-1.3	991.1	99.1						
Molybdenum			2.7	2.8							
Nickel		1000	-0.5	1012.3	101.2						
Potassium			-1.1	-5.9							
Selenium		1000	33.8	1073.0	107.3						
Silicon			-7.1	-9.4							
Silver		1000	-0.6	1111.4	111.1						
Sodium			7.7	5.7							
Strontium			5.7	5.7							
Thallium		1000	-5.7	978.4	97.8						
Tin			-11.6	-11.1							
Titanium			2.8	2.5							
Vanadium		1000	1.0	990.0	99.0						
Zinc		1000	3.3	1002.6	100.3						

ICP 1000

IDLs and ICP Linear Ranges



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA		RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
					BACK- GROUND	CLP CRDL				
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	13.0001730	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.1504760	0.0000000	-1.1418810	1.4701580	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1914790	0.0000000	0.0000000	0.1186830
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.67	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.1178670	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	5.1456370	0.0000000	0.0000000	0.0000000	0.0000000	0.1519640	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0105370	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0956050	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.0428390
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0031370	0.0000000	-0.1731660	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.3572290	0.0000000	0.0000000
Lead	220.35	-0.3197610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.8955100	1.3683810	-0.0574840
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.2018020	0.0000000	0.9787120
Manganese	257.61	0.0085510	0.0000000	0.0000000	0.0000000	0.0051490	0.0000000	0.0000000	0.0000000	0.0000000	-0.0059760
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0154460	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.4704930	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.8483140	0.0000000	-0.6009380	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	-0.0065610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0801700	0.0000000	5.8939530	0.4135750	0.0000000	-0.1258020
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1855780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.1006900	0.0000000	0.0000000	0.1910190	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1255090	0.0000000	0.0674860
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0126620	0.0000000	0.0000000	-0.2680380	0.0000000	0.0000000

ICP Inter-element Correction Factors



CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95

IEC DATE: 3/26/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	15.7116050	0.000000	0.000000	0.000000	2.0154950	0.000000	14.6504130	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.7865220	0.000000	-3.6308690	0.000000
Arsenic	188.98	0.000000	0.000000	3.3640920	0.000000	0.000000	0.000000	-35.7069030	0.000000	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.1263190	0.000000	0.000000	0.000000	0.000000	0.2049710	0.000000
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0109650	0.000000	0.2471980	0.000000
Boron	249.67	0.000000	0.000000	-1.1300970	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	0.000000	0.000000	-0.9924980	0.000000	0.000000	0.000000	0.000000	0.0519140	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.0714330	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	-0.1573840	0.1604620	0.000000	0.000000	1.7865010	0.000000	0.000000	0.000000
Copper	324.75	0.0084138	0.000000	0.3207980	0.000000	0.000000	0.000000	0.1968290	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.35	0.000000	0.000000	0.000000	0.1183620	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	279.08	0.000000	0.000000	-5.0356720	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.0068080	0.000000	0.000000	0.000000	-0.2132560	0.000000	0.000000	0.000000	-0.0238460	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	-0.5233870	0.000000	0.4243640	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.6221340	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2593400	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	165.0683530	0.000000	0.000000	188.8015530
Thallium	190.80	0.000000	0.000000	-1.6229180	0.000000	0.000000	0.000000	0.000000	0.000000	3.6063050	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.0356520	-0.5555490	-0.1890930	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.9536400	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.40	0.000000	-0.1515920	-0.5364060	0.000000	0.000000	0.000000	0.5783020	0.000000	0.000000	0.000000
Zinc	206.20	0.000000	0.000000	0.2492000	0.000000	-0.0717780	0.000000	0.000000	0.000000	0.000000	0.000000

Preparation Log



CLIENT: GeoEngineers

ANALYSIS METHOD: ICP

PROJECT: Aladden Plating

ARI PREP CODE: SWC

SDG: YG95

PREPDATE: 4/18/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
GEI-SB3-9-9.5	YG95A	1.009	0.0	50.0
GEI-SB3-11-11.5	YG95B	1.037	0.0	50.0
GEI-SB3-13-13.5	YG95C	1.045	0.0	50.0
GEI-SB3-14.5-15	YG95D	1.030	0.0	50.0
GEI-SB4-9-9.5	YG95E	1.001	0.0	50.0
GEI-SB4-9-9.5D	YG95EDUP	1.000	0.0	50.0
GEI-SB4-9-9.5S	YG95ESPK	1.006	0.0	50.0
GEI-SB4-11-11.5	YG95F	1.052	0.0	50.0
GEI-SB4-13-13.5	YG95G	1.057	0.0	50.0
GEI-SB4-14.5-15	YG95H	1.022	0.0	50.0
GEI-SB14-9-9.5	YG95I	1.073	0.0	50.0
GEI-SB14-11-11.5	YG95J	1.009	0.0	50.0
GEI-SB14-13-13.5	YG95K	1.041	0.0	50.0
GEI-SB14-14.5-15	YG95L	1.062	0.0	50.0
PBS	YG95MB1	1.000	0.0	50.0
LCSS	YG95MB1SPK	1.000	0.0	50.0

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP042272 METHOD: ICP

START DATE: 4/22/2014

END DATE: 4/22/2014



CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN					
S0		1.00	10333																					X														
S2		1.00	10373																					X														
S3		1.00	10392																					X														
S4		1.00	10413																					X														
S5		1.00	10435																					X														
ICV	ICV	1.00	10455																					X														
ICB	ICB	1.00	10495																					X														
CRI	CRII	1.00	10535																					X														
ICSA	ICSAI	1.00	10575																					X														
ICSAB	ICSABI	1.00	11021																					X														
CCV	CCV1	1.00	11073																					X														
CCB	CCB1	1.00	11114																					X														
ZZZZZZ	YH41MB1	2.00	11154																					X														
ZZZZZZ	YH44MB	2.00	11194																					X														
ZZZZZZ	YH44A	2.00	11234																					X														
ZZZZZZ	YH44B	2.00	11274																					X														
ZZZZZZ	YH41A	2.00	11314																					X														
ZZZZZZ	YH41B	2.00	11354																					X														
ZZZZZZ	YH41C	2.00	11394																					X														
ZZZZZZ	YH41MB1SPK	2.00	11434																					X														
ZZZZZZ	YH44MBSPK	2.00	11474																					X														
CCV	CCV2	1.00	11514																					X														
CCB	CCB2	1.00	11554																					X														
ZZZZZZ	YH530	2.00	11594																					X														
ZZZZZZ	YH53P	2.00	12035																					X														
ZZZZZZ	YH53Q	2.00	12075																					X														
CCV	CCV3	1.00	12115																					X														
CCB	CCB3	1.00	12155																					X														
ZZZZZZ	YG94MB1	2.00	12195																					X														
ZZZZZZ	YG94ADUP	2.00	12235																					X														
ZZZZZZ	YG94A	2.00	12275																					X														
ZZZZZZ	YG94ASPK	2.00	12315																					X														
ZZZZZZ	ZZZZZZ	2.00	12351																					X														
ZZZZZZ	YG94B	2.00	12382																					X														
ZZZZZZ	YG94C	2.00	12423																					X														

Analysis Run Log



CLIENT: GeoEngineers
 PROJECT: Aladden Plating
 SDG: YG95
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP042272
 METHOD: ICP
 START DATE: 4/22/2014
 END DATE: 4/22/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN	
ZZZZZZ	YG94D		2.00	12463																														
ZZZZZZ	YG94E		2.00	12503																														
ZZZZZZ	YG94MB1SPK		2.00	12543																														
CCV	CCV4		1.00	12583																				X	X									
CCB	CCB4		1.00	13023																			X	X										
ZZZZZZ	YG94F		2.00	13063																														
ZZZZZZ	YG94G		2.00	13095																														
ZZZZZZ	YG94H		2.00	13135																														
ZZZZZZ	YG94I		2.00	13175																														
ZZZZZZ	YG94J		2.00	13215																														
ZZZZZZ	YG94K		2.00	13255																														
ZZZZZZ	YG94L		2.00	13295																														
ZZZZZZ	YG94M		2.00	13335																														
ZZZZZZ	YG94N		2.00	13375																														
ZZZZZZ	YG94O		2.00	13415																														
CCV	CCV5		1.00	13455																			X	X										
CCB	CCB5		1.00	13495																			X	X										
ZZZZZZ	YG94P		2.00	13535																														
ZZZZZZ	YG94Q		2.00	13580																														
ZZZZZZ	YG94R		2.00	14020																														
ZZZZZZ	YG94S		2.00	14060																														
ZZZZZZ	YG94T		2.00	14100																														
ZZZZZZ	YG94ADUP		5.00	14140																														
ZZZZZZ	YG94A		5.00	14180																														
ZZZZZZ	YG94ASP		5.00	14220																														
CCV	CCV6		1.00	14260																			X	X										
CCB	CCB6		1.00	14300																			X	X										
ZZZZZZ	YH41MB2		5.00	14340																														
ZZZZZZ	YH41AEDUP		5.00	14382																														
ZZZZZZ	YH41A		5.00	14424																														
ZZZZZZ	YH41A+SPK		5.00	14465																														
ZZZZZZ	YH41B		5.00	14511																														
ZZZZZZ	YH41C		5.00	14553																														
CCV	CCV7		1.00	14595																			X	X										
CCB	CCB7		1.00	15035																			X	X										

Analysis Run Log

CLIENT: GeoEngineers

PROJECT: Aladden Plating

SDG: YG95



INSTRUMENT ID: OPTIMA ICP 2

RUNID: IP042272 METHOD: ICP

START DATE: 4/22/2014

END DATE: 4/22/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
PBS	YG95MB1	2.00	15075																					X								X	
GEI-SB3-9-9.5	YG95A	2.00	15115																				X								X		
GEI-SB3-11-11.5	YG95B	2.00	15155																				X								X		
GEI-SB3-13-13.5	YG95C	2.00	15195																				X								X		
GEI-SB3-14.5-15	YG95D	2.00	15235																				X								X		
GEI-SB4-9-9.5D	YG95EDUP	2.00	15275																				X								X		
GEI-SB4-9-9.5	YG95E	2.00	15315																				X								X		
GEI-SB4-9-9.5S	YG95ESP	2.00	15360																				X								X		
ZZZZZ	ZZZZZ	2.00	15400																				X								X		
LCSS	YG95MB1SPK	2.00	15440																				X								X		
CCV	CCV8	1.00	15480																				X								X		
CCB	CCB8	1.00	15520																				X								X		
GEI-SB4-11-11.5	YG95F	2.00	15560																				X								X		
GEI-SB4-13-13.5	YG95G	2.00	15592																				X								X		
GEI-SB4-14.5-15	YG95H	2.00	16032																				X								X		
GEI-SB14-9-9.5	YG95I	2.00	16072																				X								X		
GEI-SB14-11-11.5	YG95J	2.00	16112																				X								X		
GEI-SB14-13-13.5	YG95K	2.00	16152																				X								X		
GEI-SB14-14.5-15	YG95L	2.00	16192																				X								X		
CCV	CCV9	1.00	16232																				X								X		
CCB	CCB9	1.00	16273																				X								X		


4/22/2014 10:55 AM

**General Chemistry Analysis
Report and Summary QC Forms**

ARI Job ID: YG94, YG95

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-9-9.5
ARI ID: 14-7231 YG94A

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.535	4.28
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	72.67

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'JK' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-11-11.5
ARI ID: 14-7232 YG94B


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.429	8.83
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	91.51

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-13-13.5
ARI ID: 14-7233 YG94C

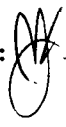
Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.418	0.919
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	95.78

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB6-14.5-15
ARI ID: 14-7234 YG94D


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.416	1.25
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	94.16

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7a-9-9.5
ARI ID: 14-7235 YG94E

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.557	1.17
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	71.84

RL Analytical reporting limit
U Undetected at reported detection limit
Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7a-11-11.5
ARI ID: 14-7236 YG94F

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.446	11.3
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	88.66

RL Analytical reporting limit
U Undetected at reported detection limit
Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'JK' or similar, written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7a-13-13.5
ARI ID: 14-7237 YG94G


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.418	0.877
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	95.73

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB7a-14.5-15
ARI ID: 14-7238 YG94H

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.416	0.540
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	95.48

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

MS/MSD RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'J. J.', written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YG94A Client ID: GEI-SB6-9-9.5						
Hexavalent Chromium	04/21/14	mg/kg	4.28	29.2	26.9	92.7%
Hexavalent Chromium	04/21/14	mg/kg	4.28	834	910	91.2%

REPLICATE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'JAC' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: YG94A Client ID: GEI-SB6-9-9.5					
Hexavalent Chromium	04/21/14	mg/kg	4.28	3.27	26.8%
Total Solids	04/22/14	Percent	72.67	74.71	2.8%

METHOD BLANK RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14


A handwritten signature in black ink, appearing to be 'J. J. Jones' or similar, written over the 'Data Release Authorized:' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank	QC ID
Hexavalent Chromium	04/21/14	mg/kg	< 0.400 U	PREP
Total Solids	04/22/14	Percent	< 0.01 U	ICB

STANDARD REFERENCE RESULTS-CONVENTIONALS
YG94-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Soluble Hexavalent Chromium	04/21/14	mg/kg	19.6	20.0	98.0%
Insoluble Hexavalent Chromium	04/21/14	mg/kg	669	688	97.2%
Soil Hexavalent Chrome					

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'M' or 'D', written over the 'Data Release Authorized' text.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-9-9.5
ARI ID: 14-7254 YG95A

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.480	< 0.480 U
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	82.31

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized
Reported: 04/25/14

A handwritten signature in black ink, appearing to be a stylized name or set of initials.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-11-11.5
ARI ID: 14-7255 YG95B

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.444	1.15
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	89.36

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-13-13.5
ARI ID: 14-7256 YG95C


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.413	< 0.413 U
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	95.99

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB3-14.5-15
ARI ID: 14-7257 YG95D

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.414	< 0.414 U
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	96.17

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'H' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-9-9.5
ARI ID: 14-7258 YG95E

Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.594	1.31
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	65.72

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized:
Reported: 04/25/14

A handwritten signature in black ink, appearing to be 'JK' or similar, written over the 'Data Release Authorized' line.

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-11-11.5
ARI ID: 14-7259 YG95F


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.418	10.9
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	94.97

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-13-13.5
ARI ID: 14-7260 YG95G


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.425	0.425
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	94.18

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

SAMPLE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: 03/24/14
Date Received: 03/25/14

Client ID: GEI-SB4-14.5-15
ARI ID: 14-7261 YG95H


Analyte	Date	Method	Units	RL	Sample
Hexavalent Chromium	04/21/14 042114#1	SW7196A	mg/kg	0.413	0.578
Total Solids	04/22/14 042214#1	SM2540G	Percent	0.01	94.29

RL Analytical reporting limit
U Undetected at reported detection limit

Hexavalent Chrome prepared using Method 3060.

METHOD BLANK RESULTS-CONVENTIONALS
YG95-GeoEngineers




Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank	QC ID
Hexavalent Chromium	04/21/14	mg/kg	< 0.400 U	PREP
Total Solids	04/22/14	Percent	< 0.01 U	ICB

STANDARD REFERENCE RESULTS-CONVENTIONALS
YG95-GeoEngineers



Matrix: Soil
Data Release Authorized: 
Reported: 04/25/14

Project: Aladden Plating
Event: 0504-095-00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Soluble Hexavalent Chromium	04/21/14	mg/kg	19.6	20.0	98.0%
Insoluble Hexavalent Chromium	04/21/14	mg/kg	669	688	97.2%
Soil Hexavalent Chrome					

Total Solids

ARI Job ID: YG94, YG95

Solids Data Entry Report
Date: 04/19/14

Checked by: CS Date: 4/21/14
Data Analyst: DM

Solids Determination performed on 04/18/14 by CB

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
YG94	A	GEI-SB6-9-9.5	1.059	10.432	7.757	71.46
YG94	B	GEI-SB6-11-11.5	0.975	10.548	9.769	91.86
YG94	C	GEI-SB6-13-13.5	0.999	10.020	9.573	95.04
YG94	D	GEI-SB6-14.5-15	0.953	10.417	9.850	94.01
YG94	E	GEI-SB7a-9-9.5	1.003	10.005	7.363	70.65
YG94	F	GEI-SB7a-11-11.5	0.956	10.336	9.010	85.86
YG94	G	GEI-SB7a-13-13.5	1.060	10.141	9.717	95.33
YG94	H	GEI-SB7a-14.5-15	1.058	10.711	10.251	95.23
YG94	I	GEI-SB8-9-9.5	1.035	10.202	9.450	91.80
YG94	J	GEI-SB8-11-11.5	0.978	10.851	10.093	92.32
YG94	K	GEI-SB8-13-13.5	0.978	10.626	9.753	90.95
YG94	L	GEI-SB8-14.5-15	0.963	10.861	10.141	92.73
YG94	M	GEI-SB9-9-9.5	1.021	10.398	9.144	86.63
YG94	N	GEI-SB9-11-11.5	1.023	10.368	9.443	90.10
YG94	O	GEI-SB9-13-13.5	1.004	10.213	9.779	95.29
YG94	P	GEI-SB9-14.5-15	0.994	10.281	9.895	95.84
YG94	Q	GEI-SB10-9-9.5	0.995	10.374	9.649	92.27
YG94	R	GEI-SB10-11-11.5	0.949	10.521	9.986	94.41
YG94	S	GEI-SB10-13-13.5	0.948	10.723	10.238	95.04
YG94	T	GEI-SB10-14.5-15	0.954	10.111	9.610	94.53



Total Solids Bench Sheet

Laboratory Section metals

Oven Identification: 07 Balance ID: 068255

Samples in Oven: Date: 4-18-14 Time: 0835 Temp: 106°C Analyst: LA

Removed from Oven: Date: 4-19-14 Time: 0655 Temp: 105°C Analyst: DM

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs ¹
4694 A	1.059	10.432	7.757	—	✓
" B	0.975	10.548	9.769	—	✓
" C	0.999	10.020	9.573	—	✓
" D	0.953	10.417	9.850	—	✓
" E	1.003	10.005	7.363	—	✓
" F	0.956	10.336	9.010	—	✓
" G	1.060	10.141	9.717	—	✓
" H	1.058	10.711	10.251	—	✓
" I	1.035	10.202	9.450	—	✓
" J	0.978	10.851	10.093	—	✓
" K	0.978	10.626	9.753	—	✓
" L	0.963	10.861	10.141	—	✓
" M	1.021	10.398	9.144	—	✓
" N	1.023	10.368	9.443	—	✓
" O	1.004	10.213	9.779	—	✓
" P	0.994	10.281	9.895	—	✓
" Q	0.995	10.374	9.649	—	✓
" R	0.949	10.521	9.986	—	✓
" S	0.948	10.723	10.238	—	✓
" T	0.954	10.111	9.610	—	✓
		EB			
		4-18-14			

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings

Solids Data Entry Report
Date: 04/19/14

Checked by: CS Date: 4/21/14
Data Analyst: DM

Solids Determination performed on 04/18/14 by CB

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
YG95	A	GEI-SB3-9-9.5	1.008	10.861	8.991	81.02
YG95	B	GEI-SB3-11-11.5	1.032	10.170	8.975	86.92
YG95	C	GEI-SB3-13-13.5	0.989	10.598	10.184	95.69
YG95	D	GEI-SB3-14.5-15	0.947	10.266	9.927	96.36
YG95	E	GEI-SB4-9-9.5	0.947	10.270	7.769	73.17
YG95	F	GEI-SB4-11-11.5	1.042	10.208	9.625	93.64
YG95	G	GEI-SB4-13-13.5	1.018	10.222	9.709	94.43
YG95	H	GEI-SB4-14.5-15	1.047	10.267	9.707	93.93
YG95	I	GEI-SB14-9-9.5	1.022	10.977	10.400	94.20
YG95	J	GEI-SB14-11-11.5	1.035	10.282	9.751	94.26
YG95	K	GEI-SB14-13-13.5	1.038	10.170	9.745	95.35
YG95	L	GEI-SB14-14.5-15	1.019	10.489	9.944	94.24



Total Solids Bench Sheet

Laboratory Section metals

Oven Identification: 01 Balance ID: 069755

Samples in Oven: Date: 4-18-14 Time: 1035 Temp: 106°C Analyst: CB

Removed from Oven: Date: 4-19-14 Time: 0700 Temp: 106°C Analyst: DM

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs ¹
Y695 A	1.008	10.861	8.991	—	✓
" B	1.032	10.170	8.975	—	✓
" C	0.989	10.578	10.184	—	✓
" D	0.947	10.266	9.927	—	✓
" E	0.947	10.270	7.769	—	✓
" F	1.042	10.208	9.625	—	✓
" G	1.018	10.222	9.709	—	✓
" H	1.047	10.267	9.707	—	✓
" I	1.022	10.977	10.400	—	✓
" J	1.035	10.283	9.751	—	✓
" K	1.038	10.170	9.745	—	✓
" L	1.019	10.489	9.944	—	✓
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> CB 4-18-14 </div>					

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

Y695 . 06125

**Metals Raw Data
Preparation Bench Sheets and Notes**

ARI Job ID: YG94, YG95



SPIKING LOG

Sample ID YLCU Asst. mBISel

Analyst: CB

Date: 4-18-14

Final Volume 500

Final Volume (Hg):

Precode:	ICP Routine	ICP No GFA	GFA
Spike Solution:			
Standard No.:			
Vol Added (mL):	1.0		
Ag	50		2.0
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50	50	
Pb	200		10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Precode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Precode	Analysis	Stock Conc.	Stock Added	Std. No.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: CS

Final Volume 50-c

Sample ID Y425 ESPK MBSPK

Date: 4-18-14

Final Volume (Hg): _____

Prepcode:	ICP Routine	ICP No	GFA
Spike Solution:	ICP Routine	No GFA	GFA
Standard No.:	50675		
Vol Added (mL):	1-c		
Ag	50		2.0
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50 A	50	
Pb	200 J		10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25	
Al		500
As	25	
Ba	25	
Be	25	
Ca		500
Cd	25	
Co	25	
Cr	25	
Cu	25	
Fe		500
K		500
Mg		500
Mn	25	
Mo		
Na		500
Ni	25	
Pb	25	
Sb		25
Se	80	
Tl	25	
U	25	
V	25	
Zn	80	

Element	Prepcode	Analysis	Stock Conc	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc	Stock Added	Std. No



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: CB Date: 4-18-14 Time: 0840

Matrix: soil Block ID: #5 Block Temp: 90°C Thermometer: 2746

ARI Sample ID	Btl #	pH<2	Prep Code: <u>Swc</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
Y614 A	1	-	1.039	50.0			
" Ado	-	-	1.040				
" Asok	1	-	1.042				
" B	1	-	1.009				
" C	1	-	1.043				
" D	1	-	1.068				
" E	1	-	1.040				
" F	1	-	1.021				
" G	1	-	1.036				
" H	1	-	1.044 1.058				CB 4/18/14
" I	1	-	1.033				
" J	1	-	1.016				
" K	1	-	1.070				
" L	1	-	1.073				
" M	1	-	1.008				
" N	1	-	1.046				
" O	1	-	1.057				
" P	1	-	1.080				
" Q	1	-	1.043				
" R	1	-	1.063				
" S	1	-	1.080				
" T	1	-	1.048				
" nbl	-	-	-				
" nblspt	-	-	-	50.0			
			CB 4/18/14				

Chemical/Reagent ID: Hno3: C1572
C1311

H2O2: B2059

HCL: C0083

Tube #:
1309271



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: CB Date: 4-18-14 Time: 1040
Matrix: Soil Block ID: #2 Block Temp: 90°C Thermometer: 12A29

ARI Sample ID	Btl #	pH<2	Prep Code: <u>DW</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
4655 A	1	-	1.009	50.0			
" B	1	-	1.037				
" C	1	-	1.045				
" D	1	-	1.030				
" E	1	-	1.001				
" E2	1	-	1.000				
" E3	1	-	1.006				
" F	1	-	1.052				
" G	1	-	1.057				
" H	1	-	1.022				
" I	1	-	1.073				
" J	1	-	1.009				
" K	1	-	1.041				
" L	1	-	1.062				
" M1	-	-	-				
" M2	-	-	-	50.0			
				CB			
				4-18-14			

1004 . 00104

**Metals Raw Data
Run Logs, Calibrations, and Raw Data**

ARI Job ID: YG94, YG95

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 4-22-14

	Analyst	Peer	Comment
<u>I2</u>	<u>BA 4-23-14</u>	<u>EA 4-23-14</u>	
Logbook			
Analyst, Date, Method info	✓	/	
Sample ID's	✓	/	
Standard/QC solution ID's recorded	✓	/	
Prep codes	✓	/	
Dilution factors	✓	/	
Crossouts/Corrections/Deletions	✓	/	
Calibration			
Blank & Standard intensities	✓	/	
Standard deviations	✓	/	
Curve fit	✓	/	
Calibration Verification			
ICV/CCV	✓	/	See log
ICB/CCB	✓	/	
Samples			
RSD's & SD's	✓	/	See log
Internal Standards	✓	/	
Carry-over	✓	/	
Method QC			
CRI/CRA	✓	/	See log
ICSA/ICSAB	✓	/	
Post Spikes/Serial Dilutions	✓	/	
Analytic Spikes	—	—	
Matrix QC			
SRM/LCS	✓	/	
Matrix Spikes	✓	/	
Matrix Duplicates	✓	/	
Method Blanks	✓	/	
Data Distribution			
Requested elements/isotope identified	✓	/	
Correct samples identified for distribution	✓	/	
Raw data match distributed data	✓	/	
Data filename correct	✓	/	
Necessary Analysis Notes and CAF's	—	—	



IEC Date: 3-26-14

Analysis Date: 4-22-14

Analyst: BA

LR Date: 1-3-14

Page: 1 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C1612
		2			C1601
		3			C1602
		4			C1603
		↓ 5			C1604
		ICV			C1377
		ICB			STD 0
222		222222			C1357 Ba ↓
222		222222			↓ Did not inject
		CRI			↓ Ba ↓
		Stop & recalibrate			
		STD 0			C1612
		2			C1601
		3			C1602
		4			C1603
		↓ 5			C1604
		ICV			C1377
		ICB			STD 0
		CRI			C1357
		ICSA			C1542
		ICSA B			C1543
		CCVI			ICV
		CCBI			STD 0
		YH41 MBI SWC 2			



IEC Date:

Analysis Date: 4-22-14

Analyst: BA

LR Date:

Page: 2 of 5

All corrections made by analyst unless otherwise noted. BA 4.22.14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YH44 MB	SWC	2	
		↓ A	↓	↓	
		↓ B	↓	↓	
		YH41 A			
		↓ B	↓	↓	
		↓ C	↓	↓	
		↓ MBSPK	↓	↓	✓
		YH44 MBSPK	↓	↓	✓
		CCV2			
		CCB2			
		YH53 O	WMN	2	
		↓ P	↓	↓	
		↓ Q	↓	↓	
		CCV3			
		CCB3			
		YG94 MBI	SWC	2	
	✓	↓ ADUP	↓	↓	
	✓	↓ A	↓	↓	Al, Fe > LR
	✓	↓ ASPK	↓	↓	Al > LR
222		222222 APOST			
		↓ B	↓	↓	
		↓ C	↓	↓	
		↓ D	↓	↓	
		↓ E	↓	↓	



IEC Date:

Analysis Date: 4-22-14

Analyst: BA

LR Date:

Page: 3 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YG94 MBISPK	SWC	2 ✓	
		CCV4			
		CCB4			
		YG94 F	SWC	2	
		G			
		H			
		H			
		J			
		K			
		L			
		3			
		2			
		0			
		CCV5			Be, K, Na, Sr, Ti sl. noise
		CCB5			
		YG94 P	SWC	2	
		Q			
		R			
		S			
		T			
		ADUP		5 ✓	
		A			
		ASPK			Ni STL ✓
		CCV6			



IEC Date: - Analysis Date: 4-22-14 Analyst: BA
LR Date: - Page: 4 of 5

All corrections made by analyst unless otherwise noted. BA 4-23-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCB6			End YG94
		YH41 MB2	LEN	5	
		A+DUP			✓
		A+			✓
		A+SPK			
		B+			
		C+			
		CCV7			
		CCB7			
		YG95 MBI	SWC	2	
		A	BA	4/23/14	
		B			
		C			
		D			
		EDUP			✓
		E			✓
		ESP			
222		ESP			
		MBISPK			✓
		CCV8			
		CCB8			
		YG95 F	SWC	2	
		G			
		H			



SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7300
Serial No. - 077C8121202

IEC Date: _____
LR Date: _____

Analysis Date: 4-22-14

Analyst: BA
Page: 5 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		YG95	SWC	2	
		I			
		J			
		K			
		L			
		CCV9			
		CCB9			End Pkg (YG95)
		Rinse/DI			
		BA			
		4-22-14			

Nebulizer Parameters: Hg_ReAlign

Analyte Back Pressure Flow
 All 215.0 kPa 0.75 L/min

4/22/2014 9:10:12 AM Hg ReAlign... Actual peak offset (nm): 0.004
 Drift (nm): -0.000 Slit adjustment: 0

Analysis Begun

Start Time: 4/22/2014 9:13:21 AM Plasma On Time: 4/22/2014 7:33:28 AM
 Logged In Analyst: Metals Technique: ICP Continuous
 Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
 Batch ID:
 Results Data Set: I2140422
 Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Method Loaded

Method Name: 7300bcESI2FAST Method Last Saved: 8/13/2012 7:13:22 AM
 IEC File: IEC010314C.iec MSF File:
 Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1 Autosampler Location: 1
 Sample ID: B1 Date Collected: 4/22/2014 9:13:27 AM
 Dilution: 1.000000X Data Type: Original

BA
4/22/14

Nebulizer Parameters: B1

Analyte Back Pressure Flow
 All 216.0 kPa 0.75 L/min

=====
Analysis Begun

Start Time: 4/22/2014 9:41:25 AM Plasma On Time: 4/22/2014 7:33:28 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0422.sif
Batch ID:
Results Data Set: I2140422
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1 Autosampler Location: 1
Sample ID: Calib Blank 1 Date Collected: 4/22/2014 9:41:27 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2821738.9	9006.66	0.32%	100.0 %
ScR 361.383	232089.6	1315.29	0.57%	100.0 %
Ag 328.068†	-115.5	26.03	22.53%	[0.00] mg/L
Al 308.215†	117.9	4.03	3.42%	[0.00] mg/L
As 188.979†	-12.0	3.28	27.38%	[0.00] mg/L
B 249.677†	28.3	5.15	18.16%	[0.00] mg/L
Ba 233.527†	19.0	1.43	7.51%	[0.00] mg/L
Be 313.042†	539.1	5.09	0.94%	[0.00] mg/L
Ca 317.933†	103.3	14.91	14.44%	[0.00] mg/L
Cd 228.802†	284.1	2.22	0.78%	[0.00] mg/L
Co 228.616†	-62.0	2.48	4.00%	[0.00] mg/L
Cr 267.716†	-106.2	2.55	2.40%	[0.00] mg/L
Cu 324.752†	4145.5	13.11	0.32%	[0.00] mg/L
Fe 273.955†	17.7	1.30	7.35%	[0.00] mg/L
K 766.490†	676.9	6.51	0.96%	[0.00] mg/L
Mg 279.077†	62.1	2.39	3.85%	[0.00] mg/L
Mn 257.610†	134.5	1.59	1.18%	[0.00] mg/L
Mo 202.031†	60.8	2.24	3.68%	[0.00] mg/L
Na 589.592†	-237.9	14.74	6.20%	[0.00] mg/L
Na 330.237†	-164.1	4.97	3.03%	[0.00] mg/L
Ni 231.604†	-8.5	2.47	29.11%	[0.00] mg/L
Pb 220.353†	53.2	4.22	7.94%	[0.00] mg/L
Sb 206.836†	66.5	3.50	5.26%	[0.00] mg/L
Se 196.026†	-36.2	1.62	4.48%	[0.00] mg/L
Si 288.158†	84.2	10.46	12.42%	[0.00] mg/L
Sn 189.927†	-1.6	2.22	138.77%	[0.00] mg/L
Sr 421.552†	151.1	16.95	11.22%	[0.00] mg/L
Ti 334.903†	-74.0	4.47	6.04%	[0.00] mg/L
Tl 190.801†	-35.6	7.44	20.93%	[0.00] mg/L
V 292.402†	160.2	4.05	2.53%	[0.00] mg/L
Zn 206.200†	6.3	2.17	34.74%	[0.00] mg/L

=====
Sequence No.: 2 Autosampler Location: 2
Sample ID: STD2 Date Collected: 4/22/2014 9:45:28 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: STD2

Mean Corrected Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2792120.8	8460.37	0.30%	98.95	%
ScR 361.383	234003.6	554.07	0.24%	100.8	%
Ba 233.527†	36048.5	155.42	0.43%	[10]	mg/L
Cd 228.802†	325481.2	467.35	0.14%	[10]	mg/L
Co 228.616†	388794.8	1211.37	0.31%	[10]	mg/L
Cr 267.716†	47537.7	76.87	0.16%	[10]	mg/L
Cu 324.752†	2843371.1	5104.66	0.18%	[10]	mg/L
Mn 257.610†	310500.1	656.25	0.21%	[10]	mg/L
V 292.402†	1442144.7	2433.78	0.17%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/22/2014 9:47:16 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2857940.0	2846.70	0.10%	101.3	%
ScR 361.383	240520.8	417.61	0.17%	103.6	%
Ag 328.068†	188619.4	375.15	0.20%	[1.0]	mg/L
As 188.979†	15341.9	28.13	0.18%	[10]	mg/L
B 249.677†	52429.7	354.04	0.68%	[10]	mg/L
Be 313.042†	2205463.7	3659.50	0.17%	[5.0]	mg/L
Na 589.592†	642090.2	1555.79	0.24%	[50]	mg/L
Ni 231.604†	32023.8	142.19	0.44%	[10]	mg/L
Pb 220.353†	80109.7	276.59	0.35%	[10]	mg/L
Se 196.026†	12574.8	86.03	0.68%	[10]	mg/L
Sr 421.552†	3872886.2	6659.39	0.17%	[5]	mg/L
Tl 190.801†	18305.9	37.17	0.20%	[10]	mg/L
Zn 206.200†	32993.8	189.38	0.57%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/22/2014 9:49:34 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2927474.4	6447.45	0.22%	103.7	%
ScR 361.383	243633.5	928.42	0.38%	105.0	%
Mo 202.031†	164574.8	568.93	0.35%	[10]	mg/L
Sb 206.836†	28126.5	36.33	0.13%	[10]	mg/L
Si 288.158†	16355.8	232.07	1.42%	[10]	mg/L
Sn 189.927†	31416.3	130.53	0.42%	[10]	mg/L
Ti 334.903†	156631.1	574.27	0.37%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/22/2014 9:51:49 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2749020.3	11554.98	0.42%	97.42	%
ScR 361.383	241251.3	1412.32	0.59%	103.9	%
Al 308.215†	36161.7	246.56	0.68%	[30]	mg/L
Ca 317.933†	290573.0	605.79	0.21%	[30]	mg/L
Fe 273.955†	106581.3	416.08	0.39%	[100]	mg/L
K 766.490†	214649.9	619.15	0.29%	[100]	mg/L
Mg 279.077†	30064.5	223.10	0.74%	[30]	mg/L
Na 330.237†	2059.4	16.25	0.79%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	188600	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1205	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1534	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5243	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3605	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	441100	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9686	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	32550	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	38880	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4754	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	284300	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1066	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2146	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1002	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	31050	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	16460	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	12840	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	20.59	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3202	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8011	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	2813	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1257	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1636	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3142	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	774600	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	15660	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	1831	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	144200	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3299	0.00000	1.000000	

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Analysis Begun

Start Time: 4/22/2014 10:09:38 AM

Plasma On Time: 4/22/2014 7:33:28 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0422.sif

Batch ID:

Results Data Set: I2140422

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
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Sequence No.: 1

Autosampler Location: 7

Sample ID: ICV

Date Collected: 4/22/2014 10:09:39 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2780339.5	98.53 %	0.629			0.64%
ScR 361.383	226507.8	97.59 %	0.775			0.79%
Ag 328.068†	206902.9	1.097 mg/L	0.0049	1.097 mg/L	0.0049	0.45%
Al 308.215†	2582.4	2.110 mg/L	0.0153	2.110 mg/L	0.0153	0.73%
As 188.979†	3204.5	2.122 mg/L	0.0120	2.122 mg/L	0.0120	0.57%
B 249.677†	5570.7	1.062 mg/L	0.0076	1.062 mg/L	0.0076	0.72%
Ba 233.527†	3630.9	1.007 mg/L	0.0112	1.007 mg/L	0.0112	1.11%
Be 313.042†	446215.1	1.011 mg/L	0.0016	1.011 mg/L	0.0016	0.16%
Ca 317.933†	20902.5	2.158 mg/L	0.0172	2.158 mg/L	0.0172	0.80%
Cd 228.802†	34029.1	1.036 mg/L	0.0100	1.036 mg/L	0.0100	0.96%
Co 228.616†	38641.1	0.9919 mg/L	0.00924	0.9919 mg/L	0.00924	0.93%
Cr 267.716†	4885.4	1.027 mg/L	0.0075	1.027 mg/L	0.0075	0.73%
Cu 324.752†	283448.9	0.9966 mg/L	0.00568	0.9966 mg/L	0.00568	0.57%
Fe 273.955†	2289.9	2.142 mg/L	0.0101	2.142 mg/L	0.0101	0.47%
K 766.490†	44863.7	20.90 mg/L	0.139	20.90 mg/L	0.139	0.66%
Mg 279.077†	2081.5	2.083 mg/L	0.0200	2.083 mg/L	0.0200	0.96%
Mn 257.610†	30353.5	0.9780 mg/L	0.00330	0.9780 mg/L	0.00330	0.34%
Mo 202.031†	16689.7	1.014 mg/L	0.0098	1.014 mg/L	0.0098	0.97%
Na 589.592†	687190.4	53.51 mg/L	0.170	53.51 mg/L	0.170	0.32%
Na 330.237†	1101.9	53.47 mg/L	0.612	53.47 mg/L	0.612	1.14%
Ni 231.604†	3395.9	1.061 mg/L	0.0073	1.061 mg/L	0.0073	0.69%
Pb 220.353†	16265.8	2.032 mg/L	0.0171	2.032 mg/L	0.0171	0.84%
Sb 206.836†	6203.5	2.205 mg/L	0.0124	2.205 mg/L	0.0124	0.56%
Se 196.026†	2626.0	2.087 mg/L	0.0108	2.087 mg/L	0.0108	0.52%
Si 288.158†	3494.0	2.141 mg/L	0.0475	2.141 mg/L	0.0475	2.22%
Sn 189.927†	3265.8	1.041 mg/L	0.0067	1.041 mg/L	0.0067	0.65%
Sr 421.552†	817340.2	1.055 mg/L	0.0026	1.055 mg/L	0.0026	0.25%
Ti 334.903†	16470.8	1.050 mg/L	0.0024	1.050 mg/L	0.0024	0.23%
Tl 190.801†	3788.9	2.062 mg/L	0.0082	2.062 mg/L	0.0082	0.40%
V 292.402†	145580.1	1.014 mg/L	0.0063	1.014 mg/L	0.0063	0.63%
Zn 206.200†	3462.9	1.050 mg/L	0.0085	1.050 mg/L	0.0085	0.81%

Sequence No.: 2
 Sample ID: ICB

Autosampler Location: 1
 Date Collected: 4/22/2014 10:13:43 AM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

 Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2834062.3	100.4	%	1.05			1.05%
ScR 361.383	238115.2	102.6	%	0.59			0.57%
Ag 328.068†	-21.1	-0.00011	mg/L	0.000161	-0.00011	0.000161	144.22%
Al 308.215†	-5.1	-0.00426	mg/L	0.003522	-0.00426	0.003522	82.61%
As 188.979†	4.3	0.00282	mg/L	0.000870	0.00282	0.000870	30.87%
B 249.677†	8.4	0.00160	mg/L	0.000937	0.00160	0.000937	58.51%
Ba 233.527†	-3.3	-0.00093	mg/L	0.000865	-0.00093	0.000865	93.15%
Be 313.042†	20.8	0.00005	mg/L	0.000043	0.00005	0.000043	91.82%
Ca 317.933†	-17.0	-0.00176	mg/L	0.000380	-0.00176	0.000380	21.61%
Cd 228.802†	0.2	-0.00001	mg/L	0.000142	-0.00001	0.000142	>999.9%
Co 228.616†	3.7	0.00009	mg/L	0.000059	0.00009	0.000059	62.78%
Cr 267.716†	7.9	0.00167	mg/L	0.000294	0.00167	0.000294	17.62%
Cu 324.752†	20.6	0.00007	mg/L	0.000166	0.00007	0.000166	230.62%
Fe 273.955†	-1.7	-0.00158	mg/L	0.000434	-0.00158	0.000434	27.48%
K 766.490†	-12.2	-0.00568	mg/L	0.015590	-0.00568	0.015590	274.42%
Mg 279.077†	-7.5	-0.00752	mg/L	0.002124	-0.00752	0.002124	28.26%
Mn 257.610†	-3.4	-0.00011	mg/L	0.000016	-0.00011	0.000016	14.88%
Mo 202.031†	13.1	0.00080	mg/L	0.000646	0.00080	0.000646	81.11%
Na 589.592†	79.1	0.00616	mg/L	0.002330	0.00616	0.002330	37.83%
Na 330.237†	-3.5	-0.1694	mg/L	0.09336	-0.1694	0.09336	55.11%
Ni 231.604†	-4.4	-0.00136	mg/L	0.000767	-0.00136	0.000767	56.24%
Pb 220.353†	-7.7	-0.00096	mg/L	0.000156	-0.00096	0.000156	16.27%
Sb 206.836†	25.7	0.00912	mg/L	0.002133	0.00912	0.002133	23.39%
Se 196.026†	4.5	0.00358	mg/L	0.001769	0.00358	0.001769	49.41%
Si 288.158†	-15.3	-0.00935	mg/L	0.008920	-0.00935	0.008920	95.39%
Sn 189.927†	0.3	0.00010	mg/L	0.000317	0.00010	0.000317	313.68%
Sr 421.552†	36.6	0.00005	mg/L	0.000017	0.00005	0.000017	36.31%
Ti 334.903†	12.6	0.00080	mg/L	0.000236	0.00080	0.000236	29.30%
Tl 190.801†	6.4	0.00351	mg/L	0.001604	0.00351	0.001604	45.67%
V 292.402†	24.2	0.00017	mg/L	0.000120	0.00017	0.000120	68.92%
Zn 206.200†	1.2	0.00035	mg/L	0.000506	0.00035	0.000506	143.29%

Sequence No.: 3

Sample ID: ~~CRI~~ ZZZZZZ

Dilution: 1.000000X

Autosampler Location: 301

Date Collected: 4/22/2014 10:17:43 AM

Data Type: Original

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2852114.0	101.1 %		1.31			1.30%
ScR 361.383	236922.6	102.1 %		0.25			0.25%
Ag 328.068†	607.2	0.00322 mg/L		0.000175	0.00322 mg/L	0.000175	5.44%
Al 308.215†	53.1	0.04389 mg/L		0.003100	0.04389 mg/L	0.003100	7.06%
As 188.979†	81.7	0.05347 mg/L		0.002270	0.05347 mg/L	0.002270	4.25%
B 249.677†	110.4	0.02106 mg/L		0.002006	0.02106 mg/L	0.002006	9.52%
Ba 233.527†	4.5	0.00125 mg/L		0.000850	0.00125 mg/L	0.000850	68.04%
Be 313.042†	437.8	0.00099 mg/L		0.000013	0.00099 mg/L	0.000013	1.28%
Ca 317.933†	466.8	0.04819 mg/L		0.001181	0.04819 mg/L	0.001181	2.45%
Cd 228.802†	73.3	0.00199 mg/L		0.000169	0.00199 mg/L	0.000169	8.49%
Co 228.616†	116.8	0.00299 mg/L		0.000102	0.00299 mg/L	0.000102	3.41%
Cr 267.716†	29.4	0.00618 mg/L		0.000919	0.00618 mg/L	0.000919	14.86%
Cu 324.752†	583.5	0.00205 mg/L		0.000356	0.00205 mg/L	0.000356	17.38%
Fe 273.955†	52.9	0.04964 mg/L		0.000945	0.04964 mg/L	0.000945	1.90%
K 766.490†	1072.3	0.4996 mg/L		0.00772	0.4996 mg/L	0.00772	1.54%
Mg 279.077†	41.8	0.04170 mg/L		0.000852	0.04170 mg/L	0.000852	2.04%
Mn 257.610†	24.0	0.00078 mg/L		0.000104	0.00078 mg/L	0.000104	13.34%
Mo 202.031†	83.7	0.00509 mg/L		0.000457	0.00509 mg/L	0.000457	8.99%
Na 589.592†	6619.9	0.5155 mg/L		0.00431	0.5155 mg/L	0.00431	0.84%
Na 330.237†	7.2	0.3480 mg/L		0.23889	0.3480 mg/L	0.23889	68.65%
Ni 231.604†	31.5	0.00984 mg/L		0.001685	0.00984 mg/L	0.001685	17.13%
Pb 220.353†	158.1	0.01975 mg/L		0.000726	0.01975 mg/L	0.000726	3.67%
Sb 206.836†	155.0	0.05511 mg/L		0.001301	0.05511 mg/L	0.001301	2.36%
Se 196.026†	71.8	0.05710 mg/L		0.002832	0.05710 mg/L	0.002832	4.96%
Si 288.158†	75.5	0.04618 mg/L		0.005316	0.04618 mg/L	0.005316	11.51%
Sn 189.927†	30.0	0.00960 mg/L		0.000215	0.00960 mg/L	0.000215	2.24%
Sr 421.552†	800.6	0.00103 mg/L		0.000061	0.00103 mg/L	0.000061	5.89%
Ti 334.903†	96.7	0.00616 mg/L		0.000491	0.00616 mg/L	0.000491	7.97%
Tl 190.801†	96.8	0.05285 mg/L		0.001439	0.05285 mg/L	0.001439	2.72%
V 292.402†	444.2	0.00310 mg/L		0.000350	0.00310 mg/L	0.000350	11.27%
Zn 206.200†	34.1	0.01034 mg/L		0.000738	0.01034 mg/L	0.000738	7.13%

User canceled analysis.

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Analysis Begun

Start Time: 4/22/2014 10:22:43 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 4/22/2014 7:33:28 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0422.sif
Batch ID:
Results Data Set: I2140422
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 3
Sample ID: ~~CRI~~ 222222
BA 4/22/14
Dilution: 1.000000X

Autosampler Location: 301
Date Collected: 4/22/2014 10:22:44 AM
Data Type: Original

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	7930769.1	281.1 %	22.84			8.12%
ScR 361.383	689665.5	297.2 %	5.71			1.92%
Ag 328.068†	99.6	0.00053 mg/L	0.000056	0.00053 mg/L	0.000056	10.59%
Al 308.215†	-86.1	-0.07137 mg/L	0.001268	-0.07137 mg/L	0.001268	1.78%
As 188.979†	11.8	0.00780 mg/L	0.000562	0.00780 mg/L	0.000562	7.21%
B 249.677†	-19.3	-0.00369 mg/L	0.000215	-0.00369 mg/L	0.000215	5.82%
Ba 233.527†	-13.5	-0.00373 mg/L	0.000139	-0.00373 mg/L	0.000139	3.71%
Be 313.042†	-388.6	-0.00088 mg/L	0.000007	-0.00088 mg/L	0.000007	0.85%
Ca 317.933†	-74.6	-0.00770 mg/L	0.000293	-0.00770 mg/L	0.000293	3.81%
Cd 228.802†	-50.5	-0.00159 mg/L	0.000472	-0.00159 mg/L	0.000472	29.66%
Co 228.616†	39.2	0.00100 mg/L	0.000065	0.00100 mg/L	0.000065	6.51%
Cr 267.716†	74.1	0.01558 mg/L	0.000513	0.01558 mg/L	0.000513	3.29%
Cu 324.752†	-2953.3	-0.01039 mg/L	0.000259	-0.01039 mg/L	0.000259	2.50%
Fe 273.955†	-12.9	-0.01210 mg/L	0.000447	-0.01210 mg/L	0.000447	3.70%
K 766.490†	-451.1	-0.2102 mg/L	0.00528	-0.2102 mg/L	0.00528	2.51%
Mg 279.077†	-44.2	-0.04409 mg/L	0.002558	-0.04409 mg/L	0.002558	5.80%
Mn 257.610†	-93.7	-0.00302 mg/L	0.000041	-0.00302 mg/L	0.000041	1.36%
Mo 202.031†	-34.8	-0.00211 mg/L	0.000180	-0.00211 mg/L	0.000180	8.52%
Na 589.592†	129.4	0.01008 mg/L	0.001188	0.01008 mg/L	0.001188	11.79%
Na 330.237†	114.9	5.579 mg/L	0.0397	5.579 mg/L	0.0397	0.71%
Ni 231.604†	4.6	0.00143 mg/L	0.000296	0.00143 mg/L	0.000296	20.74%
Pb 220.353†	-27.4	-0.00339 mg/L	0.000279	-0.00339 mg/L	0.000279	8.21%
Sb 206.836†	-32.9	-0.01189 mg/L	0.001604	-0.01189 mg/L	0.001604	13.49%
Se 196.026†	25.5	0.02026 mg/L	0.000502	0.02026 mg/L	0.000502	2.48%
Si 288.158†	-65.0	-0.03977 mg/L	0.001489	-0.03977 mg/L	0.001489	3.74%
Sn 189.927†	2.0	0.00061 mg/L	0.000165	0.00061 mg/L	0.000165	26.85%
Sr 421.552†	-123.6	-0.00016 mg/L	0.000008	-0.00016 mg/L	0.000008	4.88%
Ti 334.903†	56.0	0.00357 mg/L	0.000127	0.00357 mg/L	0.000127	3.56%
Tl 190.801†	27.6	0.01504 mg/L	0.001096	0.01504 mg/L	0.001096	7.29%
V 292.402†	-83.3	-0.00052 mg/L	0.000012	-0.00052 mg/L	0.000012	2.25%
Zn 206.200†	-4.2	-0.00128 mg/L	0.000174	-0.00128 mg/L	0.000174	13.59%

User canceled analysis.

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Analysis Begun

Start Time: 4/22/2014 10:27:57 AM Plasma On Time: 4/22/2014 7:33:28 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0422.sif
Batch ID:
Results Data Set: I2140422
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 3 Autosampler Location: 301
Sample ID: CRI Date Collected: 4/22/2014 10:27:58 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2831147.0	100.3 %	0.17			0.17%
ScR 361.383	238022.4	102.6 %	0.87			0.85%
Ag 328.068†	604.5	0.00321 mg/L	0.000050	0.00321 mg/L	0.000050	1.56%
Al 308.215†	62.5	0.05175 mg/L	0.005317	0.05175 mg/L	0.005317	10.28%
As 188.979†	82.6	0.05406 mg/L	0.001001	0.05406 mg/L	0.001001	1.85%
B 249.677†	111.0	0.02117 mg/L	0.000869	0.02117 mg/L	0.000869	4.11%
Ba 233.527†	5.3	0.00147 mg/L	0.000675	0.00147 mg/L	0.000675	45.90%
Be 313.042†	439.5	0.00100 mg/L	0.000034	0.00100 mg/L	0.000034	3.44%
Ca 317.933†	460.9	0.04759 mg/L	0.000866	0.04759 mg/L	0.000866	1.82%
Cd 228.802†	79.3	0.00217 mg/L	0.000168	0.00217 mg/L	0.000168	7.74%
Co 228.616†	114.1	0.00292 mg/L	0.000055	0.00292 mg/L	0.000055	1.89%
Cr 267.716†	28.1	0.00592 mg/L	0.000521	0.00592 mg/L	0.000521	8.81%
Cu 324.752†	607.7	0.00214 mg/L	0.000109	0.00214 mg/L	0.000109	5.10%
Fe 273.955†	54.7	0.05133 mg/L	0.001834	0.05133 mg/L	0.001834	3.57%
K 766.490†	1058.7	0.4932 mg/L	0.01156	0.4932 mg/L	0.01156	2.34%
Mg 279.077†	40.6	0.04053 mg/L	0.003340	0.04053 mg/L	0.003340	8.24%
Mn 257.610†	21.6	0.00070 mg/L	0.000177	0.00070 mg/L	0.000177	25.38%
Mo 202.031†	85.7	0.00521 mg/L	0.000117	0.00521 mg/L	0.000117	2.24%
Na 589.592†	6641.9	0.5172 mg/L	0.00265	0.5172 mg/L	0.00265	0.51%
Na 330.237†	8.2	0.3945 mg/L	0.24684	0.3945 mg/L	0.24684	62.57%
Ni 231.604†	29.3	0.00916 mg/L	0.000822	0.00916 mg/L	0.000822	8.97%
Pb 220.353†	153.5	0.01919 mg/L	0.000475	0.01919 mg/L	0.000475	2.48%
Sb 206.836†	158.8	0.05646 mg/L	0.000877	0.05646 mg/L	0.000877	1.55%
Se 196.026†	68.7	0.05460 mg/L	0.001888	0.05460 mg/L	0.001888	3.46%
Si 288.158†	78.9	0.04824 mg/L	0.004051	0.04824 mg/L	0.004051	8.40%
Sn 189.927†	32.2	0.01028 mg/L	0.000275	0.01028 mg/L	0.000275	2.68%
Sr 421.552†	812.0	0.00105 mg/L	0.000018	0.00105 mg/L	0.000018	1.69%
Ti 334.903†	97.0	0.00618 mg/L	0.000619	0.00618 mg/L	0.000619	10.01%
Tl 190.801†	97.0	0.05296 mg/L	0.001361	0.05296 mg/L	0.001361	2.57%
V 292.402†	433.7	0.00303 mg/L	0.000060	0.00303 mg/L	0.000060	1.98%
Zn 206.200†	33.6	0.01018 mg/L	0.000368	0.01018 mg/L	0.000368	3.62%

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Analysis Begun

Start Time: 4/22/2014 10:33:33 AM Plasma On Time: 4/22/2014 7:33:28 AM
Logged In Analyst: Metals Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0422.sif
Batch ID:
Results Data Set: I2140422
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1 Autosampler Location: 1
Sample ID: Calib Blank 1 Date Collected: 4/22/2014 10:33:34 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2886242.5	19623.11	0.68%	100.0	%
ScR 361.383	239516.3	1384.96	0.58%	100.0	%
Ag 328.068†	-138.1	62.69	45.40%	[0.00]	mg/L
Al 308.215†	118.2	5.90	4.99%	[0.00]	mg/L
As 188.979†	-11.3	3.28	28.98%	[0.00]	mg/L
B 249.677†	28.5	4.34	15.25%	[0.00]	mg/L
Ba 233.527†	15.4	3.36	21.86%	[0.00]	mg/L
Be 313.042†	542.2	8.12	1.50%	[0.00]	mg/L
Ca 317.933†	109.8	3.31	3.01%	[0.00]	mg/L
Cd 228.802†	288.1	1.58	0.55%	[0.00]	mg/L
Co 228.616†	-60.0	3.72	6.20%	[0.00]	mg/L
Cr 267.716†	-103.7	2.82	2.72%	[0.00]	mg/L
Cu 324.752†	4206.1	54.13	1.29%	[0.00]	mg/L
Fe 273.955†	15.5	1.73	11.14%	[0.00]	mg/L
K 766.490†	728.6	29.43	4.04%	[0.00]	mg/L
Mg 279.077†	58.0	1.34	2.31%	[0.00]	mg/L
Mn 257.610†	136.3	2.07	1.52%	[0.00]	mg/L
Mo 202.031†	59.3	4.41	7.44%	[0.00]	mg/L
Na 589.592†	-238.9	10.81	4.52%	[0.00]	mg/L
Na 330.237†	-168.2	3.86	2.30%	[0.00]	mg/L
Ni 231.604†	-11.7	5.69	48.55%	[0.00]	mg/L
Pb 220.353†	48.6	1.31	2.69%	[0.00]	mg/L
Sb 206.836†	74.4	3.98	5.35%	[0.00]	mg/L
Se 196.026†	-30.9	3.92	12.68%	[0.00]	mg/L
Si 288.158†	71.4	10.20	14.29%	[0.00]	mg/L
Sn 189.927†	-4.1	0.66	16.01%	[0.00]	mg/L
Sr 421.552†	160.8	44.13	27.45%	[0.00]	mg/L
Ti 334.903†	-67.6	9.36	13.85%	[0.00]	mg/L
Tl 190.801†	-32.0	2.29	7.14%	[0.00]	mg/L
V 292.402†	157.8	22.99	14.57%	[0.00]	mg/L
Zn 206.200†	5.7	2.95	51.57%	[0.00]	mg/L

Sequence No.: 2
Sample ID: STD2

Autosampler Location: 2
Date Collected: 4/22/2014 10:37:35 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected		Calib	
	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2859326.8	9772.29	0.34%	99.07 %
ScR 361.383	237652.8	800.24	0.34%	99.22 %
Ba 233.527†	36849.3	199.18	0.54%	[10] mg/L
Cd 228.802†	325118.4	441.11	0.14%	[10] mg/L
Co 228.616†	390638.1	1255.89	0.32%	[10] mg/L
Cr 267.716†	48113.6	187.78	0.39%	[10] mg/L
Cu 324.752†	2862593.5	5323.47	0.19%	[10] mg/L
Mn 257.610†	311706.4	1343.11	0.43%	[10] mg/L
V 292.402†	1454891.6	2334.80	0.16%	[10] mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 4/22/2014 10:39:22 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2915165.7	25404.51	0.87%	101.0	%
ScR 361.383	245311.3	1615.11	0.66%	102.4	%
Ag 328.068†	191674.8	565.14	0.29%	[1.0]	mg/L
As 188.979†	15702.2	188.11	1.20%	[10]	mg/L
B 249.677†	53377.9	414.03	0.78%	[10]	mg/L
Be 313.042†	2220407.7	11674.62	0.53%	[5.0]	mg/L
Na 589.592†	655544.4	2493.30	0.38%	[50]	mg/L
Ni 231.604†	32775.8	344.63	1.05%	[10]	mg/L
Pb 220.353†	81636.9	1174.91	1.44%	[10]	mg/L
Se 196.026†	12757.3	164.46	1.29%	[10]	mg/L
Sr 421.552†	3934810.8	23121.23	0.59%	[5]	mg/L
Tl 190.801†	18700.8	363.44	1.94%	[10]	mg/L
Zn 206.200†	33456.8	209.22	0.63%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 4/22/2014 10:41:39 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2967347.5	6471.13	0.22%	102.8	%
ScR 361.383	251637.4	178.82	0.07%	105.1	%
Mo 202.031†	167395.6	781.34	0.47%	[10]	mg/L
Sb 206.836†	28647.0	184.14	0.64%	[10]	mg/L
Si 288.158†	16098.7	191.11	1.19%	[10]	mg/L
Sn 189.927†	31705.3	112.61	0.36%	[10]	mg/L
Ti 334.903†	158035.2	1437.25	0.91%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 4/22/2014 10:43:53 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected			Conc.	Units
	Intensity	Std.Dev.	RSD		
ScA 357.253	2748775.4	11921.66	0.43%	95.24	%
ScR 361.383	243462.1	290.40	0.12%	101.6	%
Al 308.215†	36768.2	160.07	0.44%	[30]	mg/L
Ca 317.933†	296306.7	1431.82	0.48%	[30]	mg/L
Fe 273.955†	107825.4	861.55	0.80%	[100]	mg/L
K 766.490†	218407.7	1320.29	0.60%	[100]	mg/L
Mg 279.077†	30591.7	76.55	0.25%	[30]	mg/L
Na 330.237†	2087.1	27.34	1.31%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	191700	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1226	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1570	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5338	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3685	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	444100	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	9877	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	32510	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	39060	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4811	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	286300	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1078	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2184	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1020	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	31170	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	16740	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13110	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	20.87	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3278	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8164	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	2865	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1276	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1610	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3171	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	787000	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	15800	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	1870	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	145500	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3346	0.00000	1.000000	

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Analysis Begun

Start Time: 4/22/2014 10:45:52 AM

Plasma On Time: 4/22/2014 7:33:28 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0422.sif

Batch ID:

Results Data Set: I2140422

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
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Sequence No.: 1

Autosampler Location: 7

Sample ID: ICV

Date Collected: 4/22/2014 10:45:53 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2903781.0	100.6	%	0.04			0.04%
ScR 361.383	238027.3	99.38	%	0.944			0.95%
Ag 328.068†	202524.1	1.057	mg/L	0.0032	1.057 mg/L	0.0032	0.30%
Al 308.215†	2526.4	2.030	mg/L	0.0201	2.030 mg/L	0.0201	0.99%
As 188.979†	3141.2	2.033	mg/L	0.0076	2.033 mg/L	0.0076	0.37%
B 249.677†	5476.3	1.025	mg/L	0.0108	1.025 mg/L	0.0108	1.05%
Ba 233.527†	3614.1	0.9803	mg/L	0.01024	0.9803 mg/L	0.01024	1.04%
Be 313.042†	438671.2	0.9876	mg/L	0.00361	0.9876 mg/L	0.00361	0.37%
Ca 317.933†	20524.5	2.078	mg/L	0.0159	2.078 mg/L	0.0159	0.77%
Cd 228.802†	32933.1	1.003	mg/L	0.0021	1.003 mg/L	0.0021	0.21%
Co 228.616†	37576.0	0.9600	mg/L	0.00248	0.9600 mg/L	0.00248	0.26%
Cr 267.716†	4784.4	0.9939	mg/L	0.00772	0.9939 mg/L	0.00772	0.78%
Cu 324.752†	276536.4	0.9658	mg/L	0.00324	0.9658 mg/L	0.00324	0.34%
Fe 273.955†	2221.9	2.054	mg/L	0.0124	2.054 mg/L	0.0124	0.60%
K 766.490†	44033.1	20.16	mg/L	0.141	20.16 mg/L	0.141	0.70%
Mg 279.077†	2046.0	2.013	mg/L	0.0203	2.013 mg/L	0.0203	1.01%
Mn 257.610†	30615.9	0.9826	mg/L	0.00772	0.9826 mg/L	0.00772	0.79%
Mo 202.031†	16234.1	0.9698	mg/L	0.00126	0.9698 mg/L	0.00126	0.13%
Na 589.592†	676745.5	51.62	mg/L	0.143	51.62 mg/L	0.143	0.28%
Na 330.237†	1078.3	51.63	mg/L	0.456	51.63 mg/L	0.456	0.88%
Ni 231.604†	3360.3	1.026	mg/L	0.0078	1.026 mg/L	0.0078	0.76%
Pb 220.353†	15826.8	1.940	mg/L	0.0030	1.940 mg/L	0.0030	0.15%
Sb 206.836†	6052.0	2.112	mg/L	0.0111	2.112 mg/L	0.0111	0.53%
Se 196.026†	2558.9	2.005	mg/L	0.0176	2.005 mg/L	0.0176	0.88%
Si 288.158†	3381.1	2.105	mg/L	0.0438	2.105 mg/L	0.0438	2.08%
Sn 189.927†	3187.9	1.007	mg/L	0.0050	1.007 mg/L	0.0050	0.49%
Sr 421.552†	803638.4	1.021	mg/L	0.0036	1.021 mg/L	0.0036	0.35%
Ti 334.903†	16240.5	1.026	mg/L	0.0032	1.026 mg/L	0.0032	0.31%
Tl 190.801†	3715.0	1.979	mg/L	0.0159	1.979 mg/L	0.0159	0.81%
V 292.402†	142286.2	0.9820	mg/L	0.00220	0.9820 mg/L	0.00220	0.22%
Zn 206.200†	3392.0	1.014	mg/L	0.0077	1.014 mg/L	0.0077	0.76%

Sequence No.: 2
Sample ID: CB

Autosampler Location: 1
Date Collected: 4/22/2014 10:49:56 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2872088.4	99.51	%	0.502				0.50%
ScR 361.383	243744.2	101.8	%	0.58				0.57%
Ag 328.068†	5.4	0.00003	mg/L	0.000080	0.00003	mg/L	0.000080	281.44%
Al 308.215†	5.5	0.00442	mg/L	0.001957	0.00442	mg/L	0.001957	44.26%
As 188.979†	1.3	0.00086	mg/L	0.000503	0.00086	mg/L	0.000503	58.70%
B 249.677†	16.4	0.00308	mg/L	0.001656	0.00308	mg/L	0.001656	53.76%
Ba 233.527†	2.2	0.00060	mg/L	0.000928	0.00060	mg/L	0.000928	155.33%
Be 313.042†	18.2	0.00004	mg/L	0.000028	0.00004	mg/L	0.000028	67.46%
Ca 317.933†	-9.4	-0.00095	mg/L	0.000190	-0.00095	mg/L	0.000190	20.02%
Cd 228.802†	4.6	0.00014	mg/L	0.000127	0.00014	mg/L	0.000127	92.02%
Co 228.616†	4.5	0.00011	mg/L	0.000042	0.00011	mg/L	0.000042	36.74%
Cr 267.716†	6.0	0.00124	mg/L	0.000714	0.00124	mg/L	0.000714	57.37%
Cu 324.752†	115.4	0.00040	mg/L	0.000099	0.00040	mg/L	0.000099	24.50%
Fe 273.955†	0.5	0.00049	mg/L	0.000925	0.00049	mg/L	0.000925	187.83%
K 766.490†	-50.6	-0.02317	mg/L	0.009398	-0.02317	mg/L	0.009398	40.57%
Mg 279.077†	-5.7	-0.00561	mg/L	0.005972	-0.00561	mg/L	0.005972	106.51%
Mn 257.610†	-3.7	-0.00012	mg/L	0.000062	-0.00012	mg/L	0.000062	51.91%
Mo 202.031†	21.5	0.00128	mg/L	0.000255	0.00128	mg/L	0.000255	19.88%
Na 589.592†	49.4	0.00376	mg/L	0.002308	0.00376	mg/L	0.002308	61.32%
Na 330.237†	4.5	0.2159	mg/L	0.05101	0.2159	mg/L	0.05101	23.63%
Ni 231.604†	1.0	0.00032	mg/L	0.000476	0.00032	mg/L	0.000476	149.14%
Pb 220.353†	-0.8	-0.00009	mg/L	0.001673	-0.00009	mg/L	0.001673	>999.9%
Sb 206.836†	24.8	0.00864	mg/L	0.001598	0.00864	mg/L	0.001598	18.49%
Se 196.026†	-2.4	-0.00186	mg/L	0.001988	-0.00186	mg/L	0.001988	107.05%
Si 288.158†	2.7	0.00170	mg/L	0.002422	0.00170	mg/L	0.002422	142.22%
Sn 189.927†	0.6	0.00018	mg/L	0.000234	0.00018	mg/L	0.000234	128.48%
Sr 421.552†	17.5	0.00002	mg/L	0.000017	0.00002	mg/L	0.000017	77.09%
Ti 334.903†	16.2	0.00102	mg/L	0.000522	0.00102	mg/L	0.000522	51.10%
Tl 190.801†	2.0	0.00105	mg/L	0.002849	0.00105	mg/L	0.002849	270.45%
V 292.402†	23.8	0.00017	mg/L	0.000252	0.00017	mg/L	0.000252	149.10%
Zn 206.200†	1.9	0.00057	mg/L	0.000477	0.00057	mg/L	0.000477	84.16%

Sequence No.: 3
Sample ID: CRI

Autosampler Location: 301
Date Collected: 4/22/2014 10:53:56 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2878857.2	99.74	%	0.145				0.15%
ScR 361.383	238932.5	99.76	%	0.164				0.16%
Ag 328.068†	631.1	0.00329	mg/L	0.000145	0.00329	mg/L	0.000145	4.41%
Al 308.215†	66.7	0.05427	mg/L	0.003035	0.05427	mg/L	0.003035	5.59%
As 188.979†	82.8	0.05288	mg/L	0.003224	0.05288	mg/L	0.003224	6.10%
B 249.677†	119.9	0.02245	mg/L	0.000404	0.02245	mg/L	0.000404	1.80%
Ba 233.527†	11.8	0.00318	mg/L	0.000367	0.00318	mg/L	0.000367	11.55%
Be 313.042†	468.7	0.00105	mg/L	0.000020	0.00105	mg/L	0.000020	1.93%
Ca 317.933†	464.3	0.04701	mg/L	0.001029	0.04701	mg/L	0.001029	2.19%
Cd 228.802†	86.2	0.00239	mg/L	0.000083	0.00239	mg/L	0.000083	3.45%
Co 228.616†	115.7	0.00295	mg/L	0.000063	0.00295	mg/L	0.000063	2.13%
Cr 267.716†	25.0	0.00518	mg/L	0.000673	0.00518	mg/L	0.000673	12.98%
Cu 324.752†	594.9	0.00208	mg/L	0.000090	0.00208	mg/L	0.000090	4.32%
Fe 273.955†	55.5	0.05148	mg/L	0.001190	0.05148	mg/L	0.001190	2.31%
K 766.490†	1087.5	0.4979	mg/L	0.01323	0.4979	mg/L	0.01323	2.66%
Mg 279.077†	49.7	0.04874	mg/L	0.007836	0.04874	mg/L	0.007836	16.08%
Mn 257.610†	26.1	0.00084	mg/L	0.000044	0.00084	mg/L	0.000044	5.17%
Mo 202.031†	86.4	0.00516	mg/L	0.000261	0.00516	mg/L	0.000261	5.05%
Na 589.592†	6743.5	0.5143	mg/L	0.00677	0.5143	mg/L	0.00677	1.32%
Na 330.237†	9.2	0.4381	mg/L	0.30123	0.4381	mg/L	0.30123	68.75%
Ni 231.604†	35.1	0.01071	mg/L	0.000160	0.01071	mg/L	0.000160	1.49%
Pb 220.353†	166.1	0.02037	mg/L	0.000103	0.02037	mg/L	0.000103	0.51%
Sb 206.836†	149.8	0.05232	mg/L	0.000760	0.05232	mg/L	0.000760	1.45%
Se 196.026†	61.4	0.04813	mg/L	0.003206	0.04813	mg/L	0.003206	6.66%
Si 288.158†	92.8	0.05768	mg/L	0.002787	0.05768	mg/L	0.002787	4.83%
Sn 189.927†	31.6	0.01001	mg/L	0.000516	0.01001	mg/L	0.000516	5.15%
Sr 421.552†	808.7	0.00103	mg/L	0.000026	0.00103	mg/L	0.000026	2.57%
Ti 334.903†	87.8	0.00555	mg/L	0.000405	0.00555	mg/L	0.000405	7.30%
Tl 190.801†	91.5	0.04891	mg/L	0.000728	0.04891	mg/L	0.000728	1.49%
V 292.402†	437.8	0.00303	mg/L	0.000040	0.00303	mg/L	0.000040	1.34%
Zn 206.200†	36.1	0.01081	mg/L	0.000510	0.01081	mg/L	0.000510	4.72%

Sequence No.: 4

Autosampler Location: 302

Sample ID: ICSA

Date Collected: 4/22/2014 10:57:57 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2741961.0	95.00	%	0.249			0.26%
ScR 361.383	231639.9	96.71	%	0.722			0.75%
Ag 328.068†	-228.2	-0.00055	mg/L	0.000212	-0.00055 mg/L	0.000212	38.14%
Al 308.215†	257205.4	209.9	mg/L	0.62	209.9 mg/L	0.62	0.30%
As 188.979†	52.7	0.02468	mg/L	0.004808	0.02468 mg/L	0.004808	19.48%
B 249.677†	-21.2	-0.00397	mg/L	0.004102	-0.00397 mg/L	0.004102	103.33%
Ba 233.527†	108.5	-0.00236	mg/L	0.000812	-0.00236 mg/L	0.000812	34.37%
Be 313.042†	28.1	0.00006	mg/L	0.000007	0.00006 mg/L	0.000007	12.10%
Ca 317.933†	1035535.6	104.8	mg/L	0.14	104.8 mg/L	0.14	0.14%
Cd 228.802†	18.1	-0.00141	mg/L	0.000069	-0.00141 mg/L	0.000069	4.91%
Co 228.616†	93.5	0.00237	mg/L	0.000189	0.00237 mg/L	0.000189	7.96%
Cr 267.716†	24.2	0.00121	mg/L	0.000118	0.00121 mg/L	0.000118	9.77%
Cu 324.752†	-2433.9	0.00002	mg/L	0.000155	0.00002 mg/L	0.000155	697.19%
Fe 273.955†	222062.6	205.9	mg/L	0.92	205.9 mg/L	0.92	0.45%
K 766.490†	-2.5	-0.00113	mg/L	0.021507	-0.00113 mg/L	0.021507	>999.9%
Mg 279.077†	108741.2	106.5	mg/L	0.46	106.5 mg/L	0.46	0.43%
Mn 257.610†	40.0	-0.00130	mg/L	0.000139	-0.00130 mg/L	0.000139	10.72%
Mo 202.031†	72.1	0.00268	mg/L	0.000135	0.00268 mg/L	0.000135	5.03%
Na 589.592†	100.9	0.00769	mg/L	0.003051	0.00769 mg/L	0.003051	39.65%
Na 330.237†	6.7	-0.3195	mg/L	0.12285	-0.3195 mg/L	0.12285	38.45%
Ni 231.604†	-1.6	-0.00047	mg/L	0.001521	-0.00047 mg/L	0.001521	320.26%
Pb 220.353†	-345.3	0.00041	mg/L	0.001345	0.00041 mg/L	0.001345	326.18%
Sb 206.836†	61.1	0.02113	mg/L	0.001522	0.02113 mg/L	0.001522	7.20%
Se 196.026†	43.1	0.03378	mg/L	0.006273	0.03378 mg/L	0.006273	18.57%
Si 288.158†	-31.8	-0.00706	mg/L	0.002710	-0.00706 mg/L	0.002710	38.41%
Sn 189.927†	-77.1	-0.01163	mg/L	0.001215	-0.01163 mg/L	0.001215	10.45%
Sr 421.552†	4523.7	0.00575	mg/L	0.000037	0.00575 mg/L	0.000037	0.65%
Tl 334.903†	160.5	0.00275	mg/L	0.000363	0.00275 mg/L	0.000363	13.19%
Tl 190.801†	-55.0	-0.00574	mg/L	0.003294	-0.00574 mg/L	0.003294	57.37%
V 292.402†	1832.7	0.00100	mg/L	0.000376	0.00100 mg/L	0.000376	37.69%
Zn 206.200†	11.0	0.00327	mg/L	0.000827	0.00327 mg/L	0.000827	25.30%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 4/22/2014 11:02:12 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2768301.8	95.91	%	0.548			0.57%
ScR 361.383	232202.8	96.95	%	1.122			1.16%
Ag 328.068†	212848.8	1.111	mg/L	0.0057	1.111 mg/L	0.0057	0.51%
Al 308.215†	256971.3	209.7	mg/L	0.95	209.7 mg/L	0.95	0.45%
As 188.979†	1681.8	1.062	mg/L	0.0063	1.062 mg/L	0.0063	0.60%
B 249.677†	-16.5	-0.00511	mg/L	0.001001	-0.00511 mg/L	0.001001	19.59%
Ba 233.527†	3799.4	0.9991	mg/L	0.01195	0.9991 mg/L	0.01195	1.20%
Be 313.042†	457236.0	1.029	mg/L	0.0077	1.029 mg/L	0.0077	0.75%
Ca 317.933†	1034771.6	104.8	mg/L	0.30	104.8 mg/L	0.30	0.29%
Cd 228.802†	33726.1	1.031	mg/L	0.0061	1.031 mg/L	0.0061	0.59%
Co 228.616†	37422.1	0.9577	mg/L	0.00472	0.9577 mg/L	0.00472	0.49%
Cr 267.716†	4886.8	1.012	mg/L	0.0124	1.012 mg/L	0.0124	1.22%
Cu 324.752†	303791.2	1.070	mg/L	0.0045	1.070 mg/L	0.0045	0.42%
Fe 273.955†	222333.4	206.2	mg/L	2.24	206.2 mg/L	2.24	1.09%
K 766.490†	-12.9	-0.00589	mg/L	0.019392	-0.00589 mg/L	0.019392	329.41%
Mg 279.077†	104982.6	102.8	mg/L	0.48	102.8 mg/L	0.48	0.47%
Mn 257.610†	30964.4	0.9911	mg/L	0.01262	0.9911 mg/L	0.01262	1.27%
Mo 202.031†	73.8	0.00278	mg/L	0.000664	0.00278 mg/L	0.000664	23.86%
Na 589.592†	74.6	0.00569	mg/L	0.002445	0.00569 mg/L	0.002445	42.97%
Na 330.237†	14.0	-0.2570	mg/L	0.18193	-0.2570 mg/L	0.18193	70.79%
Ni 231.604†	3317.3	1.012	mg/L	0.0113	1.012 mg/L	0.0113	1.12%
Pb 220.353†	7746.7	0.9921	mg/L	0.00564	0.9921 mg/L	0.00564	0.57%
Sb 206.836†	3062.0	1.059	mg/L	0.0067	1.059 mg/L	0.0067	0.63%
Se 196.026†	1370.2	1.073	mg/L	0.0138	1.073 mg/L	0.0138	1.28%
Si 288.158†	-42.2	-0.00936	mg/L	0.003158	-0.00936 mg/L	0.003158	33.73%
Sn 189.927†	-77.4	-0.01111	mg/L	0.001544	-0.01111 mg/L	0.001544	13.90%
Sr 421.552†	4451.9	0.00566	mg/L	0.000070	0.00566 mg/L	0.000070	1.24%
Ti 334.903†	159.2	0.00248	mg/L	0.000096	0.00248 mg/L	0.000096	3.88%
Tl 190.801†	1803.4	0.9784	mg/L	0.00689	0.9784 mg/L	0.00689	0.70%
V 292.402†	145102.6	0.9900	mg/L	0.00629	0.9900 mg/L	0.00629	0.64%
Zn 206.200†	3353.3	1.003	mg/L	0.0114	1.003 mg/L	0.0114	1.13%

Sequence No.: 6
Sample ID: CV |

Autosampler Location: 7
Date Collected: 4/22/2014 11:07:36 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	216.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2857097.4	98.99	%	0.210				0.21%
ScR 361.383	232042.8	96.88	%	0.600				0.62%
Ag 328.068†	208990.6	1.091	mg/L	0.0102	1.091	mg/L	0.0102	0.93%
Al 308.215†	2629.8	2.113	mg/L	0.0138	2.113	mg/L	0.0138	0.65%
As 188.979†	3201.0	2.072	mg/L	0.0075	2.072	mg/L	0.0075	0.36%
B 249.677†	5661.3	1.060	mg/L	0.0076	1.060	mg/L	0.0076	0.72%
Ba 233.527†	3777.1	1.025	mg/L	0.0044	1.025	mg/L	0.0044	0.43%
Be 313.042†	451779.6	1.017	mg/L	0.0044	1.017	mg/L	0.0044	0.43%
Ca 317.933†	21347.3	2.161	mg/L	0.0146	2.161	mg/L	0.0146	0.68%
Cd 228.802†	33848.3	1.031	mg/L	0.0038	1.031	mg/L	0.0038	0.37%
Co 228.616†	38734.5	0.9896	mg/L	0.00765	0.9896	mg/L	0.00765	0.77%
Cr 267.716†	4969.7	1.032	mg/L	0.0072	1.032	mg/L	0.0072	0.70%
Cu 324.752†	284874.7	0.9949	mg/L	0.00060	0.9949	mg/L	0.00060	0.06%
Fe 273.955†	2307.8	2.134	mg/L	0.0119	2.134	mg/L	0.0119	0.56%
K 766.490†	45609.3	20.88	mg/L	0.078	20.88	mg/L	0.078	0.37%
Mg 279.077†	2131.4	2.096	mg/L	0.0125	2.096	mg/L	0.0125	0.60%
Mn 257.610†	30476.6	0.9781	mg/L	0.00785	0.9781	mg/L	0.00785	0.80%
Mo 202.031†	16672.0	0.9959	mg/L	0.00613	0.9959	mg/L	0.00613	0.62%
Na 589.592†	698070.3	53.24	mg/L	0.159	53.24	mg/L	0.159	0.30%
Na 330.237†	1116.5	53.45	mg/L	0.327	53.45	mg/L	0.327	0.61%
Ni 231.604†	3491.6	1.066	mg/L	0.0051	1.066	mg/L	0.0051	0.48%
Pb 220.353†	16289.9	1.997	mg/L	0.0121	1.997	mg/L	0.0121	0.61%
Sb 206.836†	6223.2	2.171	mg/L	0.0072	2.171	mg/L	0.0072	0.33%
Se 196.026†	2606.5	2.042	mg/L	0.0080	2.042	mg/L	0.0080	0.39%
Si 288.158†	3480.8	2.167	mg/L	0.0340	2.167	mg/L	0.0340	1.57%
Sn 189.927†	3254.7	1.028	mg/L	0.0006	1.028	mg/L	0.0006	0.06%
Sr 421.552†	828140.7	1.052	mg/L	0.0034	1.052	mg/L	0.0034	0.33%
Ti 334.903†	16700.8	1.055	mg/L	0.0024	1.055	mg/L	0.0024	0.23%
Tl 190.801†	3823.2	2.036	mg/L	0.0016	2.036	mg/L	0.0016	0.08%
V 292.402†	146830.4	1.013	mg/L	0.0079	1.013	mg/L	0.0079	0.78%
Zn 206.200†	3542.0	1.059	mg/L	0.0053	1.059	mg/L	0.0053	0.50%

Sequence No.: 7
Sample ID: CB |

Autosampler Location: 1
Date Collected: 4/22/2014 11:11:41 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2869392.6	99.42	%	0.052				0.05%
ScR 361.383	241194.4	100.7	%	0.97				0.96%
Ag 328.068†	2.6	0.00001	mg/L	0.000158	0.00001	mg/L	0.000158	>999.9%
Al 308.215†	2.8	0.00228	mg/L	0.002231	0.00228	mg/L	0.002231	97.83%
As 188.979†	5.4	0.00345	mg/L	0.001516	0.00345	mg/L	0.001516	43.91%
B 249.677†	9.5	0.00179	mg/L	0.000600	0.00179	mg/L	0.000600	33.59%
Ba 233.527†	1.5	0.00042	mg/L	0.000580	0.00042	mg/L	0.000580	138.60%
Be 313.042†	45.5	0.00010	mg/L	0.000030	0.00010	mg/L	0.000030	29.22%
Ca 317.933†	2.4	0.00025	mg/L	0.000299	0.00025	mg/L	0.000299	121.19%
Cd 228.802†	3.1	0.00008	mg/L	0.000067	0.00008	mg/L	0.000067	87.53%
Co 228.616†	-6.8	-0.00017	mg/L	0.000077	-0.00017	mg/L	0.000077	44.09%
Cr 267.716†	1.5	0.00032	mg/L	0.001078	0.00032	mg/L	0.001078	340.65%
Cu 324.752†	226.9	0.00079	mg/L	0.000245	0.00079	mg/L	0.000245	30.96%
Fe 273.955†	1.3	0.00122	mg/L	0.001350	0.00122	mg/L	0.001350	110.48%
K 766.490†	-42.7	-0.01957	mg/L	0.013050	-0.01957	mg/L	0.013050	66.69%
Mg 279.077†	0.4	0.00041	mg/L	0.009325	0.00041	mg/L	0.009325	>999.9%
Mn 257.610†	3.1	0.00010	mg/L	0.000123	0.00010	mg/L	0.000123	122.68%
Mo 202.031†	17.5	0.00104	mg/L	0.000391	0.00104	mg/L	0.000391	37.43%
Na 589.592†	49.3	0.00376	mg/L	0.003544	0.00376	mg/L	0.003544	94.26%
Na 330.237†	1.0	0.04956	mg/L	0.255985	0.04956	mg/L	0.255985	516.48%
Ni 231.604†	0.9	0.00027	mg/L	0.002426	0.00027	mg/L	0.002426	892.11%
Pb 220.353†	-2.6	-0.00032	mg/L	0.000551	-0.00032	mg/L	0.000551	170.13%
Sb 206.836†	26.8	0.00937	mg/L	0.001042	0.00937	mg/L	0.001042	11.12%
Se 196.026†	-1.8	-0.00138	mg/L	0.002976	-0.00138	mg/L	0.002976	215.06%
Si 288.158†	4.7	0.00293	mg/L	0.003425	0.00293	mg/L	0.003425	116.78%
Sn 189.927†	3.8	0.00121	mg/L	0.002008	0.00121	mg/L	0.002008	165.94%
Sr 421.552†	72.8	0.00009	mg/L	0.000049	0.00009	mg/L	0.000049	53.36%
Ti 334.903†	10.6	0.00067	mg/L	0.000935	0.00067	mg/L	0.000935	139.26%
Tl 190.801†	-1.0	-0.00052	mg/L	0.001366	-0.00052	mg/L	0.001366	264.74%
V 292.402†	38.7	0.00027	mg/L	0.000068	0.00027	mg/L	0.000068	25.27%
Zn 206.200†	2.5	0.00074	mg/L	0.000941	0.00074	mg/L	0.000941	126.30%

Sequence No.: 8
Sample ID: YH41 MB1 SWC

Autosampler Location: 304
Date Collected: 4/22/2014 11:15:41 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH41 MB1 SWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YH41 MB1 SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2926548.9	101.4 %	0.40			0.40%
ScR 361.383	243027.1	101.5 %	0.64			0.64%
Ag 328.068†	11.2	0.00006 mg/L	0.000052	0.00012 mg/L	0.000104	88.52%
Al 308.215†	7.2	0.00590 mg/L	0.003988	0.01179 mg/L	0.007976	67.63%
As 188.979†	5.1	0.00329 mg/L	0.002812	0.00658 mg/L	0.005624	85.44%
B 249.677†	9.5	0.00178 mg/L	0.001063	0.00356 mg/L	0.002126	59.63%
Ba 233.527†	2.1	0.00057 mg/L	0.000642	0.00115 mg/L	0.001285	111.95%
Be 313.042†	11.9	0.00003 mg/L	0.000003	0.00005 mg/L	0.000007	12.36%
Ca 317.933†	61.9	0.00627 mg/L	0.000618	0.01254 mg/L	0.001237	9.86%
Cd 228.802†	-4.5	-0.00015 mg/L	0.000098	-0.00031 mg/L	0.000195	63.22%
Co 228.616†	-0.4	-0.00001 mg/L	0.000144	-0.00003 mg/L	0.000287	>999.9%
Cr 267.716†	2.5	0.00051 mg/L	0.001435	0.00102 mg/L	0.002871	280.42%
Cu 324.752†	67.6	0.00024 mg/L	0.000033	0.00047 mg/L	0.000066	13.98%
Fe 273.955†	2.7	0.00255 mg/L	0.000946	0.00510 mg/L	0.001893	37.14%
K 766.490†	-55.5	-0.02540 mg/L	0.009553	-0.05079 mg/L	0.019105	37.62%
Mg 279.077†	-3.9	-0.00382 mg/L	0.003459	-0.00764 mg/L	0.006917	90.55%
Mn 257.610†	-4.0	-0.00013 mg/L	0.000049	-0.00026 mg/L	0.000099	38.69%
Mo 202.031†	3.5	0.00021 mg/L	0.000148	0.00042 mg/L	0.000295	69.83%
Na 589.592†	19.6	0.00149 mg/L	0.003198	0.00299 mg/L	0.006395	214.14%
Na 330.237†	3.9	0.1893 mg/L	0.23781	0.3785 mg/L	0.47563	125.65%
Ni 231.604†	-1.0	-0.00030 mg/L	0.001158	-0.00059 mg/L	0.002316	390.68%
Pb 220.353†	2.8	0.00034 mg/L	0.000341	0.00068 mg/L	0.000682	99.97%
Sb 206.836†	1.7	0.00058 mg/L	0.001255	0.00115 mg/L	0.002509	217.83%
Se 196.026†	-0.0	-0.00002 mg/L	0.001010	-0.00004 mg/L	0.002021	>999.9%
Si 288.158†	-3.0	-0.00184 mg/L	0.004499	-0.00369 mg/L	0.008997	244.08%
Sn 189.927†	1.6	0.00051 mg/L	0.001097	0.00102 mg/L	0.002194	214.11%
Sr 421.552†	9.6	0.00001 mg/L	0.000020	0.00002 mg/L	0.000039	162.25%
Ti 334.903†	13.6	0.00086 mg/L	0.000296	0.00172 mg/L	0.000591	34.41%
Tl 190.801†	0.8	0.00043 mg/L	0.002734	0.00085 mg/L	0.005467	641.33%
V 292.402†	17.3	0.00012 mg/L	0.000150	0.00024 mg/L	0.000301	124.55%
Zn 206.200†	1.6	0.00047 mg/L	0.000355	0.00094 mg/L	0.000710	75.72%

Sequence No.: 9
Sample ID: YH44 MB SWC

Autosampler Location: 305
Date Collected: 4/22/2014 11:19:42 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH44 MB SWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YH44 MB SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2866886.4	99.33	%	0.737				0.74%
ScR 361.383	241094.6	100.7	%	1.06				1.05%
Ag 328.068†	8.1	0.00004	mg/L	0.000110	0.00008	mg/L	0.000220	261.15%
Al 308.215†	6.7	0.00549	mg/L	0.002357	0.01099	mg/L	0.004715	42.90%
As 188.979†	1.2	0.00076	mg/L	0.001938	0.00151	mg/L	0.003877	255.98%
B 249.677†	5.0	0.00094	mg/L	0.000629	0.00188	mg/L	0.001259	67.07%
Ba 233.527†	1.4	0.00038	mg/L	0.000446	0.00076	mg/L	0.000891	117.93%
Be 313.042†	13.9	0.00003	mg/L	0.000013	0.00006	mg/L	0.000025	40.10%
Ca 317.933†	70.0	0.00709	mg/L	0.000798	0.01418	mg/L	0.001596	11.25%
Cd 228.802†	3.8	0.00011	mg/L	0.000057	0.00023	mg/L	0.000114	49.80%
Co 228.616†	1.3	0.00003	mg/L	0.000116	0.00007	mg/L	0.000231	346.72%
Cr 267.716†	-0.4	-0.00008	mg/L	0.001090	-0.00016	mg/L	0.002179	>999.9%
Cu 324.752†	199.0	0.00070	mg/L	0.000028	0.00139	mg/L	0.000056	4.05%
Fe 273.955†	4.5	0.00415	mg/L	0.001779	0.00830	mg/L	0.003558	42.85%
K 766.490†	-17.7	-0.00811	mg/L	0.017450	-0.01622	mg/L	0.034899	215.11%
Mg 279.077†	-1.4	-0.00134	mg/L	0.004525	-0.00269	mg/L	0.009051	336.64%
Mn 257.610†	-0.1	-0.00000	mg/L	0.000094	-0.00001	mg/L	0.000189	>999.9%
Mo 202.031†	0.9	0.00005	mg/L	0.000034	0.00011	mg/L	0.000067	62.78%
Na 589.592†	33.9	0.00258	mg/L	0.000763	0.00516	mg/L	0.001527	29.57%
Na 330.237†	-0.6	-0.02868	mg/L	0.202614	-0.05736	mg/L	0.405227	706.52%
Ni 231.604†	1.7	0.00052	mg/L	0.001166	0.00105	mg/L	0.002333	222.29%
Pb 220.353†	1.3	0.00015	mg/L	0.000563	0.00031	mg/L	0.001126	365.32%
Sb 206.836†	2.1	0.00074	mg/L	0.001004	0.00147	mg/L	0.002008	136.13%
Se 196.026†	-3.6	-0.00280	mg/L	0.003909	-0.00560	mg/L	0.007819	139.60%
Si 288.158†	-5.1	-0.00315	mg/L	0.006112	-0.00631	mg/L	0.012224	193.86%
Sn 189.927†	2.7	0.00085	mg/L	0.000214	0.00171	mg/L	0.000428	25.08%
Sr 421.552†	-12.7	-0.00002	mg/L	0.000055	-0.00003	mg/L	0.000110	341.07%
Ti 334.903†	6.3	0.00040	mg/L	0.000250	0.00080	mg/L	0.000500	62.62%
Tl 190.801†	-0.0	-0.00002	mg/L	0.001955	-0.00004	mg/L	0.003910	>999.9%
V 292.402†	-5.1	-0.00004	mg/L	0.000043	-0.00007	mg/L	0.000086	121.08%
Zn 206.200†	6.9	0.00207	mg/L	0.000598	0.00414	mg/L	0.001197	28.91%

Sequence No.: 10
Sample ID: YH44 A SWC

Autosampler Location: 306
Date Collected: 4/22/2014 11:23:41 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH44 A SWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YH44 A SWC

Analyte.	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2881920.1	99.85 %	0.249			0.25%
ScR 361.383	240377.5	100.4 %	0.94			0.93%
Ag 328.068†	-268.2	-0.00101 mg/L	0.000022	-0.00202 mg/L	0.000044	2.19%
Al 308.215†	125962.1	102.8 mg/L	0.15	205.5 mg/L	0.30	0.14%
As 188.979†	-257.1	0.09870 mg/L	0.000708	0.1974 mg/L	0.00142	0.72%
B 249.677†	67.9	0.01257 mg/L	0.000600	0.02514 mg/L	0.001200	4.77%
Ba 233.527†	1884.3	0.4873 mg/L	0.00424	0.9745 mg/L	0.00847	0.87%
Be 313.042†	753.1	0.00152 mg/L	0.000047	0.00305 mg/L	0.000095	3.10%
Ca 317.933†	478567.6	48.45 mg/L	0.108	96.91 mg/L	0.216	0.22%
Cd 228.802†	23.3	0.00049 mg/L	0.000175	0.00099 mg/L	0.000350	35.38%
Co 228.616†	3006.3	0.06350 mg/L	0.000240	0.1270 mg/L	0.00048	0.38%
Cr 267.716†	1321.2	0.2747 mg/L	0.00268	0.5493 mg/L	0.00535	0.97%
Cu 324.752†	31923.1	0.1168 mg/L	0.00071	0.2336 mg/L	0.00142	0.61%
Fe 273.955†	167528.5	155.4 mg/L	0.19	310.7 mg/L	0.39	0.12%
K 766.490†	14633.1	6.700 mg/L	0.0254	13.40 mg/L	0.051	0.38%
Mg 279.077†	49753.5	48.69 mg/L	0.112	97.38 mg/L	0.224	0.23%
Mn 257.610†	76328.3	2.448 mg/L	0.0068	4.895 mg/L	0.0135	0.28%
Mo 202.031†	72.7	0.00359 mg/L	0.000290	0.00718 mg/L	0.000579	8.06%
Na 589.592†	45446.4	3.466 mg/L	0.0079	6.933 mg/L	0.0158	0.23%
Na 330.237†	31.6	3.119 mg/L	0.2185	6.239 mg/L	0.4370	7.00%
Ni 231.604†	1038.6	0.3169 mg/L	0.00186	0.6338 mg/L	0.00373	0.59%
Pb 220.353†	-4.4	0.01828 mg/L	0.000837	0.03655 mg/L	0.001675	4.58%
Sb 206.836†	20.8	0.01078 mg/L	0.001773	0.02156 mg/L	0.003546	16.45%
Se 196.026†	26.6	0.02057 mg/L	0.003181	0.04115 mg/L	0.006362	15.46%
Si 288.158†	5005.3	3.115 mg/L	0.0270	6.230 mg/L	0.0541	0.87%
Sn 189.927†	-54.4	-0.00987 mg/L	0.001181	-0.01975 mg/L	0.002362	11.96%
Sr 421.552†	258661.1	0.3287 mg/L	0.00086	0.6574 mg/L	0.00171	0.26%
Ti 334.903†	118184.2	7.475 mg/L	0.0084	14.95 mg/L	0.017	0.11%
Tl 190.801†	-23.7	0.00334 mg/L	0.003415	0.00668 mg/L	0.006830	102.23%
V 292.402†	52922.2	0.3522 mg/L	0.00203	0.7043 mg/L	0.00406	0.58%
Zn 206.200†	949.0	0.2843 mg/L	0.00331	0.5686 mg/L	0.00662	1.16%

Sequence No.: 11
Sample ID: YH44 B SWC

Autosampler Location: 307
Date Collected: 4/22/2014 11:27:41 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH44 B SWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YH44 B SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2880594.0	99.80	%	0.418				0.42%
ScR 361.383	241687.1	100.9	%	0.48				0.47%
Ag 328.068†	-247.9	-0.00094	mg/L	0.000099	-0.00188	mg/L	0.000198	10.54%
Al 308.215†	118966.8	97.05	mg/L	0.066	194.1	mg/L	0.13	0.07%
As 188.979†	-246.5	0.09298	mg/L	0.001699	0.1860	mg/L	0.00340	1.83%
B 249.677†	59.9	0.01107	mg/L	0.000945	0.02214	mg/L	0.001890	8.53%
Ba 233.527†	1636.9	0.4203	mg/L	0.00452	0.8407	mg/L	0.00904	1.08%
Be 313.042†	714.0	0.00144	mg/L	0.000004	0.00288	mg/L	0.000009	0.31%
Ca 317.933†	431469.9	43.68	mg/L	0.162	87.37	mg/L	0.325	0.37%
Cd 228.802†	28.3	0.00062	mg/L	0.000076	0.00124	mg/L	0.000153	12.28%
Co 228.616†	2953.1	0.06279	mg/L	0.000580	0.1256	mg/L	0.00116	0.92%
Cr 267.716†	1227.8	0.2552	mg/L	0.00266	0.5104	mg/L	0.00532	1.04%
Cu 324.752†	32637.6	0.1193	mg/L	0.00131	0.2386	mg/L	0.00263	1.10%
Fe 273.955†	166054.7	154.0	mg/L	0.52	308.0	mg/L	1.04	0.34%
K 766.490†	12560.4	5.751	mg/L	0.0143	11.50	mg/L	0.029	0.25%
Mg 279.077†	50248.5	49.17	mg/L	0.129	98.35	mg/L	0.257	0.26%
Mn 257.610†	75356.3	2.416	mg/L	0.0073	4.833	mg/L	0.0145	0.30%
Mo 202.031†	80.5	0.00413	mg/L	0.000199	0.00827	mg/L	0.000399	4.82%
Na 589.592†	40695.8	3.104	mg/L	0.0055	6.208	mg/L	0.0110	0.18%
Na 330.237†	26.7	2.816	mg/L	0.1257	5.633	mg/L	0.2513	4.46%
Ni 231.604†	1024.7	0.3127	mg/L	0.00088	0.6253	mg/L	0.00176	0.28%
Pb 220.353†	8.5	0.01846	mg/L	0.001234	0.03692	mg/L	0.002468	6.69%
Sb 206.836†	23.6	0.01171	mg/L	0.001520	0.02341	mg/L	0.003041	12.99%
Se 196.026†	21.8	0.01685	mg/L	0.005143	0.03369	mg/L	0.010285	30.53%
Si 288.158†	5293.1	3.294	mg/L	0.0339	6.588	mg/L	0.0678	1.03%
Sn 189.927†	-45.8	-0.00781	mg/L	0.001026	-0.01562	mg/L	0.002053	13.15%
Sr 421.552†	213510.5	0.2713	mg/L	0.00025	0.5426	mg/L	0.00051	0.09%
Ti 334.903†	112479.9	7.114	mg/L	0.0135	14.23	mg/L	0.027	0.19%
Tl 190.801†	-23.4	0.00340	mg/L	0.001515	0.00679	mg/L	0.003030	44.60%
V 292.402†	51528.5	0.3428	mg/L	0.00212	0.6856	mg/L	0.00423	0.62%
Zn 206.200†	925.9	0.2774	mg/L	0.00306	0.5549	mg/L	0.00612	1.10%

Sequence No.: 12
Sample ID: YH41 A SWC

Autosampler Location: 308
Date Collected: 4/22/2014 11:31:41 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH41 A SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YH41 A SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2887029.3	100.0 %		0.44			0.44%
ScR 361.383	242994.5	101.5 %		0.16			0.16%
Ag 328.068†	-223.1	-0.00069 mg/L		0.000191	-0.00138 mg/L	0.000382	27.60%
Al 308.215†	152168.8	124.1 mg/L		0.35	248.3 mg/L	0.70	0.28%
As 188.979†	-211.7	0.1007 mg/L		0.00353	0.2014 mg/L	0.00705	3.50%
B 249.677†	58.2	0.01077 mg/L		0.002533	0.02153 mg/L	0.005067	23.53%
Ba 233.527†	1454.9	0.3699 mg/L		0.00259	0.7399 mg/L	0.00517	0.70%
Be 313.042†	830.1	0.00170 mg/L		0.000047	0.00340 mg/L	0.000095	2.79%
Ca 317.933†	604560.7	61.21 mg/L		0.085	122.4 mg/L	0.17	0.14%
Cd 228.802†	23.8	0.00023 mg/L		0.000015	0.00045 mg/L	0.000030	6.54%
Co 228.616†	2716.5	0.05740 mg/L		0.000198	0.1148 mg/L	0.00040	0.35%
Cr 267.716†	894.2	0.1860 mg/L		0.00051	0.3720 mg/L	0.00102	0.27%
Cu 324.752†	41518.3	0.1506 mg/L		0.00053	0.3013 mg/L	0.00106	0.35%
Fe 273.955†	173073.3	160.5 mg/L		0.52	321.0 mg/L	1.03	0.32%
K 766.490†	15383.8	7.044 mg/L		0.0020	14.09 mg/L	0.004	0.03%
Mg 279.077†	49213.5	48.15 mg/L		0.051	96.31 mg/L	0.103	0.11%
Mn 257.610†	66166.1	2.121 mg/L		0.0041	4.243 mg/L	0.0081	0.19%
Mo 202.031†	98.3	0.00492 mg/L		0.000120	0.00985 mg/L	0.000240	2.44%
Na 589.592†	74238.6	5.662 mg/L		0.0183	11.32 mg/L	0.037	0.32%
Na 330.237†	85.1	5.393 mg/L		0.0811	10.79 mg/L	0.162	1.50%
Ni 231.604†	747.2	0.2280 mg/L		0.00377	0.4560 mg/L	0.00754	1.65%
Pb 220.353†	17.9	0.02586 mg/L		0.001189	0.05171 mg/L	0.002378	4.60%
Sb 206.836†	23.0	0.01225 mg/L		0.000385	0.02450 mg/L	0.000771	3.15%
Se 196.026†	36.2	0.02807 mg/L		0.002696	0.05614 mg/L	0.005392	9.60%
Si 288.158†	2704.2	1.686 mg/L		0.0052	3.371 mg/L	0.0105	0.31%
Sn 189.927†	-49.6	-0.00697 mg/L		0.001080	-0.01393 mg/L	0.002159	15.50%
Sr 421.552†	227786.4	0.2895 mg/L		0.00066	0.5789 mg/L	0.00131	0.23%
Ti 334.903†	106711.3	6.748 mg/L		0.0105	13.50 mg/L	0.021	0.16%
Tl 190.801†	-27.1	0.00211 mg/L		0.002460	0.00422 mg/L	0.004920	116.68%
V 292.402†	57291.4	0.3819 mg/L		0.00073	0.7638 mg/L	0.00146	0.19%
Zn 206.200†	1164.5	0.3484 mg/L		0.00148	0.6968 mg/L	0.00297	0.43%

Sequence No.: 13
 Sample ID: YH41 B SWC

Autosampler Location: 309
 Date Collected: 4/22/2014 11:35:42 AM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH41 B SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YH41 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2859235.1	99.06 %		0.099			0.10%
ScR 361.383	238709.5	99.66 %		0.592			0.59%
Ag 328.068†	-269.1	-0.00094 mg/L		0.000168	-0.00187 mg/L	0.000337	17.98%
Al 308.215†	154439.3	126.0 mg/L		0.48	252.0 mg/L	0.97	0.38%
As 188.979†	-255.4	0.1118 mg/L		0.00460	0.2236 mg/L	0.00920	4.12%
B 249.677†	48.4	0.00890 mg/L		0.001140	0.01780 mg/L	0.002279	12.81%
Ba 233.527†	1803.4	0.4609 mg/L		0.00369	0.9219 mg/L	0.00737	0.80%
Be 313.042†	1035.2	0.00213 mg/L		0.000022	0.00426 mg/L	0.000044	1.04%
Ca 317.933†	566218.4	57.33 mg/L		0.282	114.7 mg/L	0.56	0.49%
Cd 228.802†	43.6	0.00081 mg/L		0.000152	0.00163 mg/L	0.000305	18.71%
Co 228.616†	3189.6	0.06756 mg/L		0.000358	0.1351 mg/L	0.00072	0.53%
Cr 267.716†	1249.8	0.2609 mg/L		0.00190	0.5218 mg/L	0.00379	0.73%
Cu 324.752†	69346.6	0.2487 mg/L		0.00018	0.4975 mg/L	0.00036	0.07%
Fe 273.955†	197977.2	183.6 mg/L		0.85	367.2 mg/L	1.71	0.46%
K 766.490†	15023.3	6.879 mg/L		0.0556	13.76 mg/L	0.111	0.81%
Mg 279.077†	46274.2	45.26 mg/L		0.174	90.51 mg/L	0.348	0.38%
Mn 257.610†	66798.3	2.142 mg/L		0.0112	4.283 mg/L	0.0224	0.52%
Mo 202.031†	139.0	0.00741 mg/L		0.000134	0.01483 mg/L	0.000267	1.80%
Na 589.592†	67343.2	5.136 mg/L		0.0182	10.27 mg/L	0.036	0.35%
Na 330.237†	65.6	4.760 mg/L		0.1530	9.520 mg/L	0.3060	3.21%
Ni 231.604†	885.7	0.2702 mg/L		0.00127	0.5405 mg/L	0.00254	0.47%
Pb 220.353†	164.6	0.04325 mg/L		0.000467	0.08649 mg/L	0.000934	1.08%
Sb 206.836†	23.9	0.01274 mg/L		0.002064	0.02547 mg/L	0.004129	16.21%
Se 196.026†	28.3	0.02182 mg/L		0.003030	0.04364 mg/L	0.006059	13.88%
Si 288.158†	2585.1	1.611 mg/L		0.0113	3.223 mg/L	0.0226	0.70%
Sn 189.927†	-44.9	-0.00573 mg/L		0.001617	-0.01146 mg/L	0.003233	28.22%
Sr 421.552†	275432.9	0.3500 mg/L		0.00097	0.7000 mg/L	0.00195	0.28%
Ti 334.903†	123859.1	7.833 mg/L		0.0259	15.67 mg/L	0.052	0.33%
Tl 190.801†	-35.7	-0.00018 mg/L		0.004480	-0.00036 mg/L	0.008960	>999.9%
V 292.402†	67924.2	0.4534 mg/L		0.00077	0.9068 mg/L	0.00153	0.17%
Zn 206.200†	1269.2	0.3797 mg/L		0.00184	0.7594 mg/L	0.00367	0.48%

Sequence No.: 14
Sample ID: YH41 C SWC

Autosampler Location: 310
Date Collected: 4/22/2014 11:39:43 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH41 C SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YH41 C SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2894947.8	100.3	%	0.45				0.45%
ScR 361.383	243768.2	101.8	%	0.28				0.28%
Ag 328.068†	-263.0	-0.00092	mg/L	0.000169	-0.00184	mg/L	0.000339	18.37%
Al 308.215†	155535.3	126.9	mg/L	0.34	253.8	mg/L	0.69	0.27%
As 188.979†	-287.0	0.1169	mg/L	0.00387	0.2337	mg/L	0.00773	3.31%
B 249.677†	61.2	0.01129	mg/L	0.001139	0.02258	mg/L	0.002277	10.08%
Ba 233.527†	1849.5	0.4725	mg/L	0.00362	0.9450	mg/L	0.00725	0.77%
Be 313.042†	923.8	0.00187	mg/L	0.000024	0.00375	mg/L	0.000047	1.27%
Ca 317.933†	540969.8	54.77	mg/L	0.088	109.5	mg/L	0.18	0.16%
Cd 228.802†	40.5	0.00073	mg/L	0.000111	0.00147	mg/L	0.000222	15.14%
Co 228.616†	3310.5	0.06942	mg/L	0.000168	0.1388	mg/L	0.00034	0.24%
Cr 267.716†	1022.4	0.2139	mg/L	0.00117	0.4279	mg/L	0.00235	0.55%
Cu 324.752†	63310.3	0.2278	mg/L	0.00153	0.4556	mg/L	0.00306	0.67%
Fe 273.955†	204614.2	189.8	mg/L	0.84	379.5	mg/L	1.67	0.44%
K 766.490†	20928.7	9.582	mg/L	0.0419	19.16	mg/L	0.084	0.44%
Mg 279.077†	45487.3	44.48	mg/L	0.060	88.96	mg/L	0.121	0.14%
Mn 257.610†	77177.7	2.475	mg/L	0.0128	4.949	mg/L	0.0257	0.52%
Mo 202.031†	116.1	0.00609	mg/L	0.000262	0.01217	mg/L	0.000524	4.31%
Na 589.592†	67908.9	5.180	mg/L	0.0262	10.36	mg/L	0.052	0.51%
Na 330.237†	65.6	4.942	mg/L	0.1681	9.884	mg/L	0.3362	3.40%
Ni 231.604†	772.7	0.2358	mg/L	0.00352	0.4715	mg/L	0.00704	1.49%
Pb 220.353†	125.6	0.03835	mg/L	0.000255	0.07670	mg/L	0.000510	0.67%
Sb 206.836†	17.0	0.01147	mg/L	0.001327	0.02294	mg/L	0.002654	11.57%
Se 196.026†	29.9	0.02308	mg/L	0.001939	0.04616	mg/L	0.003878	8.40%
Si 288.158†	2871.0	1.789	mg/L	0.0175	3.578	mg/L	0.0350	0.98%
Sn 189.927†	-42.8	-0.00525	mg/L	0.000908	-0.01049	mg/L	0.001816	17.31%
Sr 421.552†	241118.1	0.3064	mg/L	0.00124	0.6128	mg/L	0.00247	0.40%
Ti 334.903†	134845.4	8.529	mg/L	0.0287	17.06	mg/L	0.057	0.34%
Tl 190.801†	-31.6	0.00274	mg/L	0.003714	0.00547	mg/L	0.007427	135.77%
V 292.402†	67090.6	0.4468	mg/L	0.00334	0.8935	mg/L	0.00667	0.75%
Zn 206.200†	1485.3	0.4443	mg/L	0.00348	0.8887	mg/L	0.00695	0.78%

Sequence No.: 15
Sample ID: YH41 MB1SPK SWC

Autosampler Location: 311
Date Collected: 4/22/2014 11:43:44 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH41 MB1SPK SWC

Analyte Back Pressure Flow
All 216.0 kPa 0.75 L/min

Mean Data: YH41 MB1SPK SWC

Analyte	Mean Corrected			Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.	Units		Conc.	Units		
ScA 357.253	2870037.6	99.44	%	0.059				0.06%
ScR 361.383	238725.4	99.67	%	0.190				0.19%
Ag 328.068†	106196.2	0.5542	mg/L	0.00159	1.108	mg/L	0.0032	0.29%
Al 308.215†	2730.7	2.221	mg/L	0.0049	4.441	mg/L	0.0099	0.22%
As 188.979†	3377.8	2.150	mg/L	0.0075	4.301	mg/L	0.0150	0.35%
B 249.677†	4.1	-0.00030	mg/L	0.000215	-0.00060	mg/L	0.000430	72.14%
Ba 233.527†	7688.2	2.086	mg/L	0.0060	4.172	mg/L	0.0119	0.29%
Be 313.042†	230379.4	0.5187	mg/L	0.00321	1.037	mg/L	0.0064	0.62%
Ca 317.933†	103893.1	10.52	mg/L	0.077	21.04	mg/L	0.153	0.73%
Cd 228.802†	17370.1	0.5236	mg/L	0.00216	1.047	mg/L	0.0043	0.41%
Co 228.616†	19844.6	0.5077	mg/L	0.00400	1.015	mg/L	0.0080	0.79%
Cr 267.716†	2536.2	0.5259	mg/L	0.00100	1.052	mg/L	0.0020	0.19%
Cu 324.752†	144973.6	0.5065	mg/L	0.00281	1.013	mg/L	0.0056	0.55%
Fe 273.955†	2441.8	2.261	mg/L	0.0044	4.522	mg/L	0.0088	0.19%
K 766.490†	22887.2	10.48	mg/L	0.105	20.96	mg/L	0.210	1.00%
Mg 279.077†	11151.3	10.93	mg/L	0.014	21.87	mg/L	0.029	0.13%
Mn 257.610†	15368.5	0.4934	mg/L	0.00379	0.9867	mg/L	0.00758	0.77%
Mo 202.031†	27.0	0.00145	mg/L	0.000037	0.00290	mg/L	0.000074	2.57%
Na 589.592†	140539.2	10.72	mg/L	0.067	21.44	mg/L	0.134	0.62%
Na 330.237†	233.6	10.98	mg/L	0.042	21.96	mg/L	0.084	0.38%
Ni 231.604†	1776.2	0.5410	mg/L	0.00228	1.082	mg/L	0.0046	0.42%
Pb 220.353†	16722.6	2.049	mg/L	0.0084	4.098	mg/L	0.0168	0.41%
Sb 206.836†	10.4	-0.00139	mg/L	0.000494	-0.00278	mg/L	0.000987	35.45%
Se 196.026†	2713.5	2.126	mg/L	0.0136	4.253	mg/L	0.0272	0.64%
Si 288.158†	1.2	0.00442	mg/L	0.003871	0.00884	mg/L	0.007743	87.58%
Sn 189.927†	-11.8	-0.00238	mg/L	0.001141	-0.00477	mg/L	0.002283	47.87%
Sr 421.552†	413446.0	0.5254	mg/L	0.00330	1.051	mg/L	0.0066	0.63%
Ti 334.903†	210.6	0.01248	mg/L	0.000646	0.02496	mg/L	0.001292	5.18%
Tl 190.801†	3941.9	2.103	mg/L	0.0114	4.206	mg/L	0.0229	0.54%
V 292.402†	74490.7	0.5141	mg/L	0.00086	1.028	mg/L	0.0017	0.17%
Zn 206.200†	1770.1	0.5294	mg/L	0.00155	1.059	mg/L	0.0031	0.29%

Sequence No.: 16
Sample ID: YH44 MBSPK SWC

Autosampler Location: 312
Date Collected: 4/22/2014 11:47:44 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH44 MBSPK SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YH44 MBSPK SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2867710.0	99.36 %	0.384			0.39%	
ScR 361.383	241077.9	100.7 %	0.60			0.60%	
Ag 328.068†	107972.6	0.5635 mg/L	0.00190	1.127 mg/L	0.0038	0.34%	
Al 308.215†	2669.2	2.170 mg/L	0.0049	4.340 mg/L	0.0097	0.22%	
As 188.979†	3406.6	2.168 mg/L	0.0152	4.337 mg/L	0.0304	0.70%	
B 249.677†	10.7	0.00092 mg/L	0.000892	0.00184 mg/L	0.001784	96.94%	
Ba 233.527†	7771.7	2.109 mg/L	0.0045	4.217 mg/L	0.0090	0.21%	
Be 313.042†	232701.5	0.5239 mg/L	0.00517	1.048 mg/L	0.0103	0.99%	
Ca 317.933†	105006.1	10.63 mg/L	0.045	21.26 mg/L	0.090	0.42%	
Cd 228.802†	17649.8	0.5321 mg/L	0.00271	1.064 mg/L	0.0054	0.51%	
Co 228.616†	20175.4	0.5162 mg/L	0.00329	1.032 mg/L	0.0066	0.64%	
Cr 267.716†	2565.8	0.5321 mg/L	0.00115	1.064 mg/L	0.0023	0.22%	
Cu 324.752†	147341.5	0.5148 mg/L	0.00244	1.030 mg/L	0.0049	0.47%	
Fe 273.955†	2353.4	2.179 mg/L	0.0060	4.358 mg/L	0.0121	0.28%	
K 766.490†	23012.0	10.54 mg/L	0.036	21.07 mg/L	0.072	0.34%	
Mg 279.077†	11246.9	11.03 mg/L	0.016	22.06 mg/L	0.033	0.15%	
Mn 257.610†	15531.1	0.4986 mg/L	0.00387	0.9972 mg/L	0.00773	0.78%	
Mo 202.031†	29.3	0.00158 mg/L	0.000242	0.00317 mg/L	0.000484	15.28%	
Na 589.592†	141521.6	10.79 mg/L	0.053	21.59 mg/L	0.106	0.49%	
Na 330.237†	237.0	11.14 mg/L	0.125	22.27 mg/L	0.249	1.12%	
Ni 231.604†	1796.2	0.5471 mg/L	0.00156	1.094 mg/L	0.0031	0.29%	
Pb 220.353†	17017.5	2.085 mg/L	0.0113	4.171 mg/L	0.0226	0.54%	
Sb 206.836†	12.0	-0.00090 mg/L	0.001391	-0.00180 mg/L	0.002783	154.20%	
Se 196.026†	2737.5	2.145 mg/L	0.0162	4.291 mg/L	0.0325	0.76%	
Si 288.158†	-6.2	-0.00016 mg/L	0.001482	-0.00033 mg/L	0.002963	911.08%	
Sn 189.927†	-15.1	-0.00341 mg/L	0.001261	-0.00681 mg/L	0.002523	37.03%	
Sr 421.552†	416924.8	0.5298 mg/L	0.00319	1.060 mg/L	0.0064	0.60%	
Ti 334.903†	39.1	0.00162 mg/L	0.000446	0.00324 mg/L	0.000892	27.51%	
Tl 190.801†	3982.7	2.125 mg/L	0.0150	4.250 mg/L	0.0301	0.71%	
V 292.402†	75726.6	0.5226 mg/L	0.00205	1.045 mg/L	0.0041	0.39%	
Zn 206.200†	1793.5	0.5363 mg/L	0.00149	1.073 mg/L	0.0030	0.28%	

Sequence No.: 17
Sample ID: CV 2

Autosampler Location: 7
Date Collected: 4/22/2014 11:51:44 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2871596.0	99.49	%	0.697				0.70%
ScR 361.383	233050.4	97.30	%	1.099				1.13%
Ag 328.068†	210794.3	1.100	mg/L	0.0141	1.100	mg/L	0.0141	1.28%
Al 308.215†	2644.0	2.124	mg/L	0.0311	2.124	mg/L	0.0311	1.46%
As 188.979†	3224.0	2.087	mg/L	0.0159	2.087	mg/L	0.0159	0.76%
B 249.677†	5714.4	1.070	mg/L	0.0162	1.070	mg/L	0.0162	1.51%
Ba 233.527†	3805.2	1.032	mg/L	0.0132	1.032	mg/L	0.0132	1.28%
Be 313.042†	450318.2	1.014	mg/L	0.0037	1.014	mg/L	0.0037	0.37%
Ca 317.933†	21546.8	2.182	mg/L	0.0278	2.182	mg/L	0.0278	1.27%
Cd 228.802†	34124.5	1.040	mg/L	0.0112	1.040	mg/L	0.0112	1.07%
Co 228.616†	39376.9	1.006	mg/L	0.0151	1.006	mg/L	0.0151	1.50%
Cr 267.716†	5026.6	1.044	mg/L	0.0130	1.044	mg/L	0.0130	1.24%
Cu 324.752†	285787.6	0.9981	mg/L	0.00190	0.9981	mg/L	0.00190	0.19%
Fe 273.955†	2314.0	2.139	mg/L	0.0269	2.139	mg/L	0.0269	1.26%
K 766.490†	45706.9	20.93	mg/L	0.033	20.93	mg/L	0.033	0.16%
Mg 279.077†	2149.6	2.114	mg/L	0.0278	2.114	mg/L	0.0278	1.31%
Mn 257.610†	30600.6	0.9821	mg/L	0.00643	0.9821	mg/L	0.00643	0.66%
Mo 202.031†	16888.9	1.009	mg/L	0.0109	1.009	mg/L	0.0109	1.08%
Na 589.592†	699901.1	53.38	mg/L	0.258	53.38	mg/L	0.258	0.48%
Na 330.237†	1126.5	53.93	mg/L	0.665	53.93	mg/L	0.665	1.23%
Ni 231.604†	3539.1	1.080	mg/L	0.0174	1.080	mg/L	0.0174	1.61%
Pb 220.353†	16513.2	2.024	mg/L	0.0240	2.024	mg/L	0.0240	1.19%
Sb 206.836†	6213.7	2.168	mg/L	0.0219	2.168	mg/L	0.0219	1.01%
Se 196.026†	2630.4	2.061	mg/L	0.0192	2.061	mg/L	0.0192	0.93%
Si 288.158†	3505.5	2.182	mg/L	0.0576	2.182	mg/L	0.0576	2.64%
Sn 189.927†	3264.8	1.031	mg/L	0.0073	1.031	mg/L	0.0073	0.71%
Sr 421.552†	828514.2	1.053	mg/L	0.0041	1.053	mg/L	0.0041	0.39%
Ti 334.903†	16733.3	1.058	mg/L	0.0034	1.058	mg/L	0.0034	0.32%
Tl 190.801†	3856.1	2.054	mg/L	0.0183	2.054	mg/L	0.0183	0.89%
V 292.402†	148254.8	1.023	mg/L	0.0103	1.023	mg/L	0.0103	1.01%
Zn 206.200†	3575.1	1.069	mg/L	0.0152	1.069	mg/L	0.0152	1.42%

Sequence No.: 18
Sample ID: CB 2

Autosampler Location: 1
Date Collected: 4/22/2014 11:55:48 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2868896.0	99.40	%	0.592				0.60%
ScR 361.383	242324.8	101.2	%	0.49				0.49%
Ag 328.068†	46.7	0.00024	mg/L	0.000051	0.00024	mg/L	0.000051	20.98%
Al 308.215†	-4.1	-0.00340	mg/L	0.002288	-0.00340	mg/L	0.002288	67.23%
As 188.979†	0.3	0.00019	mg/L	0.000734	0.00019	mg/L	0.000734	379.23%
B 249.677†	13.3	0.00250	mg/L	0.001785	0.00250	mg/L	0.001785	71.44%
Ba 233.527†	-0.7	-0.00020	mg/L	0.001382	-0.00020	mg/L	0.001382	696.19%
Be 313.042†	21.9	0.00005	mg/L	0.000022	0.00005	mg/L	0.000022	45.04%
Ca 317.933†	2.0	0.00021	mg/L	0.000731	0.00021	mg/L	0.000731	353.37%
Cd 228.802†	0.4	0.00001	mg/L	0.000158	0.00001	mg/L	0.000158	>999.9%
Co 228.616†	-0.2	-0.00001	mg/L	0.000051	-0.00001	mg/L	0.000051	938.59%
Cr 267.716†	1.2	0.00024	mg/L	0.000548	0.00024	mg/L	0.000548	224.36%
Cu 324.752†	114.1	0.00040	mg/L	0.000111	0.00040	mg/L	0.000111	27.95%
Fe 273.955†	0.3	0.00029	mg/L	0.000368	0.00029	mg/L	0.000368	125.00%
K 766.490†	-61.3	-0.02805	mg/L	0.023107	-0.02805	mg/L	0.023107	82.39%
Mg 279.077†	1.1	0.00110	mg/L	0.006194	0.00110	mg/L	0.006194	564.18%
Mn 257.610†	-1.5	-0.00005	mg/L	0.000172	-0.00005	mg/L	0.000172	362.55%
Mo 202.031†	14.5	0.00086	mg/L	0.000363	0.00086	mg/L	0.000363	42.00%
Na 589.592†	13.2	0.00101	mg/L	0.002686	0.00101	mg/L	0.002686	266.92%
Na 330.237†	4.7	0.2274	mg/L	0.30084	0.2274	mg/L	0.30084	132.29%
Ni 231.604†	0.3	0.00011	mg/L	0.001239	0.00011	mg/L	0.001239	>999.9%
Pb 220.353†	4.1	0.00050	mg/L	0.001422	0.00050	mg/L	0.001422	284.44%
Sb 206.836†	22.6	0.00790	mg/L	0.001610	0.00790	mg/L	0.001610	20.38%
Se 196.026†	-0.1	-0.00011	mg/L	0.006439	-0.00011	mg/L	0.006439	>999.9%
Si 288.158†	5.7	0.00352	mg/L	0.003989	0.00352	mg/L	0.003989	113.30%
Sn 189.927†	5.4	0.00172	mg/L	0.000630	0.00172	mg/L	0.000630	36.73%
Sr 421.552†	4.7	0.00001	mg/L	0.000020	0.00001	mg/L	0.000020	341.20%
Ti 334.903†	12.9	0.00081	mg/L	0.000128	0.00081	mg/L	0.000128	15.76%
Tl 190.801†	2.0	0.00106	mg/L	0.001694	0.00106	mg/L	0.001694	160.14%
V 292.402†	42.4	0.00029	mg/L	0.000070	0.00029	mg/L	0.000070	24.06%
Zn 206.200†	4.0	0.00118	mg/L	0.000549	0.00118	mg/L	0.000549	46.42%

Sequence No.: 19

Autosampler Location: 313

Sample ID: YH53 O WMN

Date Collected: 4/22/2014 11:59:49 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH53 O WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YH53 O WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2815313.1	97.54	%	0.593				0.61%
ScR 361.383	240074.7	100.2	%	0.67				0.67%
Ag 328.068†	10080.5	0.05274	mg/L	0.000148	0.1055	mg/L	0.00030	0.28%
Al 308.215†	10757.3	8.769	mg/L	0.0434	17.54	mg/L	0.087	0.49%
As 188.979†	36813.4	23.44	mg/L	0.049	46.89	mg/L	0.097	0.21%
B 249.677†	98.7	0.01806	mg/L	0.000502	0.03613	mg/L	0.001004	2.78%
Ba 233.527†	2659.7	0.7208	mg/L	0.00288	1.442	mg/L	0.0058	0.40%
Be 313.042†	27654.0	0.06215	mg/L	0.000459	0.1243	mg/L	0.00092	0.74%
Ca 317.933†	34605.7	3.504	mg/L	0.0252	7.007	mg/L	0.0503	0.72%
Cd 228.802†	3256.1	-0.02029	mg/L	0.000056	-0.04058	mg/L	0.000111	0.27%
Co 228.616†	8451.4	0.2162	mg/L	0.00055	0.4325	mg/L	0.00110	0.25%
Cr 267.716†	326.1	0.06753	mg/L	0.001180	0.1351	mg/L	0.00236	1.75%
Cu 324.752†	6536.0	0.02309	mg/L	0.000162	0.04619	mg/L	0.000324	0.70%
Fe 273.955†	5979.3	5.541	mg/L	0.0566	11.08	mg/L	0.113	1.02%
K 766.490†	10452.2	4.786	mg/L	0.0367	9.571	mg/L	0.0735	0.77%
Mg 279.077†	2367.0	2.318	mg/L	0.0185	4.636	mg/L	0.0370	0.80%
Mn 257.610†	1354.6	0.04348	mg/L	0.000367	0.08697	mg/L	0.000733	0.84%
Mo 202.031†	368.8	0.02198	mg/L	0.000450	0.04395	mg/L	0.000900	2.05%
Na 589.592†	32830.5	2.504	mg/L	0.0173	5.008	mg/L	0.0345	0.69%
Na 330.237†	1128.8	53.94	mg/L	0.439	107.9	mg/L	0.88	0.81%
Ni 231.604†	997.0	0.3041	mg/L	0.00199	0.6083	mg/L	0.00398	0.65%
Pb 220.353†	3937.0	0.4843	mg/L	0.00149	0.9686	mg/L	0.00298	0.31%
Sb 206.836†	-43.0	-0.01430	mg/L	0.002993	-0.02861	mg/L	0.005985	20.92%
Se 196.026†	-3648.6	-2.860	mg/L	0.0121	-5.721	mg/L	0.0241	0.42%
Si 288.158†	346.1	0.2157	mg/L	0.00419	0.4313	mg/L	0.00837	1.94%
Sn 189.927†	-110.1	-0.03429	mg/L	0.001142	-0.06859	mg/L	0.002284	3.33%
Sr 421.552†	235243.1	0.2989	mg/L	0.00173	0.5979	mg/L	0.00345	0.58%
Ti 334.903†	-54.4	-0.00372	mg/L	0.000440	-0.00745	mg/L	0.000879	11.81%
Tl 190.801†	216.3	0.1132	mg/L	0.00183	0.2264	mg/L	0.00366	1.62%
V 292.402†	74030.9	0.5088	mg/L	0.00656	1.018	mg/L	0.0131	1.29%
Zn 206.200†	1405.2	0.4201	mg/L	0.00443	0.8402	mg/L	0.00887	1.06%

Sequence No.: 20

Autosampler Location: 314

Sample ID: YH53 P WMN

Date Collected: 4/22/2014 12:03:50 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH53 P WMN

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YH53 P WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2823347.3		97.82 %	0.382			0.39%
ScR 361.383	237846.3		99.30 %	0.767			0.77%
Ag 328.068†	327.9	0.00182	mg/L	0.000106	0.00365	mg/L	0.000212 5.81%
Al 308.215†	-1.4	-0.00709	mg/L	0.003754	-0.01419	mg/L	0.007507 52.91%
As 188.979†	35434.1	22.57	mg/L	0.262	45.13	mg/L	0.524 1.16%
B 249.677†	-125.1	-0.02345	mg/L	0.002255	-0.04690	mg/L	0.004509 9.62%
Ba 233.527†	7.0	0.00181	mg/L	0.001005	0.00361	mg/L	0.002010 55.66%
Be 313.042†	33.8	-0.00003	mg/L	0.000013	-0.00006	mg/L	0.000026 47.52%
Ca 317.933†	5557.4	0.5627	mg/L	0.00121	1.125	mg/L	0.0024 0.22%
Cd 228.802†	24.4	-0.1154	mg/L	0.00129	-0.2308	mg/L	0.00258 1.12%
Co 228.616†	37.3	0.00097	mg/L	0.000141	0.00194	mg/L	0.000281 14.52%
Cr 267.716†	10.2	0.00196	mg/L	0.001320	0.00391	mg/L	0.002641 67.53%
Cu 324.752†	-16126.2	-0.05633	mg/L	0.000605	-0.1127	mg/L	0.00121 1.07%
Fe 273.955†	-16.8	-0.01896	mg/L	0.001232	-0.03791	mg/L	0.002464 6.50%
K 766.490†	15.0	0.00685	mg/L	0.021082	0.01370	mg/L	0.042165 307.71%
Mg 279.077†	33.5	0.03279	mg/L	0.001466	0.06557	mg/L	0.002931 4.47%
Mn 257.610†	66.5	0.00217	mg/L	0.000063	0.00434	mg/L	0.000126 2.90%
Mo 202.031†	-165.1	-0.00987	mg/L	0.000391	-0.01975	mg/L	0.000781 3.96%
Na 589.592†	-3176.4	-0.2423	mg/L	0.00083	-0.4845	mg/L	0.00166 0.34%
Na 330.237†	1058.7	50.72	mg/L	0.133	101.4	mg/L	0.27 0.26%
Ni 231.604†	6.5	0.00195	mg/L	0.000826	0.00390	mg/L	0.001652 42.32%
Pb 220.353†	1197.1	0.1467	mg/L	0.00111	0.2934	mg/L	0.00221 0.75%
Sb 206.836†	-57.5	-0.01884	mg/L	0.000748	-0.03767	mg/L	0.001497 3.97%
Se 196.026†	-3634.4	-2.849	mg/L	0.0129	-5.698	mg/L	0.0258 0.45%
Si 288.158†	195.2	0.1212	mg/L	0.00106	0.2425	mg/L	0.00212 0.88%
Sn 189.927†	-101.5	-0.03196	mg/L	0.001115	-0.06392	mg/L	0.002230 3.49%
Sr 421.552†	-2361.9	-0.00300	mg/L	0.000023	-0.00600	mg/L	0.000046 0.76%
Ti 334.903†	-152.9	-0.00971	mg/L	0.000605	-0.01941	mg/L	0.001211 6.24%
Tl 190.801†	65.8	0.03366	mg/L	0.002154	0.06732	mg/L	0.004308 6.40%
V 292.402†	61107.7	0.4200	mg/L	0.00596	0.8401	mg/L	0.01191 1.42%
Zn 206.200†	24.2	0.00728	mg/L	0.000644	0.01455	mg/L	0.001287 8.84%

Sequence No.: 21
 Sample ID: YH53 Q WMN

Autosampler Location: 315
 Date Collected: 4/22/2014 12:07:50 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YH53 Q WMN

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YH53 Q WMN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2855007.9	98.92	%	0.372				0.38%
ScR 361.383	242117.5	101.1	%	0.84				0.83%
Ag 328.068†	268.2	0.00151	mg/L	0.000014	0.00302	mg/L	0.000028	0.93%
Al 308.215†	-8.4	-0.01287	mg/L	0.002685	-0.02574	mg/L	0.005369	20.86%
As 188.979†	35258.5	22.45	mg/L	0.117	44.91	mg/L	0.233	0.52%
B 249.677†	-115.0	-0.02156	mg/L	0.000852	-0.04312	mg/L	0.001705	3.95%
Ba 233.527†	3.7	0.00091	mg/L	0.001419	0.00183	mg/L	0.002839	155.23%
Be 313.042†	37.1	-0.00002	mg/L	0.000031	-0.00004	mg/L	0.000062	150.12%
Ca 317.933†	209.6	0.02123	mg/L	0.001121	0.04245	mg/L	0.002243	5.28%
Cd 228.802†	17.8	-0.1150	mg/L	0.00054	-0.2300	mg/L	0.00108	0.47%
Co 228.616†	32.4	0.00084	mg/L	0.000174	0.00169	mg/L	0.000348	20.61%
Cr 267.716†	16.5	0.00326	mg/L	0.000143	0.00653	mg/L	0.000287	4.40%
Cu 324.752†	-16047.3	-0.05605	mg/L	0.000376	-0.1121	mg/L	0.00075	0.67%
Fe 273.955†	-19.2	-0.02124	mg/L	0.001003	-0.04249	mg/L	0.002006	4.72%
K 766.490†	48.5	0.02220	mg/L	0.008040	0.04440	mg/L	0.016080	36.22%
Mg 279.077†	28.5	0.02793	mg/L	0.004694	0.05587	mg/L	0.009388	16.80%
Mn 257.610†	65.4	0.00214	mg/L	0.000086	0.00428	mg/L	0.000172	4.01%
Mo 202.031†	-170.7	-0.01020	mg/L	0.000233	-0.02040	mg/L	0.000466	2.28%
Na 589.592†	-3119.3	-0.2379	mg/L	0.00156	-0.4758	mg/L	0.00313	0.66%
Na 330.237†	1045.7	50.10	mg/L	0.272	100.2	mg/L	0.54	0.54%
Ni 231.604†	5.6	0.00169	mg/L	0.001197	0.00338	mg/L	0.002393	70.77%
Pb 220.353†	1199.2	0.1470	mg/L	0.00121	0.2940	mg/L	0.00241	0.82%
Sb 206.836†	-53.0	-0.01728	mg/L	0.001561	-0.03455	mg/L	0.003122	9.04%
Se 196.026†	-3604.1	-2.825	mg/L	0.0068	-5.651	mg/L	0.0137	0.24%
Si 288.158†	181.4	0.1127	mg/L	0.00230	0.2254	mg/L	0.00459	2.04%
Sn 189.927†	-105.8	-0.03338	mg/L	0.002085	-0.06677	mg/L	0.004170	6.25%
Sr 421.552†	-2583.6	-0.00328	mg/L	0.000036	-0.00657	mg/L	0.000073	1.11%
Ti 334.903†	-160.3	-0.01013	mg/L	0.000628	-0.02027	mg/L	0.001257	6.20%
Tl 190.801†	64.4	0.03289	mg/L	0.002714	0.06577	mg/L	0.005428	8.25%
V 292.402†	61276.6	0.4212	mg/L	0.00686	0.8424	mg/L	0.01372	1.63%
Zn 206.200†	26.1	0.00782	mg/L	0.000032	0.01565	mg/L	0.000064	0.41%

Sequence No.: 22

Sample ID: CV 3

Autosampler Location: 7

Date Collected: 4/22/2014 12:11:50 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2892234.8	100.2	%	0.15				0.15%
ScR 361.383	236103.4	98.58	%	0.545				0.55%
Ag 328.068†	206998.3	1.080	mg/L	0.0049	1.080	mg/L	0.0049	0.45%
Al 308.215†	2596.8	2.087	mg/L	0.0108	2.087	mg/L	0.0108	0.52%
As 188.979†	3189.0	2.064	mg/L	0.0048	2.064	mg/L	0.0048	0.23%
B 249.677†	5609.8	1.050	mg/L	0.0052	1.050	mg/L	0.0052	0.49%
Ba 233.527†	3751.2	1.018	mg/L	0.0025	1.018	mg/L	0.0025	0.24%
Be 313.042†	448355.6	1.009	mg/L	0.0072	1.009	mg/L	0.0072	0.71%
Ca 317.933†	21225.9	2.149	mg/L	0.0150	2.149	mg/L	0.0150	0.70%
Cd 228.802†	33516.1	1.021	mg/L	0.0020	1.021	mg/L	0.0020	0.19%
Co 228.616†	38551.5	0.9849	mg/L	0.00525	0.9849	mg/L	0.00525	0.53%
Cr 267.716†	4944.1	1.027	mg/L	0.0062	1.027	mg/L	0.0062	0.60%
Cu 324.752†	281667.8	0.9837	mg/L	0.00044	0.9837	mg/L	0.00044	0.04%
Fe 273.955†	2278.8	2.107	mg/L	0.0167	2.107	mg/L	0.0167	0.79%
K 766.490†	44965.8	20.59	mg/L	0.094	20.59	mg/L	0.094	0.46%
Mg 279.077†	2108.6	2.074	mg/L	0.0134	2.074	mg/L	0.0134	0.64%
Mn 257.610†	30176.5	0.9685	mg/L	0.00695	0.9685	mg/L	0.00695	0.72%
Mo 202.031†	16515.3	0.9866	mg/L	0.00123	0.9866	mg/L	0.00123	0.13%
Na 589.592†	688159.5	52.49	mg/L	0.210	52.49	mg/L	0.210	0.40%
Na 330.237†	1104.2	52.86	mg/L	0.334	52.86	mg/L	0.334	0.63%
Ni 231.604†	3477.2	1.061	mg/L	0.0043	1.061	mg/L	0.0043	0.40%
Pb 220.353†	16190.1	1.984	mg/L	0.0051	1.984	mg/L	0.0051	0.26%
Sb 206.836†	6132.3	2.139	mg/L	0.0036	2.139	mg/L	0.0036	0.17%
Se 196.026†	2603.8	2.040	mg/L	0.0053	2.040	mg/L	0.0053	0.26%
Si 288.158†	3445.3	2.145	mg/L	0.0191	2.145	mg/L	0.0191	0.89%
Sn 189.927†	3232.0	1.021	mg/L	0.0029	1.021	mg/L	0.0029	0.29%
Sr 421.552†	818466.0	1.040	mg/L	0.0032	1.040	mg/L	0.0032	0.31%
Ti 334.903†	16512.7	1.044	mg/L	0.0040	1.044	mg/L	0.0040	0.38%
Tl 190.801†	3793.5	2.021	mg/L	0.0012	2.021	mg/L	0.0012	0.06%
V 292.402†	145434.6	1.004	mg/L	0.0030	1.004	mg/L	0.0030	0.30%
Zn 206.200†	3519.0	1.052	mg/L	0.0077	1.052	mg/L	0.0077	0.73%

Sequence No.: 23
Sample ID: CB 3

Autosampler Location: 1
Date Collected: 4/22/2014 12:15:54 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2916976.4	101.1	%	0.41				0.40%
ScR 361.383	246936.0	103.1	%	0.32				0.31%
Ag 328.068†	35.6	0.00019	mg/L	0.000128	0.00019	mg/L	0.000128	68.92%
Al 308.215†	2.5	0.00201	mg/L	0.002417	0.00201	mg/L	0.002417	120.36%
As 188.979†	4.5	0.00287	mg/L	0.002604	0.00287	mg/L	0.002604	90.58%
B 249.677†	12.4	0.00233	mg/L	0.001458	0.00233	mg/L	0.001458	62.58%
Ba 233.527†	-0.4	-0.00011	mg/L	0.000723	-0.00011	mg/L	0.000723	635.91%
Be 313.042†	18.3	0.00004	mg/L	0.000026	0.00004	mg/L	0.000026	62.52%
Ca 317.933†	-6.2	-0.00063	mg/L	0.001039	-0.00063	mg/L	0.001039	165.14%
Cd 228.802†	5.0	0.00014	mg/L	0.000092	0.00014	mg/L	0.000092	65.91%
Co 228.616†	4.3	0.00011	mg/L	0.000095	0.00011	mg/L	0.000095	88.13%
Cr 267.716†	0.1	0.00001	mg/L	0.000510	0.00001	mg/L	0.000510	>999.9%
Cu 324.752†	101.1	0.00035	mg/L	0.000127	0.00035	mg/L	0.000127	35.94%
Fe 273.955†	0.2	0.00021	mg/L	0.001167	0.00021	mg/L	0.001167	550.06%
K 766.490†	-47.3	-0.02166	mg/L	0.017180	-0.02166	mg/L	0.017180	79.32%
Mg 279.077†	-4.0	-0.00389	mg/L	0.008458	-0.00389	mg/L	0.008458	217.52%
Mn 257.610†	-3.6	-0.00012	mg/L	0.000068	-0.00012	mg/L	0.000068	58.83%
Mo 202.031†	17.7	0.00106	mg/L	0.000230	0.00106	mg/L	0.000230	21.70%
Na 589.592†	60.4	0.00461	mg/L	0.001687	0.00461	mg/L	0.001687	36.60%
Na 330.237†	1.3	0.06341	mg/L	0.134683	0.06341	mg/L	0.134683	212.39%
Ni 231.604†	3.2	0.00097	mg/L	0.001121	0.00097	mg/L	0.001121	115.08%
Pb 220.353†	2.1	0.00026	mg/L	0.001299	0.00026	mg/L	0.001299	503.71%
Sb 206.836†	22.5	0.00788	mg/L	0.001848	0.00788	mg/L	0.001848	23.46%
Se 196.026†	-3.0	-0.00232	mg/L	0.002613	-0.00232	mg/L	0.002613	112.83%
Si 288.158†	-0.3	-0.00018	mg/L	0.003226	-0.00018	mg/L	0.003226	>999.9%
Sn 189.927†	4.0	0.00126	mg/L	0.001060	0.00126	mg/L	0.001060	83.86%
Sr 421.552†	30.8	0.00004	mg/L	0.000017	0.00004	mg/L	0.000017	42.96%
Ti 334.903†	14.0	0.00089	mg/L	0.000227	0.00089	mg/L	0.000227	25.67%
Tl 190.801†	0.3	0.00016	mg/L	0.002840	0.00016	mg/L	0.002840	>999.9%
V 292.402†	29.0	0.00020	mg/L	0.000065	0.00020	mg/L	0.000065	32.89%
Zn 206.200†	4.1	0.00123	mg/L	0.000589	0.00123	mg/L	0.000589	47.69%

Sequence No.: 24

Autosampler Location: 316

Sample ID: YG94 MB1 SWC

Date Collected: 4/22/2014 12:19:54 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 MB1 SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YG94 MB1 SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2941193.9	101.9	%	0.47				0.46%
ScR 361.383	244086.1	101.9	%	0.37				0.37%
Ag 328.068†	13.3	0.00007	mg/L	0.000221	0.00014	mg/L	0.000441	318.62%
Al 308.215†	5.5	0.00448	mg/L	0.004862	0.00895	mg/L	0.009724	108.61%
As 188.979†	2.6	0.00171	mg/L	0.000563	0.00342	mg/L	0.001127	32.98%
B 249.677†	5.4	0.00100	mg/L	0.000868	0.00200	mg/L	0.001737	86.63%
Ba 233.527†	3.5	0.00094	mg/L	0.000376	0.00188	mg/L	0.000753	39.93%
Be 313.042†	-1.5	-0.00000	mg/L	0.000023	-0.00001	mg/L	0.000047	664.98%
Ca 317.933†	60.6	0.00614	mg/L	0.001351	0.01227	mg/L	0.002703	22.02%
Cd 228.802†	-1.6	-0.00006	mg/L	0.000088	-0.00011	mg/L	0.000175	154.51%
Co 228.616†	1.2	0.00003	mg/L	0.000067	0.00006	mg/L	0.000133	238.66%
Cr 267.716†	3.4	0.00071	mg/L	0.000604	0.00143	mg/L	0.001208	84.65%
Cu 324.752†	119.9	0.00042	mg/L	0.000102	0.00084	mg/L	0.000203	24.24%
Fe 273.955†	3.9	0.00358	mg/L	0.000903	0.00717	mg/L	0.001805	25.19%
K 766.490†	-14.6	-0.00667	mg/L	0.012069	-0.01334	mg/L	0.024137	180.88%
Mg 279.077†	0.4	0.00043	mg/L	0.006254	0.00085	mg/L	0.012507	>999.9%
Mn 257.610†	-2.2	-0.00007	mg/L	0.000043	-0.00014	mg/L	0.000085	60.21%
Mo 202.031†	-2.6	-0.00015	mg/L	0.000175	-0.00031	mg/L	0.000351	114.81%
Na 589.592†	21.4	0.00163	mg/L	0.004032	0.00327	mg/L	0.008064	246.83%
Na 330.237†	2.3	0.1083	mg/L	0.05622	0.2167	mg/L	0.11244	51.90%
Ni 231.604†	2.5	0.00076	mg/L	0.001271	0.00151	mg/L	0.002542	168.30%
Pb 220.353†	0.9	0.00012	mg/L	0.000632	0.00023	mg/L	0.001264	542.30%
Sb 206.836†	-2.1	-0.00075	mg/L	0.001643	-0.00150	mg/L	0.003287	219.29%
Se 196.026†	-1.2	-0.00094	mg/L	0.001355	-0.00187	mg/L	0.002709	144.69%
Si 288.158†	-2.0	-0.00125	mg/L	0.002032	-0.00250	mg/L	0.004064	162.57%
Sn 189.927†	-0.9	-0.00027	mg/L	0.001128	-0.00055	mg/L	0.002256	410.77%
Sr 421.552†	-2.3	-0.00000	mg/L	0.000029	-0.00001	mg/L	0.000058	>999.9%
Ti 334.903†	12.1	0.00076	mg/L	0.000328	0.00152	mg/L	0.000656	43.02%
Tl 190.801†	-1.7	-0.00093	mg/L	0.001664	-0.00185	mg/L	0.003329	179.52%
V 292.402†	22.9	0.00016	mg/L	0.000127	0.00032	mg/L	0.000253	79.19%
Zn 206.200†	5.6	0.00167	mg/L	0.000196	0.00334	mg/L	0.000392	11.74%

Sequence No.: 25
 Sample ID: YG94 ADUP SWC
 Dilution: 2.000000X

Del

Autosampler Location: 317
 Date Collected: 4/22/2014 12:23:55 PM
 Data Type: Original

Nebulizer Parameters: YG94 ADUP SWC

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YG94 ADUP SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2931028.3	101.6	%	0.58			0.57%
ScR 361.383	247096.2	103.2	%	1.02			0.99%
Ag 328.068†	-457.3	-0.00204	mg/L	0.000262	-0.00408	0.000524	12.83%
Al 308.215†	276405.6	225.5	mg/L	1.62	451.0	3.25	0.72%
As 188.979†	-373.7	0.1310	mg/L	0.00392	0.2619	0.00784	3.00%
B 249.677†	230.4	0.04283	mg/L	0.001514	0.08565	0.003028	3.53%
Ba 233.527†	3566.9	0.9312	mg/L	0.00936	1.862	0.0187	1.01%
Be 313.042†	1609.0	0.00339	mg/L	0.000036	0.00678	0.000073	1.07%
Ca 317.933†	358771.9	36.32	mg/L	0.123	72.65	0.246	0.34%
Cd 228.802†	-16.5	0.00348	mg/L	0.000114	0.00695	0.000228	3.28%
Co 228.616†	6415.4	0.1447	mg/L	0.00144	0.2894	0.00288	1.00%
Cr 267.716†	1783.1	0.3731	mg/L	0.00287	0.7461	0.00575	0.77%
Cu 324.752†	66460.8	0.2405	mg/L	0.00240	0.4810	0.00481	1.00%
Fe 273.955†	251768.1	233.5	mg/L	0.86	467.0	1.73	0.37%
K 766.490†	17199.2	7.875	mg/L	0.0658	15.75	0.132	0.84%
Mg 279.077†	51414.9	50.27	mg/L	0.226	100.5	0.45	0.45%
Mn 257.610†	116010.9	3.720	mg/L	0.0155	7.440	0.0311	0.42%
Mo 202.031†	35.7	0.00157	mg/L	0.000095	0.00314	0.000190	6.04%
Na 589.592†	20879.6	1.593	mg/L	0.0137	3.185	0.0274	0.86%
Na 330.237†	-19.9	1.422	mg/L	0.1910	2.843	0.3819	13.43%
Ni 231.604†	15976.6	4.875	mg/L	0.0495	9.749	0.0990	1.02%
Pb 220.353†	-65.9	0.03820	mg/L	0.001205	0.07641	0.002411	3.15%
Sb 206.836†	28.6	0.01500	mg/L	0.000850	0.02999	0.001701	5.67%
Se 196.026†	34.0	0.02626	mg/L	0.003858	0.05253	0.007716	14.69%
Si 288.158†	7603.6	4.729	mg/L	0.0482	9.459	0.0964	1.02%
Sn 189.927†	-52.8	-0.01028	mg/L	0.000784	-0.02056	0.001568	7.62%
Sr 421.552†	249015.1	0.3164	mg/L	0.00152	0.6329	0.00305	0.48%
Ti 334.903†	164855.4	10.43	mg/L	0.049	20.86	0.098	0.47%
Tl 190.801†	-44.4	0.00032	mg/L	0.003498	0.00065	0.006996	>999.9%
V 292.402†	70000.8	0.4640	mg/L	0.00606	0.9281	0.01212	1.31%
Zn 206.200†	1917.8	0.5742	mg/L	0.00500	1.148	0.0100	0.87%

Sequence No.: 26
 Sample ID: YG94 A SWC

Autosampler Location: 318
 Date Collected: 4/22/2014 12:27:56 PM
 Data Type: Original

DeJ

Dilution: 2.000000X

Nebulizer Parameters: YG94 A SWC

Analyte Back Pressure Flow
 All 217.0 kPa 0.75 L/min

Mean Data: YG94 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2921991.4	101.2	%	0.29				0.28%
ScR 361.383	248378.0	103.7	%	0.92				0.89%
Ag 328.068†	-490.7	-0.00224	mg/L	0.000210	-0.00449	mg/L	0.000419	9.35%
Al 308.215†	324052.0	264.4	mg/L	0.32	528.7	mg/L	0.65	0.12%
As 188.979†	-378.2	0.1233	mg/L	0.00242	0.2465	mg/L	0.00483	1.96%
B 249.677†	251.3	0.04681	mg/L	0.001247	0.09362	mg/L	0.002494	2.66%
Ba 233.527†	3980.9	1.041	mg/L	0.0042	2.082	mg/L	0.0084	0.40%
Be 313.042†	1605.5	0.00338	mg/L	0.000012	0.00676	mg/L	0.000024	0.35%
Ca 317.933†	307685.7	31.15	mg/L	0.071	62.30	mg/L	0.142	0.23%
Cd 228.802†	38.0	0.00441	mg/L	0.000127	0.00882	mg/L	0.000253	2.87%
Co 228.616†	5111.5	0.1117	mg/L	0.00049	0.2234	mg/L	0.00099	0.44%
Cr 267.716†	2489.0	0.5196	mg/L	0.00519	1.039	mg/L	0.0104	1.00%
Cu 324.752†	77577.9	0.2801	mg/L	0.00085	0.5602	mg/L	0.00171	0.30%
Fe 273.955†	270377.3	250.8	mg/L	0.91	501.5	mg/L	1.83	0.36%
K 766.490†	21188.8	9.701	mg/L	0.0309	19.40	mg/L	0.062	0.32%
Mg 279.077†	60422.3	59.09	mg/L	0.084	118.2	mg/L	0.17	0.14%
Mn 257.610†	106722.0	3.421	mg/L	0.0120	6.843	mg/L	0.0239	0.35%
Mo 202.031†	42.8	0.00207	mg/L	0.000432	0.00415	mg/L	0.000865	20.85%
Na 589.592†	20457.7	1.560	mg/L	0.0057	3.121	mg/L	0.0114	0.36%
Na 330.237†	-18.1	1.474	mg/L	0.1600	2.949	mg/L	0.3200	10.85%
Ni 231.604†	13959.5	4.259	mg/L	0.0342	8.518	mg/L	0.0685	0.80%
Pb 220.353†	-89.0	0.04440	mg/L	0.001854	0.08879	mg/L	0.003709	4.18%
Sb 206.836†	41.5	0.01754	mg/L	0.003666	0.03509	mg/L	0.007333	20.90%
Se 196.026†	43.0	0.03331	mg/L	0.007293	0.06662	mg/L	0.014586	21.90%
Si 288.158†	6206.8	3.863	mg/L	0.0328	7.726	mg/L	0.0656	0.85%
Sn 189.927†	-45.8	-0.00871	mg/L	0.001717	-0.01743	mg/L	0.003434	19.70%
Sr 421.552†	213578.8	0.2714	mg/L	0.00014	0.5428	mg/L	0.00029	0.05%
Ti 334.903†	162639.0	10.29	mg/L	0.008	20.58	mg/L	0.017	0.08%
Tl 190.801†	-40.4	0.00451	mg/L	0.000812	0.00902	mg/L	0.001624	18.01%
V 292.402†	72452.6	0.4806	mg/L	0.00224	0.9611	mg/L	0.00447	0.47%
Zn 206.200†	2296.5	0.6873	mg/L	0.00555	1.375	mg/L	0.0111	0.81%

Sequence No.: 27
Sample ID: YG94 ASPK SWC

Autosampler Location: 319
Date Collected: 4/22/2014 12:31:57 PM
Data Type: Original

Dilution: 2.000000X

Del

Nebulizer Parameters: YG94 ASPK SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG94 ASPK SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2904007.0	100.6 %	0.51			0.51%
ScR 361.383	245180.9	102.4 %	0.14			0.14%
Ag 328.068†	101504.7	0.5301 mg/L	0.00349	1.060 mg/L	0.0070	0.66%
Al 308.215†	316406.6	258.1 mg/L	1.10	516.3 mg/L	2.20	0.43%
As 188.979†	2819.8	2.125 mg/L	0.0095	4.250 mg/L	0.0191	0.45%
B 249.677†	253.4	0.04613 mg/L	0.001847	0.09226 mg/L	0.003694	4.00%
Ba 233.527†	11385.2	3.051 mg/L	0.0287	6.103 mg/L	0.0573	0.94%
Be 313.042†	226888.8	0.5106 mg/L	0.00409	1.021 mg/L	0.0082	0.80%
Ca 317.933†	422971.9	42.82 mg/L	0.161	85.65 mg/L	0.322	0.38%
Cd 228.802†	17468.0	0.5308 mg/L	0.00300	1.062 mg/L	0.0060	0.57%
Co 228.616†	24709.3	0.6147 mg/L	0.00359	1.229 mg/L	0.0072	0.58%
Cr 267.716†	4808.0	1.000 mg/L	0.0073	2.000 mg/L	0.0146	0.73%
Cu 324.752†	224590.2	0.7935 mg/L	0.00486	1.587 mg/L	0.0097	0.61%
Fe 273.955†	262312.3	243.3 mg/L	1.29	486.5 mg/L	2.58	0.53%
K 766.490†	41755.7	19.12 mg/L	0.030	38.24 mg/L	0.059	0.15%
Mg 279.077†	71295.0	69.76 mg/L	0.243	139.5 mg/L	0.49	0.35%
Mn 257.610†	117593.1	3.771 mg/L	0.0210	7.541 mg/L	0.0420	0.56%
Mo 202.031†	51.8	0.00243 mg/L	0.000408	0.00486 mg/L	0.000816	16.81%
Na 589.592†	159294.8	12.15 mg/L	0.052	24.30 mg/L	0.105	0.43%
Na 330.237†	206.7	11.79 mg/L	0.113	23.57 mg/L	0.225	0.96%
Ni 231.604†	16509.7	5.036 mg/L	0.0406	10.07 mg/L	0.081	0.81%
Pb 220.353†	16140.7	2.032 mg/L	0.0101	4.063 mg/L	0.0203	0.50%
Sb 206.836†	50.2	0.01524 mg/L	0.003751	0.03047 mg/L	0.007502	24.62%
Se 196.026†	2596.0	2.034 mg/L	0.0124	4.068 mg/L	0.0247	0.61%
Si 288.158†	4330.0	2.701 mg/L	0.0101	5.401 mg/L	0.0203	0.38%
Sn 189.927†	-49.9	-0.00871 mg/L	0.000819	-0.01743 mg/L	0.001638	9.40%
Sr 421.552†	637274.4	0.8098 mg/L	0.00356	1.620 mg/L	0.0071	0.44%
Ti 334.903†	147605.3	9.337 mg/L	0.0468	18.67 mg/L	0.094	0.50%
Tl 190.801†	3655.9	1.975 mg/L	0.0121	3.951 mg/L	0.0242	0.61%
V 292.402†	139471.2	0.9442 mg/L	0.00496	1.888 mg/L	0.0099	0.53%
Zn 206.200†	3862.8	1.155 mg/L	0.0028	2.311 mg/L	0.0056	0.24%

Sequence No.: 28

Autosampler Location: 320

Sample ID: ~~YG94 APOST SWC~~ ZZZZZZ

Date Collected: 4/22/2014 12:35:13 PM

Dilution: 2.000000X

BA 4/22/14

Data Type: Original

Nebulizer Parameters: YG94 APOST SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YG94 APOST SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2925045.2	101.3	%	0.27				0.27%
ScR 361.383	246074.9	102.7	%	0.57				0.56%
Ag 328.068†	94419.1	0.4931	mg/L	0.00238	0.9862	mg/L	0.00475	0.48%
Al 308.215†	323697.6	264.1	mg/L	1.66	528.2	mg/L	3.31	0.63%
As 188.979†	2884.0	2.195	mg/L	0.0153	4.391	mg/L	0.0307	0.70%
B 249.677†	267.5	0.04881	mg/L	0.001155	0.09763	mg/L	0.002310	2.37%
Ba 233.527†	11241.0	3.011	mg/L	0.0373	6.023	mg/L	0.0746	1.24%
Be 313.042†	216128.5	0.4863	mg/L	0.00465	0.9727	mg/L	0.00929	0.96%
Ca 317.933†	407911.9	41.30	mg/L	0.116	82.60	mg/L	0.232	0.28%
Cd 228.802†	17444.8	0.5295	mg/L	0.00294	1.059	mg/L	0.0059	0.56%
Co 228.616†	24174.6	0.5996	mg/L	0.00252	1.199	mg/L	0.0050	0.42%
Cr 267.716†	4893.0	1.018	mg/L	0.0065	2.036	mg/L	0.0130	0.64%
Cu 324.752†	230307.3	0.8136	mg/L	0.00517	1.627	mg/L	0.0103	0.64%
Fe 273.955†	268837.9	249.3	mg/L	0.83	498.6	mg/L	1.66	0.33%
K 766.490†	43981.4	20.14	mg/L	0.130	40.27	mg/L	0.261	0.65%
Mg 279.077†	73438.6	71.86	mg/L	0.439	143.7	mg/L	0.88	0.61%
Mn 257.610†	120161.8	3.853	mg/L	0.0172	7.706	mg/L	0.0344	0.45%
Mo 202.031†	51.4	0.00243	mg/L	0.000567	0.00486	mg/L	0.001133	23.29%
Na 589.592†	159950.7	12.20	mg/L	0.052	24.40	mg/L	0.103	0.42%
Na 330.237†	193.6	11.37	mg/L	0.595	22.75	mg/L	1.190	5.23%
Ni 231.604†	15484.8	4.724	mg/L	0.0148	9.447	mg/L	0.0296	0.31%
Pb 220.353†	16131.6	2.032	mg/L	0.0107	4.063	mg/L	0.0213	0.52%
Sb 206.836†	49.6	0.01557	mg/L	0.001301	0.03114	mg/L	0.002602	8.35%
Se 196.026†	2691.1	2.109	mg/L	0.0069	4.217	mg/L	0.0138	0.33%
Si 288.158†	6142.3	3.827	mg/L	0.0134	7.653	mg/L	0.0268	0.35%
Sn 189.927†	-48.6	-0.00834	mg/L	0.001456	-0.01667	mg/L	0.002913	17.47%
Sr 421.552†	620612.0	0.7886	mg/L	0.00425	1.577	mg/L	0.0085	0.54%
Ti 334.903†	160734.8	10.17	mg/L	0.057	20.34	mg/L	0.113	0.56%
Tl 190.801†	3624.5	1.959	mg/L	0.0060	3.919	mg/L	0.0120	0.31%
V 292.402†	143452.9	0.9708	mg/L	0.00394	1.942	mg/L	0.0079	0.41%
Zn 206.200†	3982.2	1.191	mg/L	0.0102	2.383	mg/L	0.0204	0.86%

Sequence No.: 29
Sample ID: YG94 B SWC
Dilution: 2.000000X

Autosampler Location: 321
Date Collected: 4/22/2014 12:38:29 PM
Data Type: Original

Nebulizer Parameters: YG94 B SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG94 B SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2902696.7	100.6	%	0.34			0.34%
ScR 361.383	246376.0	102.9	%	0.86			0.83%
Ag 328.068†	-214.9	-0.00083	mg/L	0.000309	-0.00166	mg/L	0.000618 37.33%
Al 308.215†	170862.4	139.4	mg/L	0.30	278.8	mg/L	0.60 0.22%
As 188.979†	-286.3	0.1062	mg/L	0.00190	0.2125	mg/L	0.00379 1.79%
B 249.677†	376.6	0.07044	mg/L	0.000515	0.1409	mg/L	0.00103 0.73%
Ba 233.527†	2289.9	0.5930	mg/L	0.00866	1.186	mg/L	0.0173 1.46%
Be 313.042†	811.4	0.00164	mg/L	0.000017	0.00329	mg/L	0.000034 1.03%
Ca 317.933†	321589.2	32.56	mg/L	0.014	65.12	mg/L	0.029 0.04%
Cd 228.802†	26.9	0.00221	mg/L	0.000142	0.00441	mg/L	0.000285 6.45%
Co 228.616†	3152.0	0.06550	mg/L	0.000680	0.1310	mg/L	0.00136 1.04%
Cr 267.716†	14043.6	2.919	mg/L	0.0120	5.838	mg/L	0.0240 0.41%
Cu 324.752†	235468.4	0.8289	mg/L	0.00594	1.658	mg/L	0.0119 0.72%
Fe 273.955†	195996.3	181.8	mg/L	0.56	363.5	mg/L	1.12 0.31%
K 766.490†	11491.2	5.261	mg/L	0.0104	10.52	mg/L	0.021 0.20%
Mg 279.077†	58414.9	57.17	mg/L	0.136	114.3	mg/L	0.27 0.24%
Mn 257.610†	77299.2	2.478	mg/L	0.0052	4.957	mg/L	0.0104 0.21%
Mo 202.031†	826.1	0.04885	mg/L	0.000246	0.09769	mg/L	0.000492 0.50%
Na 589.592†	27768.4	2.118	mg/L	0.0027	4.236	mg/L	0.0054 0.13%
Na 330.237†	-1.9	1.799	mg/L	0.1935	3.597	mg/L	0.3870 10.76%
Ni 231.604†	6780.4	2.069	mg/L	0.0105	4.137	mg/L	0.0210 0.51%
Pb 220.353†	2649.1	0.3555	mg/L	0.00281	0.7109	mg/L	0.00562 0.79%
Sb 206.836†	130.1	0.01526	mg/L	0.001800	0.03052	mg/L	0.003600 11.80%
Se 196.026†	33.7	0.02614	mg/L	0.003310	0.05229	mg/L	0.006620 12.66%
Si 288.158†	10157.7	6.318	mg/L	0.0297	12.64	mg/L	0.059 0.47%
Sn 189.927†	-32.7	-0.00478	mg/L	0.000629	-0.00956	mg/L	0.001258 13.15%
Sr 421.552†	128407.3	0.1632	mg/L	0.00049	0.3263	mg/L	0.00099 0.30%
Ti 334.903†	130928.3	8.282	mg/L	0.0206	16.56	mg/L	0.041 0.25%
Tl 190.801†	-34.0	-0.00019	mg/L	0.003973	-0.00038	mg/L	0.007945 >999.9%
V 292.402†	54434.9	0.3715	mg/L	0.00296	0.7431	mg/L	0.00592 0.80%
Zn 206.200†	1246.0	0.3744	mg/L	0.00257	0.7488	mg/L	0.00514 0.69%

Sequence No.: 30
Sample ID: YG94 C SWC

Autosampler Location: 322
Date Collected: 4/22/2014 12:42:30 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 C SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG94 C SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2936693.1	101.7	%	0.71			0.70%
ScR 361.383	247123.4	103.2	%	0.75			0.72%
Ag 328.068†	-239.5	-0.00092	mg/L	0.000121	-0.00183 mg/L	0.000242	13.18%
Al 308.215†	151397.1	123.5	mg/L	0.30	247.0 mg/L	0.61	0.25%
As 188.979†	-244.1	0.1087	mg/L	0.00563	0.2174 mg/L	0.01125	5.18%
B 249.677†	173.8	0.03238	mg/L	0.000568	0.06476 mg/L	0.001135	1.75%
Ba 233.527†	1828.4	0.4698	mg/L	0.00221	0.9396 mg/L	0.00442	0.47%
Be 313.042†	982.3	0.00204	mg/L	0.000049	0.00408 mg/L	0.000098	2.39%
Ca 317.933†	392962.2	39.79	mg/L	0.185	79.57 mg/L	0.370	0.46%
Cd 228.802†	-21.3	0.00136	mg/L	0.000190	0.00273 mg/L	0.000380	13.94%
Co 228.616†	3379.0	0.07261	mg/L	0.000584	0.1452 mg/L	0.00117	0.80%
Cr 267.716†	1208.2	0.2509	mg/L	0.00184	0.5017 mg/L	0.00367	0.73%
Cu 324.752†	33644.1	0.1233	mg/L	0.00086	0.2467 mg/L	0.00172	0.70%
Fe 273.955†	181281.7	168.1	mg/L	0.76	336.2 mg/L	1.51	0.45%
K 766.490†	14797.1	6.775	mg/L	0.0464	13.55 mg/L	0.093	0.69%
Mg 279.077†	59068.4	57.82	mg/L	0.152	115.6 mg/L	0.30	0.26%
Mn 257.610†	92782.5	2.975	mg/L	0.0110	5.950 mg/L	0.0221	0.37%
Mo 202.031†	55.8	0.00272	mg/L	0.000289	0.00543 mg/L	0.000578	10.63%
Na 589.592†	24110.1	1.839	mg/L	0.0033	3.678 mg/L	0.0066	0.18%
Na 330.237†	0.8	1.638	mg/L	0.1923	3.276 mg/L	0.3846	11.74%
Ni 231.604†	8951.6	2.731	mg/L	0.0171	5.462 mg/L	0.0342	0.63%
Pb 220.353†	-53.7	0.01704	mg/L	0.000654	0.03409 mg/L	0.001308	3.84%
Sb 206.836†	19.3	0.01058	mg/L	0.003658	0.02116 mg/L	0.007315	34.58%
Se 196.026†	32.4	0.02516	mg/L	0.004156	0.05033 mg/L	0.008311	16.52%
Si 288.158†	8614.8	5.358	mg/L	0.0415	10.72 mg/L	0.083	0.77%
Sn 189.927†	-48.2	-0.00895	mg/L	0.000984	-0.01790 mg/L	0.001968	10.99%
Sr 421.552†	211398.4	0.2686	mg/L	0.00047	0.5373 mg/L	0.00095	0.18%
Ti 334.903†	118596.0	7.502	mg/L	0.0210	15.00 mg/L	0.042	0.28%
Tl 190.801†	-30.7	0.00106	mg/L	0.003272	0.00212 mg/L	0.006545	308.15%
V 292.402†	52161.9	0.3462	mg/L	0.00223	0.6924 mg/L	0.00446	0.64%
Zn 206.200†	1666.5	0.4992	mg/L	0.00376	0.9983 mg/L	0.00751	0.75%

Sequence No.: 31
Sample ID: YG94 D SWC

Autosampler Location: 323
Date Collected: 4/22/2014 12:46:30 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 D SWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YG94 D SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2911285.8	100.9	%	0.10				0.10%
ScR 361.383	246420.1	102.9	%	0.34				0.33%
Ag 328.068†	-240.9	-0.00085	mg/L	0.000216	-0.00170	mg/L	0.000432	25.36%
Al 308.215†	171997.0	140.3	mg/L	0.10	280.6	mg/L	0.21	0.07%
As 188.979†	-329.5	0.1259	mg/L	0.00102	0.2517	mg/L	0.00204	0.81%
B 249.677†	180.8	0.03367	mg/L	0.001119	0.06733	mg/L	0.002238	3.32%
Ba 233.527†	1715.9	0.4367	mg/L	0.00224	0.8735	mg/L	0.00447	0.51%
Be 313.042†	990.3	0.00202	mg/L	0.000020	0.00403	mg/L	0.000039	0.98%
Ca 317.933†	477578.0	48.35	mg/L	0.164	96.71	mg/L	0.328	0.34%
Cd 228.802†	33.7	0.00221	mg/L	0.000090	0.00443	mg/L	0.000180	4.08%
Co 228.616†	3770.5	0.07917	mg/L	0.000300	0.1583	mg/L	0.00060	0.38%
Cr 267.716†	1374.1	0.2854	mg/L	0.00113	0.5708	mg/L	0.00225	0.39%
Cu 324.752†	36849.6	0.1349	mg/L	0.00047	0.2698	mg/L	0.00094	0.35%
Fe 273.955†	199844.0	185.3	mg/L	1.20	370.7	mg/L	2.40	0.65%
K 766.490†	12250.5	5.609	mg/L	0.0443	11.22	mg/L	0.089	0.79%
Mg 279.077†	63590.2	62.24	mg/L	0.077	124.5	mg/L	0.15	0.12%
Mn 257.610†	93976.4	3.013	mg/L	0.0215	6.027	mg/L	0.0431	0.71%
Mo 202.031†	62.3	0.00297	mg/L	0.000397	0.00594	mg/L	0.000795	13.38%
Na 589.592†	20644.7	1.575	mg/L	0.0041	3.149	mg/L	0.0082	0.26%
Na 330.237†	-14.6	1.380	mg/L	0.1566	2.760	mg/L	0.3131	11.34%
Ni 231.604†	5766.3	1.759	mg/L	0.0030	3.519	mg/L	0.0060	0.17%
Pb 220.353†	-81.7	0.01693	mg/L	0.000732	0.03387	mg/L	0.001464	4.32%
Sb 206.836†	5.6	0.00720	mg/L	0.001916	0.01440	mg/L	0.003832	26.61%
Se 196.026†	37.4	0.02900	mg/L	0.009230	0.05801	mg/L	0.018461	31.82%
Si 288.158†	6507.4	4.050	mg/L	0.0194	8.100	mg/L	0.0389	0.48%
Sn 189.927†	-53.8	-0.00930	mg/L	0.002377	-0.01861	mg/L	0.004755	25.56%
Sr 421.552†	145988.0	0.1855	mg/L	0.00018	0.3710	mg/L	0.00036	0.10%
Ti 334.903†	150607.3	9.527	mg/L	0.0233	19.05	mg/L	0.047	0.25%
Tl 190.801†	-37.3	-0.00084	mg/L	0.002116	-0.00167	mg/L	0.004232	253.33%
V 292.402†	63806.8	0.4242	mg/L	0.00179	0.8485	mg/L	0.00358	0.42%
Zn 206.200†	1729.3	0.5177	mg/L	0.00213	1.035	mg/L	0.0043	0.41%

Sequence No.: 32
 Sample ID: YG94 E SWC

Autosampler Location: 324
 Date Collected: 4/22/2014 12:50:30 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YG94 E SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

 Mean Data: YG94 E SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2911899.1	100.9	%	0.82				0.81%
ScR 361.383	248573.6	103.8	%	0.50				0.48%
Ag 328.068†	-325.1	-0.00133	mg/L	0.000285	-0.00267	mg/L	0.000570	21.35%
Al 308.215†	204174.5	166.6	mg/L	0.76	333.1	mg/L	1.53	0.46%
As 188.979†	-286.7	0.1373	mg/L	0.00292	0.2746	mg/L	0.00584	2.13%
B 249.677†	106.8	0.01978	mg/L	0.000743	0.03957	mg/L	0.001486	3.76%
Ba 233.527†	2879.4	0.7512	mg/L	0.00393	1.502	mg/L	0.0079	0.52%
Be 313.042†	995.5	0.00203	mg/L	0.000018	0.00407	mg/L	0.000035	0.87%
Ca 317.933†	405589.3	41.06	mg/L	0.123	82.13	mg/L	0.246	0.30%
Cd 228.802†	3.1	0.00037	mg/L	0.000119	0.00074	mg/L	0.000238	32.30%
Co 228.616†	4198.6	0.09103	mg/L	0.001474	0.1821	mg/L	0.00295	1.62%
Cr 267.716†	1420.1	0.2970	mg/L	0.00204	0.5940	mg/L	0.00408	0.69%
Cu 324.752†	58703.9	0.2119	mg/L	0.00116	0.4238	mg/L	0.00233	0.55%
Fe 273.955†	209707.0	194.5	mg/L	0.70	389.0	mg/L	1.41	0.36%
K 766.490†	13416.3	6.143	mg/L	0.0329	12.29	mg/L	0.066	0.54%
Mg 279.077†	44135.5	43.15	mg/L	0.130	86.31	mg/L	0.259	0.30%
Mn 257.610†	107110.6	3.435	mg/L	0.0124	6.869	mg/L	0.0248	0.36%
Mo 202.031†	54.9	0.00264	mg/L	0.000525	0.00528	mg/L	0.001050	19.88%
Na 589.592†	23645.7	1.804	mg/L	0.0071	3.607	mg/L	0.0141	0.39%
Na 330.237†	-7.6	1.688	mg/L	0.1256	3.375	mg/L	0.2513	7.44%
Ni 231.604†	3509.4	1.071	mg/L	0.0028	2.141	mg/L	0.0057	0.26%
Pb 220.353†	-49.1	0.02686	mg/L	0.000680	0.05371	mg/L	0.001360	2.53%
Sb 206.836†	24.6	0.01337	mg/L	0.002474	0.02674	mg/L	0.004949	18.51%
Se 196.026†	33.3	0.02578	mg/L	0.004674	0.05157	mg/L	0.009347	18.13%
Si 288.158†	3222.6	2.007	mg/L	0.0130	4.014	mg/L	0.0259	0.65%
Sn 189.927†	-50.6	-0.00929	mg/L	0.001433	-0.01857	mg/L	0.002865	15.43%
Sr 421.552†	292510.4	0.3717	mg/L	0.00082	0.7434	mg/L	0.00163	0.22%
Ti 334.903†	143324.7	9.066	mg/L	0.0275	18.13	mg/L	0.055	0.30%
Tl 190.801†	-33.6	0.00211	mg/L	0.001182	0.00421	mg/L	0.002365	56.15%
V 292.402†	64304.6	0.4275	mg/L	0.00280	0.8550	mg/L	0.00560	0.66%
Zn 206.200†	1153.5	0.3452	mg/L	0.00268	0.6905	mg/L	0.00537	0.78%

Sequence No.: 33

Autosampler Location: 325

Sample ID: YG94 MB1SPK SWC

Date Collected: 4/22/2014 12:54:30 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 MB1SPK SWC

Analyte	Back Pressure	Flow
All	217.0 kPa	0.75 L/min

Mean Data: YG94 MB1SPK SWC

Analyte	Mean Corrected			Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.	Calib. Units		Conc.	Units		
ScA 357.253	2893621.0	100.3	%	0.19				0.19%
ScR 361.383	239550.8	100.0	%	0.67				0.67%
Ag 328.068†	106427.5	0.5554	mg/L	0.00059	1.111	mg/L	0.0012	0.11%
Al 308.215†	2689.0	2.186	mg/L	0.0054	4.373	mg/L	0.0108	0.25%
As 188.979†	3401.2	2.165	mg/L	0.0122	4.331	mg/L	0.0244	0.56%
B 249.677†	9.9	0.00077	mg/L	0.000452	0.00154	mg/L	0.000904	58.52%
Ba 233.527†	7765.8	2.107	mg/L	0.0074	4.214	mg/L	0.0149	0.35%
Be 313.042†	232798.2	0.5241	mg/L	0.00204	1.048	mg/L	0.0041	0.39%
Ca 317.933†	104721.0	10.60	mg/L	0.036	21.21	mg/L	0.072	0.34%
Cd 228.802†	17552.4	0.5292	mg/L	0.00156	1.058	mg/L	0.0031	0.30%
Co 228.616†	20096.2	0.5141	mg/L	0.00135	1.028	mg/L	0.0027	0.26%
Cr 267.716†	2588.2	0.5367	mg/L	0.00117	1.073	mg/L	0.0023	0.22%
Cu 324.752†	145603.5	0.5087	mg/L	0.00140	1.017	mg/L	0.0028	0.27%
Fe 273.955†	2408.9	2.231	mg/L	0.0062	4.461	mg/L	0.0124	0.28%
K 766.490†	23139.7	10.59	mg/L	0.058	21.19	mg/L	0.116	0.55%
Mg 279.077†	11322.7	11.10	mg/L	0.015	22.20	mg/L	0.029	0.13%
Mn 257.610†	15665.6	0.5029	mg/L	0.00036	1.006	mg/L	0.0007	0.07%
Mo 202.031†	29.0	0.00157	mg/L	0.000184	0.00314	mg/L	0.000369	11.75%
Na 589.592†	142084.2	10.84	mg/L	0.025	21.67	mg/L	0.051	0.23%
Na 330.237†	239.2	11.24	mg/L	0.172	22.48	mg/L	0.344	1.53%
Ni 231.604†	1810.0	0.5513	mg/L	0.00197	1.103	mg/L	0.0039	0.36%
Pb 220.353†	16926.0	2.074	mg/L	0.0076	4.148	mg/L	0.0153	0.37%
Sb 206.836†	11.5	-0.00113	mg/L	0.000637	-0.00226	mg/L	0.001274	56.32%
Se 196.026†	2743.5	2.150	mg/L	0.0056	4.300	mg/L	0.0111	0.26%
Si 288.158†	0.5	0.00406	mg/L	0.007242	0.00811	mg/L	0.014484	178.56%
Sn 189.927†	-13.0	-0.00275	mg/L	0.000858	-0.00549	mg/L	0.001717	31.26%
Sr 421.552†	419962.3	0.5336	mg/L	0.00067	1.067	mg/L	0.0013	0.13%
Ti 334.903†	155.4	0.00898	mg/L	0.000457	0.01797	mg/L	0.000914	5.09%
Tl 190.801†	3963.0	2.114	mg/L	0.0094	4.229	mg/L	0.0188	0.45%
V 292.402†	74800.8	0.5163	mg/L	0.00116	1.033	mg/L	0.0023	0.22%
Zn 206.200†	1807.4	0.5405	mg/L	0.00133	1.081	mg/L	0.0027	0.25%

Sequence No.: 34
Sample ID: CV 4

Autosampler Location: 7
Date Collected: 4/22/2014 12:58:30 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2878819.6	99.74	%	0.246				0.25%
ScR 361.383	237224.5	99.04	%	0.843				0.85%
Ag 328.068†	208247.4	1.087	mg/L	0.0033	1.087	mg/L	0.0033	0.30%
Al 308.215†	2608.4	2.096	mg/L	0.0148	2.096	mg/L	0.0148	0.71%
As 188.979†	3226.0	2.088	mg/L	0.0030	2.088	mg/L	0.0030	0.14%
B 249.677†	5634.6	1.055	mg/L	0.0094	1.055	mg/L	0.0094	0.89%
Ba 233.527†	3758.0	1.019	mg/L	0.0080	1.019	mg/L	0.0080	0.78%
Be 313.042†	451446.8	1.016	mg/L	0.0044	1.016	mg/L	0.0044	0.44%
Ca 317.933†	21412.1	2.168	mg/L	0.0166	2.168	mg/L	0.0166	0.77%
Cd 228.802†	34004.9	1.036	mg/L	0.0028	1.036	mg/L	0.0028	0.27%
Co 228.616†	39128.5	0.9997	mg/L	0.00313	0.9997	mg/L	0.00313	0.31%
Cr 267.716†	4998.3	1.038	mg/L	0.0064	1.038	mg/L	0.0064	0.62%
Cu 324.752†	282970.6	0.9882	mg/L	0.00348	0.9882	mg/L	0.00348	0.35%
Fe 273.955†	2320.6	2.145	mg/L	0.0126	2.145	mg/L	0.0126	0.59%
K 766.490†	45361.1	20.77	mg/L	0.122	20.77	mg/L	0.122	0.59%
Mg 279.077†	2132.7	2.098	mg/L	0.0178	2.098	mg/L	0.0178	0.85%
Mn 257.610†	30648.8	0.9837	mg/L	0.00557	0.9837	mg/L	0.00557	0.57%
Mo 202.031†	16798.6	1.003	mg/L	0.0038	1.003	mg/L	0.0038	0.38%
Na 589.592†	691410.0	52.74	mg/L	0.187	52.74	mg/L	0.187	0.36%
Na 330.237†	1108.6	53.08	mg/L	0.309	53.08	mg/L	0.309	0.58%
Ni 231.604†	3511.7	1.072	mg/L	0.0069	1.072	mg/L	0.0069	0.64%
Pb 220.353†	16514.1	2.024	mg/L	0.0095	2.024	mg/L	0.0095	0.47%
Sb 206.836†	6190.0	2.160	mg/L	0.0067	2.160	mg/L	0.0067	0.31%
Se 196.026†	2633.4	2.063	mg/L	0.0055	2.063	mg/L	0.0055	0.27%
Si 288.158†	3476.3	2.164	mg/L	0.0429	2.164	mg/L	0.0429	1.98%
Sn 189.927†	3287.3	1.039	mg/L	0.0001	1.039	mg/L	0.0001	0.01%
Sr 421.552†	823163.0	1.046	mg/L	0.0038	1.046	mg/L	0.0038	0.36%
Ti 334.903†	16670.6	1.054	mg/L	0.0021	1.054	mg/L	0.0021	0.20%
Tl 190.801†	3834.0	2.042	mg/L	0.0115	2.042	mg/L	0.0115	0.56%
V 292.402†	147123.3	1.015	mg/L	0.0036	1.015	mg/L	0.0036	0.36%
Zn 206.200†	3573.1	1.069	mg/L	0.0100	1.069	mg/L	0.0100	0.94%

Sequence No.: 35
Sample ID: CB 4

Autosampler Location: 1
Date Collected: 4/22/2014 1:02:34 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2926623.0	101.4	%	0.18				0.18%
ScR 361.383	243208.3	101.5	%	0.57				0.56%
Ag 328.068†	48.5	0.00025	mg/L	0.000026	0.00025	mg/L	0.000026	10.38%
Al 308.215†	7.4	0.00599	mg/L	0.005945	0.00599	mg/L	0.005945	99.19%
As 188.979†	2.1	0.00136	mg/L	0.002090	0.00136	mg/L	0.002090	153.34%
B 249.677†	11.5	0.00216	mg/L	0.001257	0.00216	mg/L	0.001257	58.22%
Ba 233.527†	-0.8	-0.00022	mg/L	0.000421	-0.00022	mg/L	0.000421	192.50%
Be 313.042†	45.1	0.00010	mg/L	0.000032	0.00010	mg/L	0.000032	31.95%
Ca 317.933†	-1.3	-0.00013	mg/L	0.001737	-0.00013	mg/L	0.001737	>999.9%
Cd 228.802†	0.8	0.00002	mg/L	0.000102	0.00002	mg/L	0.000102	559.08%
Co 228.616†	5.1	0.00013	mg/L	0.000102	0.00013	mg/L	0.000102	78.85%
Cr 267.716†	3.7	0.00077	mg/L	0.001068	0.00077	mg/L	0.001068	138.70%
Cu 324.752†	115.6	0.00040	mg/L	0.000103	0.00040	mg/L	0.000103	25.55%
Fe 273.955†	1.3	0.00117	mg/L	0.001088	0.00117	mg/L	0.001088	92.84%
K 766.490†	-31.4	-0.01438	mg/L	0.010510	-0.01438	mg/L	0.010510	73.07%
Mg 279.077†	-9.3	-0.00910	mg/L	0.003781	-0.00910	mg/L	0.003781	41.57%
Mn 257.610†	1.7	0.00006	mg/L	0.000215	0.00006	mg/L	0.000215	389.20%
Mo 202.031†	17.4	0.00104	mg/L	0.000376	0.00104	mg/L	0.000376	36.10%
Na 589.592†	-14.0	-0.00107	mg/L	0.002090	-0.00107	mg/L	0.002090	195.31%
Na 330.237†	-3.9	-0.1866	mg/L	0.15732	-0.1866	mg/L	0.15732	84.30%
Ni 231.604†	3.9	0.00120	mg/L	0.000458	0.00120	mg/L	0.000458	38.16%
Pb 220.353†	1.5	0.00018	mg/L	0.000535	0.00018	mg/L	0.000535	289.68%
Sb 206.836†	26.2	0.00915	mg/L	0.002219	0.00915	mg/L	0.002219	24.26%
Se 196.026†	-3.1	-0.00241	mg/L	0.003428	-0.00241	mg/L	0.003428	142.25%
Si 288.158†	-1.3	-0.00082	mg/L	0.001364	-0.00082	mg/L	0.001364	165.44%
Sn 189.927†	3.1	0.00099	mg/L	0.000679	0.00099	mg/L	0.000679	68.87%
Sr 421.552†	74.7	0.00009	mg/L	0.000045	0.00009	mg/L	0.000045	47.77%
Ti 334.903†	17.9	0.00113	mg/L	0.000414	0.00113	mg/L	0.000414	36.53%
Tl 190.801†	-0.9	-0.00048	mg/L	0.001773	-0.00048	mg/L	0.001773	372.58%
V 292.402†	25.1	0.00018	mg/L	0.000082	0.00018	mg/L	0.000082	46.78%
Zn 206.200†	2.3	0.00070	mg/L	0.000572	0.00070	mg/L	0.000572	82.18%

Sequence No.: 36
Sample ID: YG94 F SWC

Autosampler Location: 326
Date Collected: 4/22/2014 1:06:34 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 F SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG94 F SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2903617.2	100.6	%	0.37				0.36%
ScR 361.383	244678.1	102.2	%	0.70				0.68%
Ag 328.068†	-188.8	-0.00070	mg/L	0.000054	-0.00140	mg/L	0.000109	7.75%
Al 308.215†	148731.3	121.3	mg/L	0.72	242.7	mg/L	1.44	0.59%
As 188.979†	-219.7	0.1021	mg/L	0.00308	0.2043	mg/L	0.00617	3.02%
B 249.677†	237.4	0.04432	mg/L	0.000820	0.08865	mg/L	0.001639	1.85%
Ba 233.027†	3365.2	0.8879	mg/L	0.00858	1.776	mg/L	0.0172	0.97%
Be 313.042†	792.7	0.00163	mg/L	0.000011	0.00327	mg/L	0.000022	0.67%
Ca 317.933†	334484.1	33.87	mg/L	0.181	67.73	mg/L	0.363	0.54%
Cd 228.802†	7.3	0.00235	mg/L	0.000144	0.00470	mg/L	0.000287	6.11%
Co 228.616†	2931.7	0.06205	mg/L	0.000335	0.1241	mg/L	0.00067	0.54%
Cr 267.716†	13129.3	2.729	mg/L	0.0275	5.458	mg/L	0.0550	1.01%
Cu 324.752†	225011.1	0.7917	mg/L	0.00451	1.583	mg/L	0.0090	0.57%
Fe 273.955†	173859.5	161.2	mg/L	0.90	322.5	mg/L	1.80	0.56%
K 766.490†	11016.7	5.044	mg/L	0.0823	10.09	mg/L	0.165	1.63%
Mg 279.077†	49609.5	48.55	mg/L	0.443	97.09	mg/L	0.886	0.91%
Mn 257.610†	94064.9	3.017	mg/L	0.0181	6.033	mg/L	0.0362	0.60%
Mo 202.031†	88.3	0.00475	mg/L	0.000434	0.00950	mg/L	0.000867	9.12%
Na 589.592†	17222.9	1.314	mg/L	0.0070	2.627	mg/L	0.0140	0.53%
Na 330.237†	-9.6	1.075	mg/L	0.5654	2.150	mg/L	1.1308	52.61%
Ni 231.604†	9353.5	2.854	mg/L	0.0375	5.708	mg/L	0.0750	1.31%
Pb 220.353†	1937.0	0.2645	mg/L	0.00022	0.5289	mg/L	0.00044	0.08%
Sb 206.836†	125.2	0.01475	mg/L	0.002497	0.02951	mg/L	0.004995	16.93%
Se 196.026†	26.0	0.02017	mg/L	0.002607	0.04034	mg/L	0.005215	12.93%
Si 288.158†	4972.2	3.096	mg/L	0.0297	6.192	mg/L	0.0593	0.96%
Sn 189.927†	-25.9	-0.00272	mg/L	0.000888	-0.00544	mg/L	0.001777	32.63%
Sr 421.552†	187888.5	0.2388	mg/L	0.00119	0.4775	mg/L	0.00237	0.50%
Ti 334.903†	110196.6	6.970	mg/L	0.0382	13.94	mg/L	0.076	0.55%
Tl 190.801†	-25.4	0.00233	mg/L	0.001776	0.00466	mg/L	0.003552	76.15%
V 292.402†	44373.5	0.3036	mg/L	0.00189	0.6072	mg/L	0.00378	0.62%
Zn 206.200†	1246.7	0.3739	mg/L	0.00408	0.7479	mg/L	0.00816	1.09%

Sequence No.: 37
Sample ID: YG94 G SWC

Autosampler Location: 327
Date Collected: 4/22/2014 1:09:51 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 G SWC

Analyte Back Pressure Flow
All 217.0 kPa 0.75 L/min

Mean Data: YG94 G SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2915809.9	101.0	%	0.34			0.34%
ScR 361.383	244889.0	102.2	%	0.50			0.49%
Ag 328.068†	-299.6	-0.00118	mg/L	0.000075	-0.00236 mg/L	0.000150	6.35%
Al 308.215†	155571.3	126.9	mg/L	0.37	253.8 mg/L	0.74	0.29%
As 188.979†	-278.6	0.1154	mg/L	0.00198	0.2307 mg/L	0.00397	1.72%
B 249.677†	139.3	0.02592	mg/L	0.000648	0.05184 mg/L	0.001296	2.50%
Ba 233.527†	1758.2	0.4505	mg/L	0.00492	0.9010 mg/L	0.00983	1.09%
Be 313.042†	1245.6	0.00262	mg/L	0.000019	0.00524 mg/L	0.000037	0.71%
Ca 317.933†	467425.5	47.33	mg/L	0.046	94.65 mg/L	0.092	0.10%
Cd 228.802†	11.0	0.00093	mg/L	0.000074	0.00185 mg/L	0.000149	8.02%
Co 228.616†	3388.5	0.07163	mg/L	0.000606	0.1433 mg/L	0.00121	0.85%
Cr 267.716†	1675.2	0.3477	mg/L	0.00249	0.6954 mg/L	0.00497	0.72%
Cu 324.752†	35315.6	0.1291	mg/L	0.00055	0.2582 mg/L	0.00110	0.43%
Fe 273.955†	184403.8	171.0	mg/L	0.20	342.0 mg/L	0.41	0.12%
K 766.490†	16067.1	7.356	mg/L	0.0286	14.71 mg/L	0.057	0.39%
Mg 279.077†	61402.6	60.10	mg/L	0.068	120.2 mg/L	0.14	0.11%
Mn 257.610†	108035.8	3.464	mg/L	0.0103	6.929 mg/L	0.0206	0.30%
Mo 202.031†	78.3	0.00394	mg/L	0.000388	0.00788 mg/L	0.000775	9.84%
Na 589.592†	22564.9	1.721	mg/L	0.0029	3.442 mg/L	0.0059	0.17%
Na 330.237†	-12.8	1.213	mg/L	0.4441	2.425 mg/L	0.8882	36.62%
Ni 231.604†	3945.0	1.204	mg/L	0.0052	2.407 mg/L	0.0103	0.43%
Pb 220.353†	-83.0	0.01416	mg/L	0.001245	0.02832 mg/L	0.002490	8.79%
Sb 206.836†	22.2	0.01104	mg/L	0.002786	0.02207 mg/L	0.005572	25.24%
Se 196.026†	31.1	0.02411	mg/L	0.002546	0.04822 mg/L	0.005091	10.56%
Si 288.158†	5652.0	3.518	mg/L	0.0060	7.036 mg/L	0.0119	0.17%
Sn 189.927†	-50.4	-0.00859	mg/L	0.001007	-0.01719 mg/L	0.002014	11.72%
Sr 421.552†	137231.5	0.1744	mg/L	0.00034	0.3488 mg/L	0.00068	0.19%
Ti 334.903†	131623.8	8.325	mg/L	0.0174	16.65 mg/L	0.035	0.21%
Tl 190.801†	-29.5	0.00190	mg/L	0.005004	0.00381 mg/L	0.010008	262.83%
V 292.402†	55500.3	0.3690	mg/L	0.00080	0.7379 mg/L	0.00161	0.22%
Zn 206.200†	1093.6	0.3276	mg/L	0.00034	0.6552 mg/L	0.00068	0.10%

Sequence No.: 38
Sample ID: YG94 H SWC

Autosampler Location: 328
Date Collected: 4/22/2014 1:13:51 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 H SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG94 H SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2883096.4	99.89 %	0.436			0.44%
ScR 361.383	244214.6	102.0 %	0.59			0.58%
Ag 328.068†	-213.9	-0.00072 mg/L	0.000053	-0.00144 mg/L	0.000106	7.39%
Al 308.215†	159372.4	130.0 mg/L	0.63	260.0 mg/L	1.26	0.48%
As 188.979†	-246.5	0.1138 mg/L	0.00267	0.2277 mg/L	0.00533	2.34%
B 249.677†	132.8	0.02471 mg/L	0.001036	0.04942 mg/L	0.002072	4.19%
Ba 233.527†	1776.1	0.4555 mg/L	0.00238	0.9111 mg/L	0.00476	0.52%
Be 313.042†	957.3	0.00197 mg/L	0.000023	0.00394 mg/L	0.000047	1.19%
Ca 317.933†	475964.6	48.19 mg/L	0.117	96.38 mg/L	0.234	0.24%
Cd 228.802†	-36.8	0.00054 mg/L	0.000118	0.00109 mg/L	0.000235	21.67%
Co 228.616†	3125.6	0.06581 mg/L	0.000405	0.1316 mg/L	0.00081	0.62%
Cr 267.716†	1290.5	0.2679 mg/L	0.00017	0.5359 mg/L	0.00034	0.06%
Cu 324.752†	35207.3	0.1288 mg/L	0.00029	0.2576 mg/L	0.00058	0.23%
Fe 273.955†	182088.4	168.9 mg/L	0.55	337.7 mg/L	1.09	0.32%
K 766.490†	13877.4	6.354 mg/L	0.0178	12.71 mg/L	0.036	0.28%
Mg 279.077†	58745.1	57.50 mg/L	0.138	115.0 mg/L	0.28	0.24%
Mn 257.610†	96196.5	3.085 mg/L	0.0082	6.169 mg/L	0.0164	0.27%
Mo 202.031†	74.1	0.00368 mg/L	0.000189	0.00736 mg/L	0.000379	5.15%
Na 589.592†	24062.2	1.835 mg/L	0.0071	3.671 mg/L	0.0142	0.39%
Na 330.237†	2.6	1.783 mg/L	0.2145	3.566 mg/L	0.4290	12.03%
Ni 231.604†	7813.1	2.384 mg/L	0.0096	4.768 mg/L	0.0193	0.40%
Pb 220.353†	-67.9	0.01686 mg/L	0.000348	0.03373 mg/L	0.000695	2.06%
Sb 206.836†	23.7	0.01219 mg/L	0.002144	0.02438 mg/L	0.004288	17.59%
Se 196.026†	25.9	0.01999 mg/L	0.002234	0.03997 mg/L	0.004469	11.18%
Si 288.158†	5441.8	3.387 mg/L	0.0139	6.775 mg/L	0.0277	0.41%
Sn 189.927†	-49.7	-0.00838 mg/L	0.002045	-0.01676 mg/L	0.004089	24.39%
Sr 421.552†	241601.1	0.3070 mg/L	0.00068	0.6140 mg/L	0.00136	0.22%
Ti 334.903†	121862.7	7.708 mg/L	0.0198	15.42 mg/L	0.040	0.26%
Tl 190.801†	-28.4	0.00227 mg/L	0.002920	0.00453 mg/L	0.005840	128.79%
V 292.402†	58698.0	0.3910 mg/L	0.00099	0.7821 mg/L	0.00199	0.25%
Zn 206.200†	1068.0	0.3199 mg/L	0.00087	0.6398 mg/L	0.00174	0.27%

Sequence No.: 39

Autosampler Location: 329

Sample ID: YG94 I SWC

Date Collected: 4/22/2014 1:17:51 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 I SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG94 I SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2911314.0	100.9	%	0.38				0.38%
ScR 361.383	245370.9	102.4	%	0.25				0.25%
Ag 328.068†	-223.4	-0.00086	mg/L	0.000244	-0.00171	mg/L	0.000487	28.43%
Al 308.215†	180705.2	147.4	mg/L	0.24	294.8	mg/L	0.49	0.17%
As 188.979†	-269.5	0.1060	mg/L	0.00314	0.2120	mg/L	0.00629	2.97%
B 249.677†	228.7	0.04266	mg/L	0.001687	0.08533	mg/L	0.003373	3.95%
Ba 233.527†	3031.7	0.7949	mg/L	0.00540	1.590	mg/L	0.0108	0.68%
Be 313.042†	874.6	0.00178	mg/L	0.000023	0.00357	mg/L	0.000045	1.27%
Ca 317.933†	335928.7	34.01	mg/L	0.128	68.02	mg/L	0.256	0.38%
Cd 228.802†	103.0	0.00404	mg/L	0.000124	0.00808	mg/L	0.000248	3.07%
Co 228.616†	3337.5	0.07099	mg/L	0.000323	0.1420	mg/L	0.00065	0.45%
Cr 267.716†	4907.8	1.021	mg/L	0.0054	2.041	mg/L	0.0108	0.53%
Cu 324.752†	259140.0	0.9115	mg/L	0.00626	1.823	mg/L	0.0125	0.69%
Fe 273.955†	192337.0	178.4	mg/L	0.45	356.8	mg/L	0.90	0.25%
K 766.490†	11887.0	5.443	mg/L	0.0375	10.89	mg/L	0.075	0.69%
Mg 279.077†	54511.5	53.34	mg/L	0.064	106.7	mg/L	0.13	0.12%
Mn 257.610†	79500.3	2.549	mg/L	0.0045	5.098	mg/L	0.0089	0.18%
Mo 202.031†	53.6	0.00267	mg/L	0.000593	0.00534	mg/L	0.001186	22.18%
Na 589.592†	26152.8	1.995	mg/L	0.0068	3.989	mg/L	0.0137	0.34%
Na 330.237†	-0.2	1.766	mg/L	0.1546	3.532	mg/L	0.3092	8.76%
Ni 231.604†	5197.4	1.586	mg/L	0.0059	3.172	mg/L	0.0117	0.37%
Pb 220.353†	827.1	0.1306	mg/L	0.00082	0.2613	mg/L	0.00164	0.63%
Sb 206.836†	54.9	0.01347	mg/L	0.002247	0.02693	mg/L	0.004494	16.68%
Se 196.026†	19.7	0.01517	mg/L	0.005367	0.03035	mg/L	0.010733	35.37%
Si 288.158†	4135.4	2.576	mg/L	0.0197	5.151	mg/L	0.0394	0.76%
Sn 189.927†	-38.6	-0.00654	mg/L	0.002198	-0.01307	mg/L	0.004395	33.62%
Sr 421.552†	209052.6	0.2656	mg/L	0.00028	0.5313	mg/L	0.00057	0.11%
Ti 334.903†	124832.1	7.896	mg/L	0.0096	15.79	mg/L	0.019	0.12%
Tl 190.801†	-30.8	0.00174	mg/L	0.001235	0.00347	mg/L	0.002471	71.18%
V 292.402†	57915.5	0.3880	mg/L	0.00356	0.7761	mg/L	0.00713	0.92%
Zn 206.200†	1283.4	0.3844	mg/L	0.00166	0.7687	mg/L	0.00333	0.43%

Sequence No.: 40
Sample ID: YG94 J SWC

Autosampler Location: 330
Date Collected: 4/22/2014 1:21:52 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 J SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG94 J SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2900174.8	100.5	%	0.63				0.63%
ScR 361.383	244081.3	101.9	%	0.31				0.30%
Ag 328.068†	-216.9	-0.00081	mg/L	0.000216	-0.00161	mg/L	0.000432	26.81%
Al 308.215†	161049.5	131.4	mg/L	0.22	262.8	mg/L	0.44	0.17%
As 188.979†	-242.1	0.1014	mg/L	0.00140	0.2029	mg/L	0.00280	1.38%
B 249.677†	171.0	0.03188	mg/L	0.000683	0.06376	mg/L	0.001367	2.14%
Ba 233.527†	2155.0	0.5596	mg/L	0.00524	1.119	mg/L	0.0105	0.94%
Be 313.042†	822.0	0.00169	mg/L	0.000030	0.00338	mg/L	0.000061	1.81%
Ca 317.933†	389823.5	39.47	mg/L	0.107	78.94	mg/L	0.213	0.27%
Cd 228.802†	63.2	0.00423	mg/L	0.000013	0.00847	mg/L	0.000025	0.30%
Co 228.616†	3115.8	0.06620	mg/L	0.000411	0.1324	mg/L	0.00082	0.62%
Cr 267.716†	4751.1	0.9879	mg/L	0.00397	1.976	mg/L	0.0079	0.40%
Cu 324.752†	293237.0	1.030	mg/L	0.0074	2.060	mg/L	0.0148	0.72%
Fe 273.955†	173179.9	160.6	mg/L	0.47	321.2	mg/L	0.95	0.29%
K 766.490†	10376.8	4.751	mg/L	0.0197	9.502	mg/L	0.0394	0.42%
Mg 279.077†	48550.2	47.51	mg/L	0.087	95.01	mg/L	0.174	0.18%
Mn 257.610†	81114.3	2.601	mg/L	0.0084	5.202	mg/L	0.0168	0.32%
Mo 202.031†	83.7	0.00439	mg/L	0.000433	0.00877	mg/L	0.000866	9.87%
Na 589.592†	19668.1	1.500	mg/L	0.0053	3.000	mg/L	0.0106	0.35%
Na 330.237†	-3.7	1.390	mg/L	0.1235	2.779	mg/L	0.2469	8.88%
Ni 231.604†	9652.8	2.945	mg/L	0.0153	5.890	mg/L	0.0305	0.52%
Pb 220.353†	2910.4	0.3826	mg/L	0.00159	0.7652	mg/L	0.00317	0.41%
Sb 206.836†	51.7	0.01210	mg/L	0.000829	0.02420	mg/L	0.001657	6.85%
Se 196.026†	25.8	0.01997	mg/L	0.001514	0.03993	mg/L	0.003028	7.58%
Si 288.158†	6840.1	4.255	mg/L	0.0263	8.510	mg/L	0.0526	0.62%
Sn 189.927†	-30.6	-0.00346	mg/L	0.001468	-0.00692	mg/L	0.002937	42.45%
Sr 421.552†	109629.3	0.1393	mg/L	0.00026	0.2786	mg/L	0.00052	0.19%
Ti 334.903†	115278.9	7.292	mg/L	0.0144	14.58	mg/L	0.029	0.20%
Tl 190.801†	-32.8	-0.00110	mg/L	0.000268	-0.00219	mg/L	0.000536	24.44%
V 292.402†	49131.7	0.3289	mg/L	0.00441	0.6578	mg/L	0.00882	1.34%
Zn 206.200†	1427.4	0.4277	mg/L	0.00326	0.8554	mg/L	0.00651	0.76%

Sequence No.: 41
 Sample ID: YG94 K SWC
 Dilution: 2.000000X

Autosampler Location: 331
 Date Collected: 4/22/2014 1:25:52 PM
 Data Type: Original

Nebulizer Parameters: YG94 K SWC

Analyte Back Pressure Flow
 All 219.0 kPa 0.75 L/min

Mean Data: YG94 K SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2905993.7	100.7	%	0.12				0.12%
ScR 361.383	246368.1	102.9	%	1.26				1.22%
Ag 328.068†	-217.6	-0.00071	mg/L	0.000056	-0.00142	mg/L	0.000112	7.88%
Al 308.215†	178995.9	146.0	mg/L	0.42	292.0	mg/L	0.83	0.28%
As 188.979†	-257.3	0.1240	mg/L	0.00202	0.2479	mg/L	0.00405	1.63%
B 249.677†	188.6	0.03514	mg/L	0.000370	0.07028	mg/L	0.000740	1.05%
Ba 233.527†	2187.7	0.5645	mg/L	0.00687	1.129	mg/L	0.0137	1.22%
Be 313.042†	1006.3	0.00206	mg/L	0.000039	0.00413	mg/L	0.000078	1.89%
Ca 317.933†	504858.3	51.12	mg/L	0.366	102.2	mg/L	0.73	0.72%
Cd 228.802†	126.9	0.00656	mg/L	0.000176	0.01312	mg/L	0.000351	2.68%
Co 228.616†	3694.5	0.07923	mg/L	0.000325	0.1585	mg/L	0.00065	0.41%
Cr 267.716†	7018.2	1.459	mg/L	0.0072	2.918	mg/L	0.0144	0.49%
Cu 324.752†	465742.0	1.633	mg/L	0.0086	3.267	mg/L	0.0171	0.52%
Fe 273.955†	200188.5	185.7	mg/L	0.70	371.3	mg/L	1.41	0.38%
K 766.490†	10025.6	4.590	mg/L	0.0107	9.181	mg/L	0.0214	0.23%
Mg 279.077†	55474.6	54.28	mg/L	0.249	108.6	mg/L	0.50	0.46%
Mn 257.610†	82490.3	2.645	mg/L	0.0080	5.290	mg/L	0.0161	0.30%
Mo 202.031†	114.0	0.00602	mg/L	0.000850	0.01203	mg/L	0.001700	14.13%
Na 589.592†	21424.0	1.634	mg/L	0.0008	3.268	mg/L	0.0017	0.05%
Na 330.237†	-2.1	1.615	mg/L	0.1133	3.230	mg/L	0.2266	7.01%
Ni 231.604†	11439.1	3.490	mg/L	0.0263	6.980	mg/L	0.0526	0.75%
Pb 220.353†	2899.0	0.3838	mg/L	0.00153	0.7677	mg/L	0.00305	0.40%
Sb 206.836†	81.1	0.01742	mg/L	0.000618	0.03484	mg/L	0.001237	3.55%
Se 196.026†	26.8	0.02069	mg/L	0.007299	0.04138	mg/L	0.014598	35.28%
Si 288.158†	4094.7	2.551	mg/L	0.0129	5.102	mg/L	0.0258	0.51%
Sn 189.927†	-24.7	-0.00002	mg/L	0.001746	-0.00005	mg/L	0.003492	>999.9%
Sr 421.552†	106794.0	0.1357	mg/L	0.00036	0.2714	mg/L	0.00072	0.26%
Ti 334.903†	130299.4	8.241	mg/L	0.0243	16.48	mg/L	0.049	0.29%
Tl 190.801†	-32.3	0.00133	mg/L	0.003607	0.00265	mg/L	0.007214	272.07%
V 292.402†	65671.0	0.4426	mg/L	0.00245	0.8851	mg/L	0.00490	0.55%
Zn 206.200†	1801.2	0.5393	mg/L	0.00329	1.079	mg/L	0.0066	0.61%

Sequence No.: 42
Sample ID: YG94 L SWC

Autosampler Location: 332
Date Collected: 4/22/2014 1:29:53 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 L SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG94 L SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2911947.3	100.9	%	0.64				0.63%
ScR 361.383	245087.1	102.3	%	0.49				0.48%
Ag 328.068†	-207.9	-0.00073	mg/L	0.000160	-0.00146	mg/L	0.000320	21.85%
Al 308.215†	150466.0	122.7	mg/L	0.43	245.5	mg/L	0.87	0.35%
As 188.979†	-263.0	0.1122	mg/L	0.00096	0.2244	mg/L	0.00193	0.86%
B 249.677†	115.0	0.02137	mg/L	0.001703	0.04274	mg/L	0.003406	7.97%
Ba 233.527†	1582.9	0.4032	mg/L	0.00297	0.8063	mg/L	0.00595	0.74%
Be 313.042†	944.8	0.00194	mg/L	0.000018	0.00388	mg/L	0.000035	0.90%
Ca 317.933†	408185.3	41.33	mg/L	0.160	82.65	mg/L	0.319	0.39%
Cd 228.802†	109.4	0.00454	mg/L	0.000121	0.00909	mg/L	0.000242	2.66%
Co 228.616†	3403.7	0.07260	mg/L	0.000706	0.1452	mg/L	0.00141	0.97%
Cr 267.716†	1807.7	0.3765	mg/L	0.00253	0.7529	mg/L	0.00505	0.67%
Cu 324.752†	114776.8	0.4068	mg/L	0.00263	0.8136	mg/L	0.00526	0.65%
Fe 273.955†	182239.7	169.0	mg/L	0.84	338.0	mg/L	1.68	0.50%
K 766.490†	11833.3	5.418	mg/L	0.0280	10.84	mg/L	0.056	0.52%
Mg 279.077†	47279.7	46.25	mg/L	0.179	92.51	mg/L	0.359	0.39%
Mn 257.610†	101286.7	3.248	mg/L	0.0150	6.496	mg/L	0.0300	0.46%
Mo 202.031†	62.8	0.00311	mg/L	0.000142	0.00622	mg/L	0.000284	4.57%
Na 589.592†	21215.8	1.618	mg/L	0.0043	3.236	mg/L	0.0086	0.27%
Na 330.237†	-7.7	1.326	mg/L	0.3152	2.652	mg/L	0.6304	23.77%
Ni 231.604†	6007.1	1.833	mg/L	0.0135	3.666	mg/L	0.0270	0.74%
Pb 220.353†	67.8	0.03144	mg/L	0.001321	0.06288	mg/L	0.002641	4.20%
Sb 206.836†	18.7	0.00924	mg/L	0.002054	0.01848	mg/L	0.004108	22.22%
Se 196.026†	34.5	0.02676	mg/L	0.002690	0.05353	mg/L	0.005380	10.05%
Si 288.158†	3625.3	2.258	mg/L	0.0195	4.515	mg/L	0.0391	0.87%
Sn 189.927†	-50.6	-0.00945	mg/L	0.000854	-0.01890	mg/L	0.001708	9.03%
Sr 421.552†	100981.9	0.1283	mg/L	0.00041	0.2566	mg/L	0.00083	0.32%
Ti 334.903†	125618.8	7.946	mg/L	0.0293	15.89	mg/L	0.059	0.37%
Tl 190.801†	-30.1	0.00126	mg/L	0.004134	0.00252	mg/L	0.008269	327.69%
V 292.402†	58381.7	0.3892	mg/L	0.00168	0.7784	mg/L	0.00337	0.43%
Zn 206.200†	1838.8	0.5501	mg/L	0.00230	1.100	mg/L	0.0046	0.42%

Sequence No.: 43
Sample ID: YG94 M SWC

Autosampler Location: 333
Date Collected: 4/22/2014 1:33:53 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 M SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YG94 M SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2914605.7	101.0	%	0.05			0.05%
ScR 361.383	247400.4	103.3	%	0.27			0.27%
Ag 328.068†	-306.7	-0.00128	mg/L	0.000268	-0.00255 mg/L	0.000536	21.00%
Al 308.215†	205312.6	167.5	mg/L	0.98	335.0 mg/L	1.96	0.59%
As 188.979†	-304.3	0.1220	mg/L	0.00361	0.2440 mg/L	0.00723	2.96%
B 249.677†	103.1	0.01918	mg/L	0.001435	0.03835 mg/L	0.002869	7.48%
Ba 233.527†	2426.2	0.6306	mg/L	0.00228	1.261 mg/L	0.0046	0.36%
Be 313.042†	928.3	0.00189	mg/L	0.000043	0.00378 mg/L	0.000086	2.28%
Ca 317.933†	354307.7	35.87	mg/L	0.180	71.74 mg/L	0.361	0.50%
Cd 228.802†	106.5	0.00358	mg/L	0.000154	0.00716 mg/L	0.000308	4.30%
Co 228.616†	3378.1	0.07028	mg/L	0.000303	0.1406 mg/L	0.00061	0.43%
Cr 267.716†	2402.2	0.5003	mg/L	0.00113	1.001 mg/L	0.0023	0.23%
Cu 324.752†	144028.6	0.5092	mg/L	0.00144	1.018 mg/L	0.0029	0.28%
Fe 273.955†	192887.4	178.9	mg/L	0.85	357.8 mg/L	1.70	0.48%
K 766.490†	17632.6	8.073	mg/L	0.0239	16.15 mg/L	0.048	0.30%
Mg 279.077†	48387.1	47.33	mg/L	0.234	94.67 mg/L	0.468	0.49%
Mn 257.610†	101991.4	3.270	mg/L	0.0119	6.541 mg/L	0.0238	0.36%
Mo 202.031†	527.6	0.03096	mg/L	0.000140	0.06192 mg/L	0.000281	0.45%
Na 589.592†	21593.7	1.647	mg/L	0.0078	3.294 mg/L	0.0155	0.47%
Na 330.237†	-12.6	1.430	mg/L	0.4080	2.859 mg/L	0.8161	28.54%
Ni 231.604†	2962.5	0.9039	mg/L	0.00289	1.808 mg/L	0.0058	0.32%
Pb 220.353†	-97.4	0.02184	mg/L	0.000235	0.04368 mg/L	0.000471	1.08%
Sb 206.836†	27.4	0.01152	mg/L	0.001745	0.02304 mg/L	0.003489	15.15%
Se 196.026†	29.3	0.02264	mg/L	0.005419	0.04529 mg/L	0.010838	23.93%
Si 288.158†	4148.6	2.583	mg/L	0.0051	5.166 mg/L	0.0102	0.20%
Sn 189.927†	-40.4	-0.00671	mg/L	0.002320	-0.01341 mg/L	0.004640	34.59%
Sr 421.552†	109509.7	0.1392	mg/L	0.00063	0.2783 mg/L	0.00126	0.45%
Ti 334.903†	141494.3	8.951	mg/L	0.0470	17.90 mg/L	0.094	0.53%
Tl 190.801†	-26.1	0.00452	mg/L	0.002818	0.00904 mg/L	0.005635	62.32%
V 292.402†	60516.0	0.4033	mg/L	0.00097	0.8065 mg/L	0.00194	0.24%
Zn 206.200†	1401.6	0.4195	mg/L	0.00114	0.8390 mg/L	0.00228	0.27%

Sequence No.: 44
 Sample ID: YG94 N SWC

Autosampler Location: 334
 Date Collected: 4/22/2014 1:37:53 PM
 Data Type: Original

Dilution: 2.000000X

 Nebulizer Parameters: YG94 N SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

 Mean Data: YG94 N SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2926581.9	101.4	%	0.58			0.57%
ScR 361.383	245551.6	102.5	%	0.57			0.56%
Ag 328.068†	-216.5	-0.00081	mg/L	0.000136	-0.00162 mg/L	0.000271	16.71%
Al 308.215†	171993.8	140.3	mg/L	0.64	280.6 mg/L	1.28	0.46%
As 188.979†	-309.0	0.1116	mg/L	0.00760	0.2232 mg/L	0.01519	6.81%
B 249.677†	162.4	0.03031	mg/L	0.000925	0.06062 mg/L	0.001850	3.05%
Ba 233.527†	2150.1	0.5563	mg/L	0.00250	1.113 mg/L	0.0050	0.45%
Be 313.042†	789.7	0.00158	mg/L	0.000012	0.00317 mg/L	0.000025	0.78%
Ca 317.933†	351544.9	35.59	mg/L	0.252	71.19 mg/L	0.504	0.71%
Cd 228.802†	96.5	0.00321	mg/L	0.000058	0.00641 mg/L	0.000117	1.82%
Co 228.616†	3026.9	0.06164	mg/L	0.000467	0.1233 mg/L	0.00093	0.76%
Cr 267.716†	5568.8	1.158	mg/L	0.0054	2.316 mg/L	0.0109	0.47%
Cu 324.752†	218763.0	0.7702	mg/L	0.00067	1.540 mg/L	0.0013	0.09%
Fe 273.955†	189015.1	175.3	mg/L	1.55	350.6 mg/L	3.10	0.89%
K 766.490†	13856.7	6.344	mg/L	0.0764	12.69 mg/L	0.153	1.20%
Mg 279.077†	52230.4	51.11	mg/L	0.328	102.2 mg/L	0.66	0.64%
Mn 257.610†	74983.7	2.404	mg/L	0.0215	4.808 mg/L	0.0431	0.90%
Mo 202.031†	622.2	0.03662	mg/L	0.000357	0.07323 mg/L	0.000714	0.97%
Na 589.592†	32690.7	2.493	mg/L	0.0146	4.987 mg/L	0.0293	0.59%
Na 330.237†	7.3	2.354	mg/L	0.0856	4.709 mg/L	0.1713	3.64%
Ni 231.604†	2583.0	0.7881	mg/L	0.00389	1.576 mg/L	0.0078	0.49%
Pb 220.353†	96.2	0.03985	mg/L	0.000699	0.07969 mg/L	0.001398	1.75%
Sb 206.836†	52.7	0.01160	mg/L	0.001967	0.02319 mg/L	0.003933	16.96%
Se 196.026†	26.2	0.02028	mg/L	0.003826	0.04056 mg/L	0.007652	18.87%
Si 288.158†	5636.9	3.508	mg/L	0.0147	7.017 mg/L	0.0295	0.42%
Sn 189.927†	-37.3	-0.00580	mg/L	0.000706	-0.01160 mg/L	0.001411	12.16%
Sr 421.552†	135377.6	0.1720	mg/L	0.00104	0.3441 mg/L	0.00208	0.60%
Ti 334.903†	138641.3	8.770	mg/L	0.0519	17.54 mg/L	0.104	0.59%
Tl 190.801†	-25.7	0.00418	mg/L	0.002132	0.00835 mg/L	0.004265	51.05%
V 292.402†	57667.3	0.3866	mg/L	0.00075	0.7731 mg/L	0.00150	0.19%
Zn 206.200†	1203.0	0.3605	mg/L	0.00184	0.7210 mg/L	0.00368	0.51%

Sequence No.: 45
Sample ID: YG94 O SWC

Autosampler Location: 335
Date Collected: 4/22/2014 1:41:53 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 O SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG94 O SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2877418.0	99.69	%	0.378				0.38%
ScR 361.383	243933.1	101.8	%	0.79				0.78%
Ag 328.068†	-275.7	-0.00100	mg/L	0.000165	-0.00200	mg/L	0.000331	16.53%
Al 308.215†	173689.9	141.7	mg/L	0.85	283.4	mg/L	1.70	0.60%
As 188.979†	-303.2	0.1260	mg/L	0.00360	0.2519	mg/L	0.00721	2.86%
B 249.677†	122.1	0.02268	mg/L	0.000752	0.04537	mg/L	0.001504	3.32%
Ba 233.527†	2731.7	0.7125	mg/L	0.00515	1.425	mg/L	0.0103	0.72%
Be 313.042†	1187.1	0.00247	mg/L	0.000001	0.00493	mg/L	0.000002	0.03%
Ca 317.933†	530621.7	53.72	mg/L	0.231	107.4	mg/L	0.46	0.43%
Cd 228.802†	145.5	0.00456	mg/L	0.000229	0.00912	mg/L	0.000458	5.02%
Co 228.616†	3645.7	0.07692	mg/L	0.000223	0.1538	mg/L	0.00045	0.29%
Cr 267.716†	1381.4	0.2876	mg/L	0.00032	0.5751	mg/L	0.00065	0.11%
Cu 324.752†	115796.7	0.4108	mg/L	0.00308	0.8216	mg/L	0.00616	0.75%
Fe 273.955†	199964.7	185.4	mg/L	1.84	370.9	mg/L	3.69	0.99%
K 766.490†	19413.1	8.888	mg/L	0.0422	17.78	mg/L	0.084	0.48%
Mg 279.077†	55228.3	54.04	mg/L	0.362	108.1	mg/L	0.72	0.67%
Mn 257.610†	175479.0	5.628	mg/L	0.0519	11.26	mg/L	0.104	0.92%
Mo 202.031†	112.5	0.00589	mg/L	0.000415	0.01177	mg/L	0.000830	7.05%
Na 589.592†	30274.6	2.309	mg/L	0.0138	4.618	mg/L	0.0276	0.60%
Na 330.237†	-2.9	1.812	mg/L	0.3285	3.625	mg/L	0.6571	18.13%
Ni 231.604†	2443.3	0.7455	mg/L	0.00300	1.491	mg/L	0.0060	0.40%
Pb 220.353†	-19.5	0.02440	mg/L	0.000892	0.04879	mg/L	0.001785	3.66%
Sb 206.836†	13.8	0.00970	mg/L	0.001537	0.01940	mg/L	0.003073	15.84%
Se 196.026†	31.6	0.02445	mg/L	0.007105	0.04891	mg/L	0.014211	29.06%
Si 288.158†	4438.5	2.764	mg/L	0.0127	5.527	mg/L	0.0253	0.46%
Sn 189.927†	-48.9	-0.00719	mg/L	0.001189	-0.01439	mg/L	0.002377	16.52%
Sr 421.552†	215620.1	0.2740	mg/L	0.00155	0.5480	mg/L	0.00311	0.57%
Ti 334.903†	143457.0	9.074	mg/L	0.0584	18.15	mg/L	0.117	0.64%
Tl 190.801†	-31.2	0.00246	mg/L	0.002537	0.00492	mg/L	0.005074	103.22%
V 292.402†	63664.6	0.4239	mg/L	0.00236	0.8478	mg/L	0.00471	0.56%
Zn 206.200†	1462.1	0.4376	mg/L	0.00239	0.8752	mg/L	0.00478	0.55%

Sequence No.: 46
Sample ID: CV 5

Autosampler Location: 7
Date Collected: 4/22/2014 1:45:54 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2978889.5	103.2 %	0.52			0.51%
ScR 361.383	236347.0	98.68 %	2.260			2.29%
Ag 328.068†	201455.8	1.051 mg/L	0.0015	1.051 mg/L	0.0015	0.14%
Al 308.215†	2624.2	2.110 mg/L	0.0522	2.110 mg/L	0.0522	2.47%
As 188.979†	3119.9	2.021 mg/L	0.0145	2.021 mg/L	0.0145	0.72%
B 249.677†	5676.6	1.063 mg/L	0.0252	1.063 mg/L	0.0252	2.38%
Ba 233.527†	3784.0	1.026 mg/L	0.0228	1.026 mg/L	0.0228	2.22%
Be 313.042†	455408.0	1.025 mg/L	0.0365	1.025 mg/L	0.0365	3.56%
Ca 317.933†	21550.9	2.182 mg/L	0.0521	2.182 mg/L	0.0521	2.39%
Cd 228.802†	32750.3	0.9980 mg/L	0.00684	0.9980 mg/L	0.00684	0.69%
Co 228.616†	37671.3	0.9623 mg/L	0.00734	0.9623 mg/L	0.00734	0.76%
Cr 267.716†	5030.3	1.045 mg/L	0.0237	1.045 mg/L	0.0237	2.27%
Cu 324.752†	272934.8	0.9532 mg/L	0.00166	0.9532 mg/L	0.00166	0.17%
Fe 273.955†	2340.3	2.164 mg/L	0.0530	2.164 mg/L	0.0530	2.45%
K 766.490†	45624.6	20.89 mg/L	0.664	20.89 mg/L	0.664	3.18%
Mg 279.077†	2148.4	2.113 mg/L	0.0559	2.113 mg/L	0.0559	2.65%
Mn 257.610†	30849.0	0.9901 mg/L	0.02908	0.9901 mg/L	0.02908	2.94%
Mo 202.031†	16114.3	0.9626 mg/L	0.00751	0.9626 mg/L	0.00751	0.78%
Na 589.592†	698048.3	53.24 mg/L	1.737	53.24 mg/L	1.737	3.26%
Na 330.237†	1112.5	53.27 mg/L	1.205	53.27 mg/L	1.205	2.26%
Ni 231.604†	3540.5	1.080 mg/L	0.0255	1.080 mg/L	0.0255	2.36%
Pb 220.353†	15867.5	1.945 mg/L	0.0128	1.945 mg/L	0.0128	0.66%
Sb 206.836†	5978.1	2.085 mg/L	0.0099	2.085 mg/L	0.0099	0.48%
Se 196.026†	2540.8	1.991 mg/L	0.0114	1.991 mg/L	0.0114	0.57%
Si 288.158†	3502.5	2.180 mg/L	0.0369	2.180 mg/L	0.0369	1.69%
Sn 189.927†	3170.8	1.002 mg/L	0.0018	1.002 mg/L	0.0018	0.18%
Sr 421.552†	829324.0	1.054 mg/L	0.0337	1.054 mg/L	0.0337	3.20%
Ti 334.903†	16893.4	1.068 mg/L	0.0336	1.068 mg/L	0.0336	3.14%
Tl 190.801†	3707.0	1.974 mg/L	0.0074	1.974 mg/L	0.0074	0.38%
V 292.402†	142006.0	0.9803 mg/L	0.00327	0.9803 mg/L	0.00327	0.33%
Zn 206.200†	3592.5	1.074 mg/L	0.0244	1.074 mg/L	0.0244	2.27%

Sequence No.: 47
Sample ID: CB 5

Autosampler Location: 1
Date Collected: 4/22/2014 1:49:59 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2954914.2	102.4	%	0.79			0.77%
ScR 361.383	249245.8	104.1	%	0.87			0.84%
Ag 328.068†	38.5	0.00020	mg/L	0.000084	0.00020 mg/L	0.000084	41.65%
Al 308.215†	0.4	0.00027	mg/L	0.002292	0.00027 mg/L	0.002292	851.23%
As 188.979†	2.1	0.00140	mg/L	0.001128	0.00140 mg/L	0.001128	80.69%
B 249.677†	7.4	0.00139	mg/L	0.000579	0.00139 mg/L	0.000579	41.74%
Ba 233.527†	1.0	0.00028	mg/L	0.001051	0.00028 mg/L	0.001051	377.90%
Be 313.042†	12.7	0.00003	mg/L	0.000014	0.00003 mg/L	0.000014	48.86%
Ca 317.933†	-1.8	-0.00018	mg/L	0.001737	-0.00018 mg/L	0.001737	941.89%
Cd 228.802†	1.5	0.00004	mg/L	0.000208	0.00004 mg/L	0.000208	503.98%
Co 228.616†	3.1	0.00008	mg/L	0.000069	0.00008 mg/L	0.000069	90.16%
Cr 267.716†	3.4	0.00071	mg/L	0.000511	0.00071 mg/L	0.000511	71.63%
Cu 324.752†	45.8	0.00016	mg/L	0.000184	0.00016 mg/L	0.000184	115.74%
Fe 273.955†	2.5	0.00233	mg/L	0.002267	0.00233 mg/L	0.002267	97.22%
K 766.490†	-34.7	-0.01588	mg/L	0.005511	-0.01588 mg/L	0.005511	34.70%
Mg 279.077†	-1.2	-0.00115	mg/L	0.006458	-0.00115 mg/L	0.006458	562.57%
Mn 257.610†	0.5	0.00002	mg/L	0.000050	0.00002 mg/L	0.000050	290.57%
Mo 202.031†	15.3	0.00091	mg/L	0.000210	0.00091 mg/L	0.000210	22.97%
Na 589.592†	-9.2	-0.00070	mg/L	0.000825	-0.00070 mg/L	0.000825	118.00%
Na 330.237†	-0.5	-0.02425	mg/L	0.076885	-0.02425 mg/L	0.076885	317.10%
Ni 231.604†	2.6	0.00080	mg/L	0.000727	0.00080 mg/L	0.000727	91.40%
Pb 220.353†	6.1	0.00074	mg/L	0.000564	0.00074 mg/L	0.000564	75.90%
Sb 206.836†	24.2	0.00844	mg/L	0.001983	0.00844 mg/L	0.001983	23.50%
Se 196.026†	0.0	0.00000	mg/L	0.004043	0.00000 mg/L	0.004043	>999.9%
Si 288.158†	-1.0	-0.00061	mg/L	0.003442	-0.00061 mg/L	0.003442	563.48%
Sn 189.927†	2.0	0.00065	mg/L	0.000836	0.00065 mg/L	0.000836	129.01%
Sr 421.552†	62.2	0.00008	mg/L	0.000090	0.00008 mg/L	0.000090	113.81%
Ti 334.903†	31.7	0.00200	mg/L	0.000629	0.00200 mg/L	0.000629	31.40%
Tl 190.801†	0.8	0.00042	mg/L	0.002549	0.00042 mg/L	0.002549	602.86%
V 292.402†	12.7	0.00009	mg/L	0.000223	0.00009 mg/L	0.000223	250.40%
Zn 206.200†	4.0	0.00118	mg/L	0.000138	0.00118 mg/L	0.000138	11.66%

Sequence No.: 48
Sample ID: YG94 P SWC

Autosampler Location: 336
Date Collected: 4/22/2014 1:53:59 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 P SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YG94 P SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2884203.0	99.93	%	0.806				0.81%
ScR 361.383	245343.5	102.4	%	0.33				0.32%
Ag 328.068†	-299.2	-0.00107	mg/L	0.000179	-0.00214	mg/L	0.000358	16.73%
Al 308.215†	210734.2	171.9	mg/L	0.70	343.8	mg/L	1.40	0.41%
As 188.979†	-261.5	0.1395	mg/L	0.00413	0.2790	mg/L	0.00827	2.96%
B 249.677†	105.0	0.01947	mg/L	0.000314	0.03894	mg/L	0.000629	1.61%
Ba 233.527†	2735.1	0.7082	mg/L	0.00200	1.416	mg/L	0.0040	0.28%
Be 313.042†	1447.5	0.00304	mg/L	0.000013	0.00608	mg/L	0.000027	0.44%
Ca 317.933†	589659.0	59.70	mg/L	0.400	119.4	mg/L	0.80	0.67%
Cd 228.802†	124.0	0.00359	mg/L	0.000023	0.00719	mg/L	0.000045	0.63%
Co 228.616†	3901.7	0.08407	mg/L	0.000889	0.1681	mg/L	0.00178	1.06%
Cr 267.716†	2158.0	0.4488	mg/L	0.00227	0.8975	mg/L	0.00454	0.51%
Cu 324.752†	53192.1	0.1936	mg/L	0.00235	0.3872	mg/L	0.00469	1.21%
Fe 273.955†	236211.1	219.1	mg/L	1.32	438.1	mg/L	2.63	0.60%
K 766.490†	23510.7	10.76	mg/L	0.032	21.53	mg/L	0.064	0.30%
Mg 279.077†	69283.3	67.80	mg/L	0.325	135.6	mg/L	0.65	0.48%
Mn 257.610†	201328.0	6.457	mg/L	0.0400	12.91	mg/L	0.080	0.62%
Mo 202.031†	88.9	0.00439	mg/L	0.000726	0.00877	mg/L	0.001452	16.55%
Na 589.592†	30330.1	2.313	mg/L	0.0083	4.627	mg/L	0.0166	0.36%
Na 330.237†	2.5	1.882	mg/L	0.2306	3.764	mg/L	0.4611	12.25%
Ni 231.604†	2858.1	0.8720	mg/L	0.00158	1.744	mg/L	0.0032	0.18%
Pb 220.353†	-106.8	0.02028	mg/L	0.001705	0.04057	mg/L	0.003409	8.40%
Sb 206.836†	43.7	0.01800	mg/L	0.004510	0.03599	mg/L	0.009021	25.06%
Se 196.026†	31.5	0.02436	mg/L	0.008183	0.04871	mg/L	0.016365	33.60%
Si 288.158†	2745.9	1.714	mg/L	0.0053	3.428	mg/L	0.0106	0.31%
Sn 189.927†	-61.7	-0.01058	mg/L	0.000493	-0.02116	mg/L	0.000986	4.66%
Sr 421.552†	126968.2	0.1613	mg/L	0.00059	0.3227	mg/L	0.00118	0.37%
Ti 334.903†	138018.6	8.729	mg/L	0.0406	17.46	mg/L	0.081	0.47%
Tl 190.801†	-37.0	0.00285	mg/L	0.003257	0.00571	mg/L	0.006514	114.16%
V 292.402†	73785.9	0.4926	mg/L	0.00761	0.9852	mg/L	0.01522	1.54%
Zn 206.200†	2172.2	0.6497	mg/L	0.00234	1.299	mg/L	0.0047	0.36%

Sequence No.: 49
Sample ID: YG94 Q SWC

Autosampler Location: 337
Date Collected: 4/22/2014 1:58:02 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 Q SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG94 Q SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2914886.9	101.0	%	0.68				0.67%
ScR 361.383	244790.0	102.2	%	0.18				0.18%
Ag 328.068†	-286.0	-0.00112	mg/L	0.000259	-0.00224	mg/L	0.000517	23.14%
Al 308.215†	238303.9	194.4	mg/L	0.41	388.8	mg/L	0.82	0.21%
As 188.979†	-277.5	0.1190	mg/L	0.00349	0.2380	mg/L	0.00698	2.93%
B 249.677†	133.0	0.02469	mg/L	0.000595	0.04937	mg/L	0.001190	2.41%
Ba 233.527†	2618.5	0.6768	mg/L	0.00571	1.354	mg/L	0.0114	0.84%
Be 313.042†	1073.9	0.00222	mg/L	0.000036	0.00443	mg/L	0.000071	1.61%
Ca 317.933†	424015.7	42.93	mg/L	0.050	85.86	mg/L	0.100	0.12%
Cd 228.802†	188.9	0.00579	mg/L	0.000189	0.01159	mg/L	0.000378	3.26%
Co 228.616†	4613.8	0.1028	mg/L	0.00088	0.2057	mg/L	0.00177	0.86%
Cr 267.716†	3328.1	0.6931	mg/L	0.00359	1.386	mg/L	0.0072	0.52%
Cu 324.752†	194959.8	0.6890	mg/L	0.00946	1.378	mg/L	0.0189	1.37%
Fe 273.955†	234659.9	217.6	mg/L	0.97	435.3	mg/L	1.95	0.45%
K 766.490†	14647.9	6.707	mg/L	0.0166	13.41	mg/L	0.033	0.25%
Mg 279.077†	57960.1	56.70	mg/L	0.098	113.4	mg/L	0.20	0.17%
Mn 257.610†	136417.6	4.375	mg/L	0.0154	8.749	mg/L	0.0307	0.35%
Mo 202.031†	228.5	0.01298	mg/L	0.000024	0.02596	mg/L	0.000048	0.19%
Na 589.592†	25723.0	1.962	mg/L	0.0016	3.924	mg/L	0.0032	0.08%
Na 330.237†	1.3	1.905	mg/L	0.0290	3.809	mg/L	0.0581	1.52%
Ni 231.604†	3327.5	1.015	mg/L	0.0046	2.030	mg/L	0.0092	0.46%
Pb 220.353†	95.6	0.05054	mg/L	0.000755	0.1011	mg/L	0.00151	1.49%
Sb 206.836†	43.2	0.01420	mg/L	0.002011	0.02840	mg/L	0.004021	14.16%
Se 196.026†	40.2	0.03121	mg/L	0.004549	0.06242	mg/L	0.009098	14.58%
Si 288.158†	4452.7	2.773	mg/L	0.0146	5.546	mg/L	0.0292	0.53%
Sn 189.927†	-48.1	-0.00839	mg/L	0.001402	-0.01678	mg/L	0.002804	16.71%
Sr 421.552†	107158.2	0.1362	mg/L	0.00021	0.2723	mg/L	0.00041	0.15%
Ti 334.903†	132972.9	8.411	mg/L	0.0177	16.82	mg/L	0.035	0.21%
Tl 190.801†	-36.9	0.00278	mg/L	0.000942	0.00556	mg/L	0.001884	33.92%
V 292.402†	64394.3	0.4290	mg/L	0.00578	0.8580	mg/L	0.01155	1.35%
Zn 206.200†	1439.1	0.4308	mg/L	0.00102	0.8617	mg/L	0.00204	0.24%

Sequence No.: 50
 Sample ID: YG94 R SWC

Autosampler Location: 338
 Date Collected: 4/22/2014 2:02:02 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 R SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YG94 R SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2882982.8	99.89	%	0.920				0.92%
ScR 361.383	247214.5	103.2	%	1.14				1.11%
Ag 328.068†	-260.9	-0.00100	mg/L	0.000095	-0.00200	mg/L	0.000190	9.47%
Al 308.215†	185974.8	151.7	mg/L	0.16	303.4	mg/L	0.33	0.11%
As 188.979†	-272.9	0.1197	mg/L	0.00233	0.2393	mg/L	0.00467	1.95%
B 249.677†	155.8	0.02901	mg/L	0.000748	0.05802	mg/L	0.001497	2.58%
Ba 233.527†	2268.3	0.5858	mg/L	0.00531	1.172	mg/L	0.0106	0.91%
Be 313.042†	1015.5	0.00209	mg/L	0.000022	0.00418	mg/L	0.000043	1.03%
Ca 317.933†	411362.3	41.65	mg/L	0.230	83.30	mg/L	0.461	0.55%
Cd 228.802†	33.1	0.00244	mg/L	0.000103	0.00488	mg/L	0.000205	4.21%
Co 228.616†	3699.7	0.07939	mg/L	0.000500	0.1588	mg/L	0.00100	0.63%
Cr 267.716†	2947.3	0.6134	mg/L	0.00256	1.227	mg/L	0.0051	0.42%
Cu 324.752†	120575.8	0.4279	mg/L	0.00191	0.8558	mg/L	0.00381	0.45%
Fe 273.955†	205276.2	190.4	mg/L	0.97	380.8	mg/L	1.94	0.51%
K 766.490†	18921.9	8.664	mg/L	0.0282	17.33	mg/L	0.056	0.33%
Mg 279.077†	53973.0	52.80	mg/L	0.133	105.6	mg/L	0.27	0.25%
Mn 257.610†	110451.7	3.542	mg/L	0.0100	7.084	mg/L	0.0199	0.28%
Mo 202.031†	246.2	0.01406	mg/L	0.000127	0.02812	mg/L	0.000254	0.90%
Na 589.592†	36991.9	2.821	mg/L	0.0053	5.643	mg/L	0.0106	0.19%
Na 330.237†	18.6	2.689	mg/L	0.4691	5.377	mg/L	0.9383	17.45%
Ni 231.604†	7322.0	2.234	mg/L	0.0143	4.468	mg/L	0.0286	0.64%
Pb 220.353†	2013.7	0.2765	mg/L	0.00239	0.5530	mg/L	0.00479	0.87%
Sb 206.836†	50.7	0.01774	mg/L	0.001278	0.03549	mg/L	0.002556	7.20%
Se 196.026†	32.7	0.02536	mg/L	0.001489	0.05073	mg/L	0.002978	5.87%
Si 288.158†	5293.7	3.295	mg/L	0.0226	6.590	mg/L	0.0451	0.68%
Sn 189.927†	-33.0	-0.00378	mg/L	0.000676	-0.00755	mg/L	0.001352	17.89%
Sr 421.552†	121838.8	0.1548	mg/L	0.00020	0.3096	mg/L	0.00040	0.13%
Ti 334.903†	131887.8	8.342	mg/L	0.0065	16.68	mg/L	0.013	0.08%
Tl 190.801†	-43.2	-0.00344	mg/L	0.006198	-0.00687	mg/L	0.012397	180.41%
V 292.402†	61139.4	0.4077	mg/L	0.00198	0.8155	mg/L	0.00395	0.48%
Zn 206.200†	1841.8	0.5513	mg/L	0.00404	1.103	mg/L	0.0081	0.73%

Sequence No.: 51
Sample ID: YG94 S SWC

Autosampler Location: 339
Date Collected: 4/22/2014 2:06:02 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 S SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG94 S SWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2910371.1	100.8	%	0.60			0.60%
ScR 361.383	245329.0	102.4	%	0.72			0.71%
Ag 328.068†	-306.0	-0.00123	mg/L	0.000185	-0.00245	0.000369	15.07%
Al 308.215†	172668.3	140.9	mg/L	0.74	281.7	1.48	0.52%
As 188.979†	-267.9	0.1239	mg/L	0.00417	0.2478	0.00835	3.37%
B 249.677†	81.6	0.01509	mg/L	0.001293	0.03018	0.002586	8.57%
Ba 233.527†	2387.3	0.6191	mg/L	0.00222	1.238	0.0044	0.36%
Be 313.042†	1119.1	0.00231	mg/L	0.000016	0.00463	0.000032	0.70%
Ca 317.933†	412315.9	41.75	mg/L	0.081	83.49	0.163	0.20%
Cd 228.802†	48.2	0.00164	mg/L	0.000113	0.00327	0.000227	6.94%
Co 228.616†	3714.2	0.07994	mg/L	0.000099	0.1599	0.00020	0.12%
Cr 267.716†	1332.4	0.2776	mg/L	0.00205	0.5553	0.00409	0.74%
Cu 324.752†	44881.3	0.1633	mg/L	0.00037	0.3265	0.00073	0.22%
Fe 273.955†	199821.1	185.3	mg/L	0.84	370.6	1.69	0.46%
K 766.490†	20768.5	9.509	mg/L	0.0737	19.02	0.147	0.78%
Mg 279.077†	53594.0	52.44	mg/L	0.123	104.9	0.25	0.23%
Mn 257.610†	109219.4	3.502	mg/L	0.0072	7.005	0.0144	0.21%
Mo 202.031†	87.9	0.00460	mg/L	0.000541	0.00920	0.001083	11.76%
Na 589.592†	39521.8	3.014	mg/L	0.0126	6.029	0.0253	0.42%
Na 330.237†	21.3	2.826	mg/L	0.1687	5.651	0.3374	5.97%
Ni 231.604†	3048.9	0.9302	mg/L	0.00278	1.860	0.0056	0.30%
Pb 220.353†	-48.9	0.02094	mg/L	0.001143	0.04187	0.002286	5.46%
Sb 206.836†	16.0	0.01010	mg/L	0.001208	0.02020	0.002417	11.96%
Se 196.026†	28.2	0.02174	mg/L	0.004397	0.04349	0.008793	20.22%
Si 288.158†	5562.1	3.461	mg/L	0.0244	6.923	0.0489	0.71%
Sn 189.927†	-45.9	-0.00785	mg/L	0.002125	-0.01570	0.004250	27.07%
Sr 421.552†	185059.7	0.2352	mg/L	0.00074	0.4703	0.00148	0.31%
Ti 334.903†	132110.1	8.357	mg/L	0.0215	16.71	0.043	0.26%
Tl 190.801†	-33.6	0.00110	mg/L	0.004155	0.00219	0.008310	379.17%
V 292.402†	66837.2	0.4458	mg/L	0.00269	0.8916	0.00537	0.60%
Zn 206.200†	1825.6	0.5464	mg/L	0.00247	1.093	0.0049	0.45%

Sequence No.: 52
Sample ID: YG94 T SWC

Autosampler Location: 340
Date Collected: 4/22/2014 2:10:02 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG94 T SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG94 T SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2890019.1	100.1	%	0.68			0.68%
ScR 361.383	248056.7	103.6	%	1.09			1.05%
Ag 328.068†	-350.9	-0.00149	mg/L	0.000162	-0.00299 mg/L	0.000323	10.82%
Al 308.215†	175792.8	143.4	mg/L	0.63	286.8 mg/L	1.26	0.44%
As 188.979†	-246.8	0.1162	mg/L	0.00175	0.2324 mg/L	0.00351	1.51%
B 249.677†	128.2	0.02388	mg/L	0.001748	0.04777 mg/L	0.003497	7.32%
Ba 233.527†	2088.3	0.5367	mg/L	0.00375	1.073 mg/L	0.0075	0.70%
Be 313.042†	887.6	0.00182	mg/L	0.000011	0.00363 mg/L	0.000023	0.62%
Ca 317.933†	385263.9	39.01	mg/L	0.089	78.01 mg/L	0.177	0.23%
Cd 228.802†	66.5	0.00182	mg/L	0.000121	0.00363 mg/L	0.000241	6.64%
Co 228.616†	3964.3	0.08744	mg/L	0.000721	0.1749 mg/L	0.00144	0.82%
Cr 267.716†	2136.9	0.4451	mg/L	0.00372	0.8901 mg/L	0.00745	0.84%
Cu 324.752†	107934.9	0.3840	mg/L	0.00323	0.7680 mg/L	0.00646	0.84%
Fe 273.955†	208801.6	193.6	mg/L	0.74	387.3 mg/L	1.48	0.38%
K 766.490†	16783.6	7.685	mg/L	0.0480	15.37 mg/L	0.096	0.62%
Mg 279.077†	54723.8	53.54	mg/L	0.276	107.1 mg/L	0.55	0.52%
Mn 257.610†	112248.6	3.600	mg/L	0.0116	7.199 mg/L	0.0232	0.32%
Mo 202.031†	1226.3	0.07265	mg/L	0.000431	0.1453 mg/L	0.00086	0.59%
Na 589.592†	92515.9	7.056	mg/L	0.0202	14.11 mg/L	0.040	0.29%
Na 330.237†	103.0	6.610	mg/L	0.2589	13.22 mg/L	0.518	3.92%
Ni 231.604†	2253.8	0.6877	mg/L	0.00431	1.375 mg/L	0.0086	0.63%
Pb 220.353†	-31.2	0.02334	mg/L	0.000294	0.04668 mg/L	0.000589	1.26%
Sb 206.836†	26.8	0.01101	mg/L	0.002085	0.02202 mg/L	0.004170	18.94%
Se 196.026†	36.9	0.02866	mg/L	0.008250	0.05731 mg/L	0.016499	28.79%
Si 288.158†	4748.2	2.956	mg/L	0.0208	5.912 mg/L	0.0416	0.70%
Sn 189.927†	-50.5	-0.00972	mg/L	0.000590	-0.01945 mg/L	0.001179	6.06%
Sr 421.552†	120115.6	0.1526	mg/L	0.00024	0.3053 mg/L	0.00049	0.16%
Ti 334.903†	122856.8	7.771	mg/L	0.0152	15.54 mg/L	0.030	0.20%
Tl 190.801†	-37.2	0.00037	mg/L	0.001025	0.00073 mg/L	0.002049	278.86%
V 292.402†	56907.4	0.3781	mg/L	0.00276	0.7563 mg/L	0.00551	0.73%
Zn 206.200†	1731.0	0.5180	mg/L	0.00405	1.036 mg/L	0.0081	0.78%

Sequence No.: 53
Sample ID: YG94 ADUP SWC

Autosampler Location: 341
Date Collected: 4/22/2014 2:14:02 PM
Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YG94 ADUP SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YG94 ADUP SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2920745.2	101.2	%	0.52				0.51%
ScR 361.383	247019.6	103.1	%	0.12				0.11%
Ag 328.068†	-173.9	-0.00077	mg/L	0.000118	-0.00383	mg/L	0.000589	15.36%
Al 308.215†	111804.2	91.21	mg/L	0.565	456.1	mg/L	2.83	0.62%
As 188.979†	-150.0	0.05494	mg/L	0.002122	0.2747	mg/L	0.01061	3.86%
B 249.677†	92.8	0.01725	mg/L	0.000458	0.08624	mg/L	0.002288	2.65%
Ba 233.527†	1472.9	0.3847	mg/L	0.00260	1.923	mg/L	0.0130	0.67%
Be 313.042†	658.8	0.00139	mg/L	0.000016	0.00694	mg/L	0.000082	1.19%
Ca 317.933†	146432.9	14.83	mg/L	0.045	74.13	mg/L	0.224	0.30%
Cd 228.802†	-9.8	0.00134	mg/L	0.000110	0.00670	mg/L	0.000550	8.22%
Co 228.616†	2707.2	0.06134	mg/L	0.000082	0.3067	mg/L	0.00041	0.13%
Cr 267.716†	741.2	0.1551	mg/L	0.00027	0.7753	mg/L	0.00134	0.17%
Cu 324.752†	27039.2	0.09787	mg/L	0.000507	0.4893	mg/L	0.00254	0.52%
Fe 273.955†	102987.0	95.51	mg/L	0.154	477.6	mg/L	0.77	0.16%
K 766.490†	6912.4	3.165	mg/L	0.0222	15.82	mg/L	0.111	0.70%
Mg 279.077†	20922.9	20.46	mg/L	0.062	102.3	mg/L	0.31	0.30%
Mn 257.610†	47283.2	1.516	mg/L	0.0022	7.581	mg/L	0.0111	0.15%
Mo 202.031†	29.3	0.00152	mg/L	0.000156	0.00759	mg/L	0.000782	10.30%
Na 589.592†	8464.9	0.6456	mg/L	0.00154	3.228	mg/L	0.0077	0.24%
Na 330.237†	-9.8	0.4997	mg/L	0.30956	2.499	mg/L	1.5478	61.95%
Ni 231.604†	6609.7	2.017	mg/L	0.0050	10.08	mg/L	0.025	0.25%
Pb 220.353†	-26.7	0.01541	mg/L	0.000857	0.07705	mg/L	0.004284	5.56%
Sb 206.836†	13.5	0.00672	mg/L	0.001985	0.03358	mg/L	0.009927	29.56%
Se 196.026†	15.4	0.01192	mg/L	0.005402	0.05962	mg/L	0.027009	45.30%
Si 288.158†	3190.8	1.985	mg/L	0.0069	9.923	mg/L	0.0344	0.35%
Sn 189.927†	-21.8	-0.00427	mg/L	0.001650	-0.02133	mg/L	0.008248	38.67%
Sr 421.552†	101592.5	0.1291	mg/L	0.00053	0.6455	mg/L	0.00267	0.41%
Ti 334.903†	67242.0	4.254	mg/L	0.0191	21.27	mg/L	0.095	0.45%
Tl 190.801†	-11.8	0.00349	mg/L	0.002545	0.01744	mg/L	0.012723	72.96%
V 292.402†	29004.2	0.1924	mg/L	0.00042	0.9619	mg/L	0.00209	0.22%
Zn 206.200†	790.9	0.2368	mg/L	0.00060	1.184	mg/L	0.0030	0.25%

Sequence No.: 54
 Sample ID: YG94 A SWC

Autosampler Location: 342
 Date Collected: 4/22/2014 2:18:02 PM
 Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YG94 A SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG94 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2900798.7	100.5	%	0.06				0.06%
ScR 361.383	243710.5	101.8	%	0.71				0.70%
Ag 328.068†	-181.7	-0.00082	mg/L	0.000065	-0.00408	mg/L	0.000324	7.92%
Al 308.215†	132192.0	107.8	mg/L	0.15	539.2	mg/L	0.75	0.14%
As 188.979†	-151.0	0.05375	mg/L	0.002792	0.2688	mg/L	0.01396	5.19%
B 249.677†	96.9	0.01804	mg/L	0.000584	0.09018	mg/L	0.002920	3.24%
Ba 233.527†	1665.9	0.4358	mg/L	0.00140	2.179	mg/L	0.0070	0.32%
Be 313.042†	686.9	0.00145	mg/L	0.000034	0.00725	mg/L	0.000172	2.37%
Ca 317.933†	126756.9	12.83	mg/L	0.027	64.17	mg/L	0.136	0.21%
Cd 228.802†	12.3	0.00174	mg/L	0.000166	0.00870	mg/L	0.000832	9.57%
Co 228.616†	2139.1	0.04686	mg/L	0.000488	0.2343	mg/L	0.00244	1.04%
Cr 267.716†	1054.6	0.2202	mg/L	0.00132	1.101	mg/L	0.0066	0.60%
Cu 324.752†	31352.7	0.1133	mg/L	0.00099	0.5665	mg/L	0.00497	0.88%
Fe 273.955†	112062.2	103.9	mg/L	0.63	519.6	mg/L	3.16	0.61%
K 766.490†	8626.7	3.950	mg/L	0.0269	19.75	mg/L	0.134	0.68%
Mg 279.077†	24758.2	24.21	mg/L	0.040	121.1	mg/L	0.20	0.16%
Mn 257.610†	43992.1	1.410	mg/L	0.0080	7.052	mg/L	0.0399	0.57%
Mo 202.031†	25.1	0.00130	mg/L	0.000282	0.00650	mg/L	0.001410	21.69%
Na 589.592†	8320.8	0.6347	mg/L	0.00142	3.173	mg/L	0.0071	0.22%
Na 330.237†	-6.2	0.6650	mg/L	0.25634	3.325	mg/L	1.2817	38.55%
Ni 231.604†	5904.0	1.801	mg/L	0.0114	9.007	mg/L	0.0571	0.63%
Pb 220.353†	-37.7	0.01788	mg/L	0.001436	0.08941	mg/L	0.007181	8.03%
Sb 206.836†	17.7	0.00737	mg/L	0.001127	0.03686	mg/L	0.005633	15.28%
Se 196.026†	16.0	0.01238	mg/L	0.002874	0.06189	mg/L	0.014372	23.22%
Si 288.158†	2682.2	1.669	mg/L	0.0114	8.346	mg/L	0.0571	0.68%
Sn 189.927†	-21.0	-0.00428	mg/L	0.000427	-0.02138	mg/L	0.002135	9.98%
Sr 421.552†	87831.0	0.1116	mg/L	0.00028	0.5580	mg/L	0.00140	0.25%
Ti 334.903†	66963.4	4.236	mg/L	0.0082	21.18	mg/L	0.041	0.19%
Tl 190.801†	-25.2	-0.00265	mg/L	0.002304	-0.01327	mg/L	0.011519	86.82%
V 292.402†	30034.9	0.1992	mg/L	0.00154	0.9962	mg/L	0.00770	0.77%
Zn 206.200†	968.5	0.2899	mg/L	0.00220	1.449	mg/L	0.0110	0.76%

Sequence No.: 55
Sample ID: YG94 ASPK SWC

Autosampler Location: 343
Date Collected: 4/22/2014 2:22:02 PM
Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YG94 ASPK SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YG94 ASPK SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2911086.6	100.9	%	1.04				1.03%
ScR 361.383	245589.7	102.5	%	0.26				0.25%
Ag 328.068†	41287.4	0.2156	mg/L	0.00211	1.078	mg/L	0.0106	0.98%
Al 308.215†	127369.2	103.9	mg/L	0.22	519.5	mg/L	1.12	0.22%
As 188.979†	1156.4	0.8703	mg/L	0.00420	4.351	mg/L	0.0210	0.48%
B 249.677†	101.0	0.01836	mg/L	0.000619	0.09180	mg/L	0.003094	3.37%
Ba 233.527†	4708.3	1.262	mg/L	0.0025	6.310	mg/L	0.0127	0.20%
Be 313.042†	91840.3	0.2067	mg/L	0.00077	1.033	mg/L	0.0039	0.37%
Ca 317.933†	171778.3	17.39	mg/L	0.071	86.96	mg/L	0.354	0.41%
Cd 228.802†	7121.5	0.2164	mg/L	0.00235	1.082	mg/L	0.0118	1.09%
Co 228.616†	10356.7	0.2579	mg/L	0.00272	1.289	mg/L	0.0136	1.05%
Cr 267.716†	1997.0	0.4154	mg/L	0.00099	2.077	mg/L	0.0050	0.24%
Cu 324.752†	89959.5	0.3179	mg/L	0.00308	1.590	mg/L	0.0154	0.97%
Fe 273.955†	107110.8	99.33	mg/L	0.636	496.7	mg/L	3.18	0.64%
K 766.490†	16798.2	7.691	mg/L	0.0324	38.46	mg/L	0.162	0.42%
Mg 279.077†	29188.0	28.56	mg/L	0.079	142.8	mg/L	0.40	0.28%
Mn 257.610†	47940.6	1.537	mg/L	0.0108	7.686	mg/L	0.0541	0.70%
Mo 202.031†	31.1	0.00159	mg/L	0.000474	0.00794	mg/L	0.002370	29.85%
Na 589.592†	64587.8	4.926	mg/L	0.0061	24.63	mg/L	0.031	0.12%
Na 330.237†	86.8	4.921	mg/L	0.1215	24.60	mg/L	0.607	2.47%
Ni 231.604†	6924.7	2.112	mg/L	0.0124	10.56	mg/L	0.062	0.59%
Pb 220.353†	6724.9	0.8456	mg/L	0.00687	4.228	mg/L	0.0343	0.81%
Sb 206.836†	12.5	0.00334	mg/L	0.000359	0.01671	mg/L	0.001793	10.73%
Se 196.026†	1064.1	0.8337	mg/L	0.01087	4.169	mg/L	0.0543	1.30%
Si 288.158†	1822.5	1.137	mg/L	0.0074	5.683	mg/L	0.0369	0.65%
Sn 189.927†	-28.7	-0.00618	mg/L	0.000366	-0.03092	mg/L	0.001828	5.91%
Sr 421.552†	258687.8	0.3287	mg/L	0.00099	1.644	mg/L	0.0050	0.30%
Ti 334.903†	60038.1	3.798	mg/L	0.0139	18.99	mg/L	0.069	0.37%
Tl 190.801†	1526.7	0.8246	mg/L	0.00726	4.123	mg/L	0.0363	0.88%
V 292.402†	57663.3	0.3905	mg/L	0.00363	1.952	mg/L	0.0181	0.93%
Zn 206.200†	1608.2	0.4811	mg/L	0.00270	2.405	mg/L	0.0135	0.56%

Sequence No.: 56

Sample ID: CV 6

Autosampler Location: 7

Date Collected: 4/22/2014 2:26:02 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2877662.1	99.70	%	0.959				0.96%
ScR 361.383	237778.9	99.27	%	0.811				0.82%
Ag 328.068†	209453.7	1.093	mg/L	0.0107	1.093	mg/L	0.0107	0.98%
Al 308.215†	2619.3	2.104	mg/L	0.0177	2.104	mg/L	0.0177	0.84%
As 188.979†	3221.1	2.085	mg/L	0.0226	2.085	mg/L	0.0226	1.08%
B 249.677†	5652.7	1.058	mg/L	0.0097	1.058	mg/L	0.0097	0.92%
Ba 233.527†	3785.7	1.027	mg/L	0.0118	1.027	mg/L	0.0118	1.14%
Be 313.042†	450890.1	1.015	mg/L	0.0037	1.015	mg/L	0.0037	0.37%
Ca 317.933†	21323.9	2.159	mg/L	0.0211	2.159	mg/L	0.0211	0.98%
Cd 228.802†	34025.2	1.037	mg/L	0.0100	1.037	mg/L	0.0100	0.97%
Co 228.616†	39236.6	1.002	mg/L	0.0118	1.002	mg/L	0.0118	1.18%
Cr 267.716†	5000.6	1.039	mg/L	0.0081	1.039	mg/L	0.0081	0.78%
Cu 324.752†	285499.9	0.9971	mg/L	0.00538	0.9971	mg/L	0.00538	0.54%
Fe 273.955†	2300.6	2.127	mg/L	0.0217	2.127	mg/L	0.0217	1.02%
K 766.490†	45512.7	20.84	mg/L	0.015	20.84	mg/L	0.015	0.07%
Mg 279.077†	2123.2	2.088	mg/L	0.0252	2.088	mg/L	0.0252	1.21%
Mn 257.610†	30594.7	0.9819	mg/L	0.00293	0.9819	mg/L	0.00293	0.30%
Mo 202.031†	16767.9	1.002	mg/L	0.0087	1.002	mg/L	0.0087	0.87%
Na 589.592†	697150.5	53.17	mg/L	0.143	53.17	mg/L	0.143	0.27%
Na 330.237†	1108.4	53.07	mg/L	0.502	53.07	mg/L	0.502	0.95%
Ni 231.604†	3516.3	1.073	mg/L	0.0114	1.073	mg/L	0.0114	1.07%
Pb 220.353†	16449.5	2.016	mg/L	0.0180	2.016	mg/L	0.0180	0.89%
Sb 206.836†	6197.2	2.162	mg/L	0.0192	2.162	mg/L	0.0192	0.89%
Se 196.026†	2630.2	2.061	mg/L	0.0153	2.061	mg/L	0.0153	0.74%
Si 288.158†	3465.8	2.158	mg/L	0.0359	2.158	mg/L	0.0359	1.66%
Sn 189.927†	3275.8	1.035	mg/L	0.0105	1.035	mg/L	0.0105	1.01%
Sr 421.552†	827933.9	1.052	mg/L	0.0019	1.052	mg/L	0.0019	0.18%
Ti 334.903†	16771.7	1.060	mg/L	0.0017	1.060	mg/L	0.0017	0.16%
Tl 190.801†	3838.8	2.045	mg/L	0.0206	2.045	mg/L	0.0206	1.01%
V 292.402†	147418.5	1.018	mg/L	0.0067	1.018	mg/L	0.0067	0.66%
Zn 206.200†	3547.2	1.061	mg/L	0.0076	1.061	mg/L	0.0076	0.72%

Sequence No.: 57

Sample ID: CB 6

Autosampler Location: 1

Date Collected: 4/22/2014 2:30:06 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2891697.6	100.2 %	0.65			0.65%
ScR 361.383	243055.5	101.5 %	0.77			0.76%
Ag 328.068†	37.0	0.00019 mg/L	0.000034	0.00019 mg/L	0.000034	17.35%
Al 308.215†	8.8	0.00718 mg/L	0.002249	0.00718 mg/L	0.002249	31.32%
As 188.979†	3.8	0.00247 mg/L	0.001448	0.00247 mg/L	0.001448	58.66%
B 249.677†	5.7	0.00106 mg/L	0.000450	0.00106 mg/L	0.000450	42.37%
Ba 233.527†	0.7	0.00018 mg/L	0.000389	0.00018 mg/L	0.000389	217.37%
Be 313.042†	37.2	0.00008 mg/L	0.000016	0.00008 mg/L	0.000016	19.46%
Ca 317.933†	-1.6	-0.00016 mg/L	0.001170	-0.00016 mg/L	0.001170	709.85%
Cd 228.802†	2.9	0.00008 mg/L	0.000171	0.00008 mg/L	0.000171	221.01%
Co 228.616†	2.6	0.00006 mg/L	0.000149	0.00006 mg/L	0.000149	230.14%
Cr 267.716†	-0.2	-0.00005 mg/L	0.000214	-0.00005 mg/L	0.000214	473.62%
Cu 324.752†	225.6	0.00079 mg/L	0.000152	0.00079 mg/L	0.000152	19.25%
Fe 273.955†	4.5	0.00421 mg/L	0.001390	0.00421 mg/L	0.001390	33.05%
K 766.490†	-32.8	-0.01500 mg/L	0.008184	-0.01500 mg/L	0.008184	54.57%
Mg 279.077†	-1.9	-0.00182 mg/L	0.002732	-0.00182 mg/L	0.002732	150.40%
Mn 257.610†	0.7	0.00002 mg/L	0.000128	0.00002 mg/L	0.000128	582.31%
Mo 202.031†	13.0	0.00078 mg/L	0.000384	0.00078 mg/L	0.000384	49.54%
Na 589.592†	-1.1	-0.00009 mg/L	0.003127	-0.00009 mg/L	0.003127	>999.9%
Na 330.237†	-0.9	-0.04229 mg/L	0.373943	-0.04229 mg/L	0.373943	884.22%
Ni 231.604†	1.6	0.00050 mg/L	0.000470	0.00050 mg/L	0.000470	94.50%
Pb 220.353†	1.0	0.00012 mg/L	0.000800	0.00012 mg/L	0.000800	668.36%
Sb 206.836†	20.9	0.00730 mg/L	0.000816	0.00730 mg/L	0.000816	11.17%
Se 196.026†	-4.8	-0.00377 mg/L	0.002855	-0.00377 mg/L	0.002855	75.78%
Si 288.158†	0.4	0.00025 mg/L	0.003386	0.00025 mg/L	0.003386	>999.9%
Sn 189.927†	-0.5	-0.00014 mg/L	0.000530	-0.00014 mg/L	0.000530	374.05%
Sr 421.552†	17.3	0.00002 mg/L	0.000037	0.00002 mg/L	0.000037	167.64%
Ti 334.903†	19.9	0.00126 mg/L	0.000334	0.00126 mg/L	0.000334	26.53%
Tl 190.801†	2.5	0.00133 mg/L	0.000637	0.00133 mg/L	0.000637	47.95%
V 292.402†	28.7	0.00020 mg/L	0.000114	0.00020 mg/L	0.000114	57.99%
Zn 206.200†	3.6	0.00108 mg/L	0.000135	0.00108 mg/L	0.000135	12.45%

Sequence No.: 58
 Sample ID: YH41 MB2 LEN

Autosampler Location: 361
 Date Collected: 4/22/2014 2:34:06 PM
 Data Type: Original

Dilution: 5.000000X

 Nebulizer Parameters: YH41 MB2 LEN

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

 Mean Data: YH41 MB2 LEN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2815912.1	97.56	%	0.543			0.56%
ScR 361.383	240329.8	100.3	%	0.32			0.32%
Ag 328.068†	34.1	0.00018	mg/L	0.000045	0.00089	mg/L	0.000225 25.13%
Al 308.215†	9.2	0.00750	mg/L	0.002070	0.03751	mg/L	0.010349 27.59%
As 188.979†	2.5	0.00159	mg/L	0.001623	0.00794	mg/L	0.008116 102.16%
B 249.677†	37.2	0.00697	mg/L	0.001692	0.03485	mg/L	0.008462 24.28%
Ba 233.527†	6.3	0.00170	mg/L	0.000216	0.00849	mg/L	0.001079 12.72%
Be 313.042†	11.7	0.00003	mg/L	0.000008	0.00013	mg/L	0.000039 29.77%
Ca 317.933†	1032.6	0.1045	mg/L	0.00075	0.5227	mg/L	0.00373 0.71%
Cd 228.802†	12.1	0.00037	mg/L	0.000193	0.00183	mg/L	0.000963 52.67%
Co 228.616†	-1.1	-0.00003	mg/L	0.000078	-0.00015	mg/L	0.000390 256.40%
Cr 267.716†	-0.2	-0.00004	mg/L	0.000730	-0.00020	mg/L	0.003649 >999.9%
Cu 324.752†	364.0	0.00127	mg/L	0.000069	0.00636	mg/L	0.000343 5.40%
Fe 273.955†	7.4	0.00690	mg/L	0.001703	0.03451	mg/L	0.008517 24.68%
K 766.490†	18.4	0.00840	mg/L	0.021653	0.04202	mg/L	0.108265 257.67%
Mg 279.077†	0.9	0.00090	mg/L	0.005361	0.00448	mg/L	0.026805 598.74%
Mn 257.610†	2.7	0.00008	mg/L	0.000020	0.00042	mg/L	0.000099 23.28%
Mo 202.031†	5.2	0.00031	mg/L	0.000294	0.00156	mg/L	0.001471 94.42%
Na 589.592†	3848266.4	293.5	mg/L	1.07	1468	mg/L	5.36 0.37%
Na 330.237†	6000.6	287.5	mg/L	0.52	1438	mg/L	2.62 0.18%
Ni 231.604†	5.2	0.00160	mg/L	0.000651	0.00799	mg/L	0.003257 40.78%
Pb 220.353†	4.4	0.00054	mg/L	0.000685	0.00272	mg/L	0.003425 125.97%
Sb 206.836†	2.6	0.00091	mg/L	0.000870	0.00455	mg/L	0.004351 95.70%
Se 196.026†	-1.1	-0.00088	mg/L	0.002817	-0.00441	mg/L	0.014083 319.28%
Si 288.158†	35.6	0.02213	mg/L	0.005037	0.1107	mg/L	0.02518 22.76%
Sn 189.927†	1.8	0.00058	mg/L	0.000678	0.00292	mg/L	0.003388 115.93%
Sr 421.552†	45.3	0.00006	mg/L	0.000019	0.00029	mg/L	0.000093 32.20%
Ti 334.903†	9.7	0.00061	mg/L	0.000036	0.00304	mg/L	0.000182 6.01%
Tl 190.801†	-2.8	-0.00151	mg/L	0.002240	-0.00754	mg/L	0.011198 148.57%
V 292.402†	16.1	0.00011	mg/L	0.000016	0.00055	mg/L	0.000081 14.77%
Zn 206.200†	2.9	0.00087	mg/L	0.000589	0.00433	mg/L	0.002945 68.08%

Sequence No.: 59
 Sample ID: YH41 AtDUP LEN

Autosampler Location: 362
 Date Collected: 4/22/2014 2:38:25 PM
 Data Type: Original

Dilution: 5.000000X

 Nebulizer Parameters: YH41 AtDUP LEN

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

 Mean Data: YH41 AtDUP LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2833285.0	98.17	%	0.243				0.25%
ScR 361.383	241074.7	100.7	%	0.23				0.23%
Ag 328.068†	38.6	0.00022	mg/L	0.000056	0.00112	mg/L	0.000279	25.00%
Al 308.215†	61.5	0.05021	mg/L	0.003099	0.2510	mg/L	0.01550	6.17%
As 188.979†	5.7	0.00334	mg/L	0.001678	0.01672	mg/L	0.008390	50.19%
B 249.677†	33.8	0.00632	mg/L	0.001295	0.03162	mg/L	0.006475	20.47%
Ba 233.527†	99.3	0.02695	mg/L	0.000753	0.1348	mg/L	0.00377	2.79%
Be 313.042†	30.1	0.00007	mg/L	0.000003	0.00034	mg/L	0.000014	4.00%
Ca 317.933†	35347.9	3.579	mg/L	0.0112	17.89	mg/L	0.056	0.31%
Cd 228.802†	9.4	0.00027	mg/L	0.000096	0.00137	mg/L	0.000478	34.77%
Co 228.616†	98.3	0.00251	mg/L	0.000043	0.01256	mg/L	0.000214	1.70%
Cr 267.716†	1.8	0.00029	mg/L	0.000508	0.00147	mg/L	0.002538	172.29%
Cu 324.752†	1313.3	0.00458	mg/L	0.000212	0.02288	mg/L	0.001062	4.64%
Fe 273.955†	48.3	0.04481	mg/L	0.001849	0.2240	mg/L	0.00925	4.13%
K 766.490†	1130.1	0.5174	mg/L	0.00825	2.587	mg/L	0.0412	1.59%
Mg 279.077†	664.1	0.6508	mg/L	0.01007	3.254	mg/L	0.0503	1.55%
Mn 257.610†	3053.1	0.09793	mg/L	0.000084	0.4896	mg/L	0.00042	0.09%
Mo 202.031†	6.6	0.00034	mg/L	0.000253	0.00169	mg/L	0.001267	75.09%
Na 589.592†	3681785.8	280.8	mg/L	0.73	1404	mg/L	3.67	0.26%
Na 330.237†	5734.2	274.7	mg/L	1.81	1374	mg/L	9.04	0.66%
Ni 231.604†	14.6	0.00445	mg/L	0.001334	0.02227	mg/L	0.006668	29.94%
Pb 220.353†	-0.5	-0.00006	mg/L	0.000796	-0.00030	mg/L	0.003979	>999.9%
Sb 206.836†	-3.1	-0.00109	mg/L	0.000921	-0.00546	mg/L	0.004604	84.29%
Se 196.026†	-1.4	-0.00108	mg/L	0.005026	-0.00538	mg/L	0.025129	467.37%
Si 288.158†	571.8	0.3553	mg/L	0.00594	1.776	mg/L	0.0297	1.67%
Sn 189.927†	-0.4	0.00030	mg/L	0.002024	0.00150	mg/L	0.010119	673.01%
Sr 421.552†	25410.1	0.03229	mg/L	0.000093	0.1614	mg/L	0.00047	0.29%
Ti 334.903†	15.7	0.00074	mg/L	0.000232	0.00369	mg/L	0.001159	31.42%
Tl 190.801†	2.6	0.00138	mg/L	0.000979	0.00691	mg/L	0.004893	70.83%
V 292.402†	24.0	0.00018	mg/L	0.000131	0.00089	mg/L	0.000656	73.60%
Zn 206.200†	32.6	0.00982	mg/L	0.000188	0.04912	mg/L	0.000940	1.91%

Sequence No.: 60
Sample ID: YH41 At LEN

Autosampler Location: 363
Date Collected: 4/22/2014 2:42:42 PM
Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YH41 At LEN

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YH41 At LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2867847.2	99.36	%	0.483				0.49%
ScR 361.383	243409.3	101.6	%	0.10				0.10%
Ag 328.068†	4.5	0.00005	mg/L	0.000026	0.00023	mg/L	0.000129	57.05%
Al 308.215†	61.4	0.05008	mg/L	0.003371	0.2504	mg/L	0.01686	6.73%
As 188.979†	5.9	0.00344	mg/L	0.001685	0.01720	mg/L	0.008427	49.00%
B 249.677†	28.2	0.00528	mg/L	0.001116	0.02641	mg/L	0.005581	21.13%
Ba 233.527†	101.4	0.02751	mg/L	0.000950	0.1376	mg/L	0.00475	3.45%
Be 313.042†	28.5	0.00006	mg/L	0.000009	0.00032	mg/L	0.000046	14.40%
Ca 317.933†	35781.3	3.623	mg/L	0.0198	18.11	mg/L	0.099	0.55%
Cd 228.802†	14.0	0.00041	mg/L	0.000068	0.00207	mg/L	0.000338	16.38%
Co 228.616†	95.4	0.00244	mg/L	0.000134	0.01219	mg/L	0.000670	5.50%
Cr 267.716†	-0.1	-0.00012	mg/L	0.001093	-0.00058	mg/L	0.005463	949.11%
Cu 324.752†	1401.0	0.00488	mg/L	0.000314	0.02441	mg/L	0.001572	6.44%
Fe 273.955†	50.1	0.04646	mg/L	0.000341	0.2323	mg/L	0.00171	0.73%
K 766.490†	1133.8	0.5191	mg/L	0.01558	2.596	mg/L	0.0779	3.00%
Mg 279.077†	669.5	0.6561	mg/L	0.00705	3.281	mg/L	0.0353	1.07%
Mn 257.610†	3089.4	0.09909	mg/L	0.000036	0.4955	mg/L	0.00018	0.04%
Mo 202.031†	8.2	0.00043	mg/L	0.000442	0.00216	mg/L	0.002211	102.16%
Na 589.592†	3721363.5	283.8	mg/L	0.53	1419	mg/L	2.64	0.19%
Na 330.237†	5786.7	277.2	mg/L	0.14	1386	mg/L	0.71	0.05%
Ni 231.604†	8.8	0.00270	mg/L	0.000506	0.01349	mg/L	0.002529	18.74%
Pb 220.353†	1.5	0.00019	mg/L	0.000689	0.00093	mg/L	0.003447	369.28%
Sb 206.836†	-3.0	-0.00107	mg/L	0.002358	-0.00534	mg/L	0.011790	220.76%
Se 196.026†	5.2	0.00407	mg/L	0.003899	0.02034	mg/L	0.019494	95.83%
Si 288.158†	580.1	0.3604	mg/L	0.00431	1.802	mg/L	0.0216	1.20%
Sn 189.927†	-2.4	-0.00032	mg/L	0.000865	-0.00159	mg/L	0.004327	271.87%
Sr 421.552†	25634.7	0.03257	mg/L	0.000042	0.1629	mg/L	0.00021	0.13%
Ti 334.903†	11.6	0.00048	mg/L	0.000880	0.00240	mg/L	0.004402	183.12%
Tl 190.801†	1.5	0.00079	mg/L	0.002249	0.00393	mg/L	0.011245	286.14%
V 292.402†	23.5	0.00017	mg/L	0.000160	0.00087	mg/L	0.000801	92.14%
Zn 206.200†	33.5	0.01007	mg/L	0.000651	0.05035	mg/L	0.003254	6.46%

Sequence No.: 61
 Sample ID: YH41 AtSPK LEN

Autosampler Location: 364
 Date Collected: 4/22/2014 2:46:59 PM
 Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YH41 AtSPK LEN

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YH41 AtSPK LEN

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2804438.1	97.17	%	0.136				0.14%
ScR 361.383	240849.4	100.6	%	0.74				0.73%
Ag 328.068†	43514.8	0.2271	mg/L	0.00083	1.136	mg/L	0.0042	0.37%
Al 308.215†	1125.3	0.9151	mg/L	0.01413	4.575	mg/L	0.0707	1.54%
As 188.979†	1407.0	0.8953	mg/L	0.00199	4.476	mg/L	0.0099	0.22%
B 249.677†	36.6	0.00641	mg/L	0.001641	0.03206	mg/L	0.008203	25.58%
Ba 233.527†	3233.5	0.8773	mg/L	0.01328	4.387	mg/L	0.0664	1.51%
Be 313.042†	93641.3	0.2108	mg/L	0.00130	1.054	mg/L	0.0065	0.62%
Ca 317.933†	80186.9	8.119	mg/L	0.0321	40.59	mg/L	0.161	0.40%
Cd 228.802†	7252.4	0.2186	mg/L	0.00008	1.093	mg/L	0.0004	0.04%
Co 228.616†	8181.7	0.2093	mg/L	0.00053	1.047	mg/L	0.0027	0.25%
Cr 267.716†	1027.5	0.2130	mg/L	0.00211	1.065	mg/L	0.0105	0.99%
Cu 324.752†	63418.9	0.2216	mg/L	0.00056	1.108	mg/L	0.0028	0.25%
Fe 273.955†	982.0	0.9094	mg/L	0.01384	4.547	mg/L	0.0692	1.52%
K 766.490†	10664.6	4.883	mg/L	0.0306	24.41	mg/L	0.153	0.63%
Mg 279.077†	5147.2	5.047	mg/L	0.0629	25.23	mg/L	0.314	1.25%
Mn 257.610†	9702.0	0.3114	mg/L	0.00320	1.557	mg/L	0.0160	1.03%
Mo 202.031†	24.4	0.00133	mg/L	0.000312	0.00667	mg/L	0.001558	23.37%
Na 589.592†	3860710.7	294.5	mg/L	2.60	1472	mg/L	12.98	0.88%
Na 330.237†	6238.5	298.8	mg/L	3.24	1494	mg/L	16.18	1.08%
Ni 231.604†	734.0	0.2236	mg/L	0.00333	1.118	mg/L	0.0166	1.49%
Pb 220.353†	6852.4	0.8397	mg/L	0.00198	4.198	mg/L	0.0099	0.24%
Sb 206.836†	4.4	-0.00051	mg/L	0.001606	-0.00253	mg/L	0.008032	317.87%
Se 196.026†	1132.7	0.8877	mg/L	0.00142	4.438	mg/L	0.0071	0.16%
Si 288.158†	586.6	0.3659	mg/L	0.00544	1.830	mg/L	0.0272	1.49%
Sn 189.927†	-7.9	-0.00147	mg/L	0.000842	-0.00733	mg/L	0.004212	57.47%
Sr 421.552†	194025.0	0.2465	mg/L	0.00114	1.233	mg/L	0.0057	0.46%
Ti 334.903†	15.6	0.00037	mg/L	0.000049	0.00187	mg/L	0.000244	13.02%
Tl 190.801†	1618.1	0.8633	mg/L	0.00375	4.316	mg/L	0.0187	0.43%
V 292.402†	30307.0	0.2092	mg/L	0.00065	1.046	mg/L	0.0032	0.31%
Zn 206.200†	765.5	0.2290	mg/L	0.00292	1.145	mg/L	0.0146	1.28%

Sequence No.: 62
 Sample ID: YH41 Bt LEN

Autosampler Location: 365
 Date Collected: 4/22/2014 2:51:17 PM
 Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YH41 Bt LEN

Analyte Back Pressure Flow
 All 219.0 kPa 0.75 L/min

Mean Data: YH41 Bt LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2865978.1	99.30	%	0.653				0.66%
ScR 361.383	246200.1	102.8	%	0.51				0.49%
Ag 328.068†	-29.9	-0.00012	mg/L	0.000196	-0.00061	mg/L	0.000979	159.29%
Al 308.215†	86.6	0.07063	mg/L	0.004223	0.3531	mg/L	0.02111	5.98%
As 188.979†	9.8	0.00581	mg/L	0.000744	0.02907	mg/L	0.003718	12.79%
B 249.677†	38.7	0.00725	mg/L	0.000684	0.03625	mg/L	0.003418	9.43%
Ba 233.527†	168.2	0.04565	mg/L	0.000572	0.2282	mg/L	0.00286	1.25%
Be 313.042†	30.1	0.00007	mg/L	0.000026	0.00034	mg/L	0.000130	38.47%
Ca 317.933†	53773.6	5.444	mg/L	0.0394	27.22	mg/L	0.197	0.72%
Cd 228.802†	17.2	0.00050	mg/L	0.000064	0.00249	mg/L	0.000319	12.80%
Co 228.616†	139.0	0.00355	mg/L	0.000054	0.01776	mg/L	0.000271	1.53%
Cr 267.716†	4.6	0.00085	mg/L	0.000540	0.00426	mg/L	0.002699	63.31%
Cu 324.752†	1125.7	0.00391	mg/L	0.000174	0.01957	mg/L	0.000872	4.46%
Fe 273.955†	37.5	0.03478	mg/L	0.000745	0.1739	mg/L	0.00372	2.14%
K 766.490†	1556.3	0.7126	mg/L	0.01491	3.563	mg/L	0.0745	2.09%
Mg 279.077†	707.5	0.6931	mg/L	0.01211	3.466	mg/L	0.0605	1.75%
Mn 257.610†	5842.2	0.1874	mg/L	0.00106	0.9370	mg/L	0.00531	0.57%
Mo 202.031†	15.7	0.00085	mg/L	0.000422	0.00427	mg/L	0.002110	49.43%
Na 589.592†	3725783.0	284.2	mg/L	1.92	1421	mg/L	9.62	0.68%
Na 330.237†	5824.0	279.0	mg/L	0.85	1395	mg/L	4.24	0.30%
Ni 231.604†	10.7	0.00327	mg/L	0.000811	0.01637	mg/L	0.004055	24.76%
Pb 220.353†	3.8	0.00048	mg/L	0.000434	0.00242	mg/L	0.002168	89.63%
Sb 206.836†	-6.4	-0.00225	mg/L	0.000369	-0.01123	mg/L	0.001847	16.44%
Se 196.026†	1.6	0.00122	mg/L	0.001933	0.00608	mg/L	0.009663	159.04%
Si 288.158†	985.0	0.6119	mg/L	0.00132	3.060	mg/L	0.0066	0.22%
Sn 189.927†	-6.4	-0.00137	mg/L	0.000377	-0.00684	mg/L	0.001883	27.55%
Sr 421.552†	34128.6	0.04337	mg/L	0.000199	0.2168	mg/L	0.00099	0.46%
Ti 334.903†	19.0	0.00082	mg/L	0.000532	0.00408	mg/L	0.002659	65.18%
Tl 190.801†	3.2	0.00171	mg/L	0.001157	0.00856	mg/L	0.005784	67.54%
V 292.402†	44.7	0.00034	mg/L	0.000066	0.00169	mg/L	0.000332	19.67%
Zn 206.200†	56.5	0.01701	mg/L	0.000487	0.08506	mg/L	0.002435	2.86%

Sequence No.: 63
 Sample ID: YH41 Ct LEN

Autosampler Location: 366
 Date Collected: 4/22/2014 2:55:34 PM
 Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: YH41 Ct LEN

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YH41 Ct LEN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2860910.1	99.12 %	1.043			1.05%
ScR 361.383	242421.5	101.2 %	0.47			0.47%
Ag 328.068†	6.3	0.00007 mg/L	0.000207	0.00033 mg/L	0.001036	317.71%
Al 308.215†	86.9	0.07091 mg/L	0.003522	0.3545 mg/L	0.01761	4.97%
As 188.979†	8.3	0.00488 mg/L	0.001247	0.02441 mg/L	0.006236	25.55%
B 249.677†	39.0	0.00731 mg/L	0.000297	0.03654 mg/L	0.001483	4.06%
Ba 233.527†	165.2	0.04482 mg/L	0.001020	0.2241 mg/L	0.00510	2.28%
Be 313.042†	29.0	0.00007 mg/L	0.000023	0.00033 mg/L	0.000113	34.76%
Ca 317.933†	52969.9	5.363 mg/L	0.0111	26.82 mg/L	0.055	0.21%
Cd 228.802†	16.9	0.00050 mg/L	0.000215	0.00248 mg/L	0.001076	43.39%
Co 228.616†	140.1	0.00358 mg/L	0.000162	0.01790 mg/L	0.000811	4.53%
Cr 267.716†	2.2	0.00035 mg/L	0.000552	0.00175 mg/L	0.002759	158.04%
Cu 324.752†	1192.8	0.00415 mg/L	0.000326	0.02075 mg/L	0.001628	7.84%
Fe 273.955†	50.8	0.04708 mg/L	0.000727	0.2354 mg/L	0.00363	1.54%
K 766.490†	1556.9	0.7128 mg/L	0.00723	3.564 mg/L	0.0362	1.01%
Mg 279.077†	637.7	0.6247 mg/L	0.00869	3.124 mg/L	0.0435	1.39%
Mn 257.610†	5826.3	0.1869 mg/L	0.00087	0.9345 mg/L	0.00437	0.47%
Mo 202.031†	14.4	0.00078 mg/L	0.000135	0.00390 mg/L	0.000674	17.29%
Na 589.592†	3594390.2	274.2 mg/L	1.34	1371 mg/L	6.70	0.49%
Na 330.237†	5602.7	268.4 mg/L	1.35	1342 mg/L	6.76	0.50%
Ni 231.604†	11.5	0.00351 mg/L	0.002018	0.01755 mg/L	0.010091	57.50%
Pb 220.353†	6.0	0.00074 mg/L	0.001347	0.00371 mg/L	0.006733	181.54%
Sb 206.836†	-4.1	-0.00144 mg/L	0.000366	-0.00719 mg/L	0.001831	25.48%
Se 196.026†	1.5	0.00115 mg/L	0.005067	0.00576 mg/L	0.025333	440.12%
Si 288.158†	944.6	0.5868 mg/L	0.00480	2.934 mg/L	0.0240	0.82%
Sn 189.927†	-5.9	-0.00120 mg/L	0.000356	-0.00602 mg/L	0.001779	29.54%
Sr 421.552†	31435.4	0.03995 mg/L	0.000119	0.1997 mg/L	0.00060	0.30%
Ti 334.903†	16.1	0.00064 mg/L	0.000306	0.00321 mg/L	0.001531	47.71%
Tl 190.801†	2.1	0.00112 mg/L	0.001880	0.00559 mg/L	0.009400	168.01%
V 292.402†	34.6	0.00027 mg/L	0.000061	0.00133 mg/L	0.000303	22.84%
Zn 206.200†	60.2	0.01810 mg/L	0.000710	0.09048 mg/L	0.003552	3.93%

Sequence No.: 64
Sample ID: CV 7

Autosampler Location: 7
Date Collected: 4/22/2014 2:59:51 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2908290.2	100.8	%	0.75				0.75%
ScR 361.383	241390.9	100.8	%	0.17				0.17%
Ag 328.068†	207015.5	1.080	mg/L	0.0087	1.080	mg/L	0.0087	0.81%
Al 308.215†	2543.6	2.043	mg/L	0.0041	2.043	mg/L	0.0041	0.20%
As 188.979†	3154.4	2.042	mg/L	0.0088	2.042	mg/L	0.0088	0.43%
B 249.677†	5517.6	1.033	mg/L	0.0042	1.033	mg/L	0.0042	0.41%
Ba 233.527†	3714.2	1.007	mg/L	0.0021	1.007	mg/L	0.0021	0.21%
Be 313.042†	441800.9	0.9946	mg/L	0.00491	0.9946	mg/L	0.00491	0.49%
Ca 317.933†	20929.9	2.119	mg/L	0.0061	2.119	mg/L	0.0061	0.29%
Cd 228.802†	33233.4	1.013	mg/L	0.0066	1.013	mg/L	0.0066	0.65%
Co 228.616†	38433.6	0.9819	mg/L	0.00684	0.9819	mg/L	0.00684	0.70%
Cr 267.716†	4887.0	1.015	mg/L	0.0049	1.015	mg/L	0.0049	0.48%
Cu 324.752†	280377.9	0.9792	mg/L	0.00323	0.9792	mg/L	0.00323	0.33%
Fe 273.955†	2243.4	2.074	mg/L	0.0077	2.074	mg/L	0.0077	0.37%
K 766.490†	44337.0	20.30	mg/L	0.115	20.30	mg/L	0.115	0.57%
Mg 279.077†	2090.8	2.056	mg/L	0.0116	2.056	mg/L	0.0116	0.56%
Mn 257.610†	29722.4	0.9539	mg/L	0.00234	0.9539	mg/L	0.00234	0.25%
Mo 202.031†	16384.1	0.9787	mg/L	0.00458	0.9787	mg/L	0.00458	0.47%
Na 589.592†	676661.6	51.61	mg/L	0.054	51.61	mg/L	0.054	0.11%
Na 330.237†	1084.8	51.93	mg/L	0.151	51.93	mg/L	0.151	0.29%
Ni 231.604†	3454.7	1.054	mg/L	0.0016	1.054	mg/L	0.0016	0.15%
Pb 220.353†	16118.5	1.976	mg/L	0.0118	1.976	mg/L	0.0118	0.60%
Sb 206.836†	6061.6	2.115	mg/L	0.0137	2.115	mg/L	0.0137	0.65%
Se 196.026†	2567.0	2.011	mg/L	0.0195	2.011	mg/L	0.0195	0.97%
Si 288.158†	3375.7	2.102	mg/L	0.0279	2.102	mg/L	0.0279	1.33%
Sn 189.927†	3183.2	1.006	mg/L	0.0060	1.006	mg/L	0.0060	0.59%
Sr 421.552†	800400.9	1.017	mg/L	0.0014	1.017	mg/L	0.0014	0.14%
Ti 334.903†	16215.0	1.025	mg/L	0.0025	1.025	mg/L	0.0025	0.24%
Tl 190.801†	3773.3	2.010	mg/L	0.0148	2.010	mg/L	0.0148	0.73%
V 292.402†	145525.1	1.004	mg/L	0.0080	1.004	mg/L	0.0080	0.80%
Zn 206.200†	3493.6	1.045	mg/L	0.0022	1.045	mg/L	0.0022	0.21%

Sequence No.: 65
Sample ID: CB 7

Autosampler Location: 1
Date Collected: 4/22/2014 3:03:54 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2907235.1	100.7	%	0.80				0.79%
ScR 361.383	243341.0	101.6	%	0.41				0.40%
Ag 328.068†	10.8	0.00006	mg/L	0.000003	0.00006	mg/L	0.000003	4.85%
Al 308.215†	3.4	0.00276	mg/L	0.001912	0.00276	mg/L	0.001912	69.37%
As 188.979†	2.4	0.00160	mg/L	0.001533	0.00160	mg/L	0.001533	96.02%
B 249.677†	11.7	0.00219	mg/L	0.000645	0.00219	mg/L	0.000645	29.44%
Ba 233.527†	2.1	0.00056	mg/L	0.000513	0.00056	mg/L	0.000513	91.96%
Be 313.042†	38.3	0.00009	mg/L	0.000021	0.00009	mg/L	0.000021	24.19%
Ca 317.933†	7.3	0.00074	mg/L	0.000896	0.00074	mg/L	0.000896	120.90%
Cd 228.802†	6.8	0.00020	mg/L	0.000105	0.00020	mg/L	0.000105	52.27%
Co 228.616†	0.5	0.00001	mg/L	0.000120	0.00001	mg/L	0.000120	>999.9%
Cr 267.716†	-0.6	-0.00013	mg/L	0.001137	-0.00013	mg/L	0.001137	892.17%
Cu 324.752†	253.9	0.00089	mg/L	0.000030	0.00089	mg/L	0.000030	3.43%
Fe 273.955†	1.5	0.00142	mg/L	0.001802	0.00142	mg/L	0.001802	126.60%
K 766.490†	-11.7	-0.00535	mg/L	0.006766	-0.00535	mg/L	0.006766	126.53%
Mg 279.077†	-5.0	-0.00489	mg/L	0.003480	-0.00489	mg/L	0.003480	71.24%
Mn 257.610†	-1.8	-0.00006	mg/L	0.000023	-0.00006	mg/L	0.000023	39.01%
Mo 202.031†	15.4	0.00092	mg/L	0.000599	0.00092	mg/L	0.000599	64.97%
Na 589.592†	227.5	0.01735	mg/L	0.001069	0.01735	mg/L	0.001069	6.16%
Na 330.237†	-3.1	-0.1461	mg/L	0.32385	-0.1461	mg/L	0.32385	221.61%
Ni 231.604†	-0.6	-0.00018	mg/L	0.000082	-0.00018	mg/L	0.000082	45.88%
Pb 220.353†	-3.9	-0.00047	mg/L	0.000534	-0.00047	mg/L	0.000534	112.43%
Sb 206.836†	26.1	0.00914	mg/L	0.001551	0.00914	mg/L	0.001551	16.98%
Se 196.026†	-4.6	-0.00363	mg/L	0.001223	-0.00363	mg/L	0.001223	33.67%
Si 288.158†	3.3	0.00205	mg/L	0.006543	0.00205	mg/L	0.006543	319.88%
Sn 189.927†	4.0	0.00127	mg/L	0.000649	0.00127	mg/L	0.000649	51.05%
Sr 421.552†	29.9	0.00004	mg/L	0.000046	0.00004	mg/L	0.000046	120.59%
Ti 334.903†	21.7	0.00137	mg/L	0.000172	0.00137	mg/L	0.000172	12.53%
Tl 190.801†	-0.4	-0.00021	mg/L	0.002157	-0.00021	mg/L	0.002157	>999.9%
V 292.402†	6.2	0.00004	mg/L	0.000090	0.00004	mg/L	0.000090	215.20%
Zn 206.200†	1.2	0.00035	mg/L	0.000891	0.00035	mg/L	0.000891	251.35%

Sequence No.: 66
 Sample ID: YG95 MB1 SWC

Autosampler Location: 344
 Date Collected: 4/22/2014 3:07:54 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 MB1 SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YG95 MB1 SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2962976.8	102.7	%	0.33				0.32%
ScR 361.383	246323.8	102.8	%	0.32				0.32%
Ag 328.068†	31.4	0.00016	mg/L	0.000128	0.00033	mg/L	0.000256	78.16%
Al 308.215†	45.7	0.03725	mg/L	0.003872	0.07450	mg/L	0.007744	10.39%
As 188.979†	5.5	0.00361	mg/L	0.002139	0.00722	mg/L	0.004278	59.28%
B 249.677†	7.3	0.00136	mg/L	0.000948	0.00273	mg/L	0.001896	69.46%
Ba 233.527†	1.9	0.00052	mg/L	0.000326	0.00105	mg/L	0.000652	62.36%
Be 313.042†	19.0	0.00004	mg/L	0.000016	0.00009	mg/L	0.000032	36.94%
Ca 317.933†	329.6	0.03337	mg/L	0.000770	0.06675	mg/L	0.001540	2.31%
Cd 228.802†	-2.5	-0.00009	mg/L	0.000163	-0.00019	mg/L	0.000325	173.98%
Co 228.616†	7.3	0.00018	mg/L	0.000136	0.00036	mg/L	0.000272	74.70%
Cr 267.716†	6.6	0.00137	mg/L	0.000663	0.00275	mg/L	0.001326	48.29%
Cu 324.752†	157.5	0.00055	mg/L	0.000202	0.00110	mg/L	0.000404	36.74%
Fe 273.955†	5.7	0.00528	mg/L	0.000676	0.01056	mg/L	0.001351	12.79%
K 766.490†	-3.3	-0.00150	mg/L	0.010460	-0.00301	mg/L	0.020919	695.34%
Mg 279.077†	3.1	0.00299	mg/L	0.002603	0.00598	mg/L	0.005206	87.00%
Mn 257.610†	-4.1	-0.00013	mg/L	0.000019	-0.00026	mg/L	0.000038	14.65%
Mo 202.031†	-2.9	-0.00017	mg/L	0.000149	-0.00034	mg/L	0.000299	87.25%
Na 589.592†	165.9	0.01265	mg/L	0.002585	0.02530	mg/L	0.005171	20.43%
Na 330.237†	0.9	0.04324	mg/L	0.114300	0.08647	mg/L	0.228600	264.36%
Ni 231.604†	2.4	0.00072	mg/L	0.001126	0.00145	mg/L	0.002252	155.40%
Pb 220.353†	1.8	0.00024	mg/L	0.000937	0.00047	mg/L	0.001874	395.79%
Sb 206.836†	-4.9	-0.00171	mg/L	0.001466	-0.00341	mg/L	0.002931	85.87%
Se 196.026†	-3.3	-0.00257	mg/L	0.004511	-0.00515	mg/L	0.009023	175.23%
Si 288.158†	-1.1	-0.00071	mg/L	0.002979	-0.00143	mg/L	0.005957	417.74%
Sn 189.927†	2.2	0.00070	mg/L	0.001213	0.00139	mg/L	0.002427	174.52%
Sr 421.552†	15.5	0.00002	mg/L	0.000054	0.00004	mg/L	0.000108	274.03%
Ti 334.903†	50.2	0.00318	mg/L	0.000492	0.00635	mg/L	0.000985	15.50%
Tl 190.801†	0.9	0.00049	mg/L	0.001157	0.00099	mg/L	0.002313	233.88%
V 292.402†	19.1	0.00013	mg/L	0.000237	0.00027	mg/L	0.000475	176.11%
Zn 206.200†	3.6	0.00107	mg/L	0.000393	0.00214	mg/L	0.000787	36.78%

Sequence No.: 67
Sample ID: YG95 A SWC

Autosampler Location: 345
Date Collected: 4/22/2014 3:11:55 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 A SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YG95 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2940599.9	101.9	%	0.53				0.52%
ScR 361.383	250382.9	104.5	%	0.15				0.14%
Ag 328.068†	-210.2	-0.00082	mg/L	0.000308	-0.00164	mg/L	0.000617	37.67%
Al 308.215†	205186.0	167.4	mg/L	0.67	334.8	mg/L	1.34	0.40%
As 188.979†	-294.2	0.1135	mg/L	0.00299	0.2270	mg/L	0.00599	2.64%
B 249.677†	83.1	0.01538	mg/L	0.000701	0.03076	mg/L	0.001401	4.56%
Ba 233.527†	2960.8	0.7788	mg/L	0.00123	1.558	mg/L	0.0025	0.16%
Be 313.042†	1079.9	0.00225	mg/L	0.000013	0.00450	mg/L	0.000026	0.58%
Ca 317.933†	303526.4	30.73	mg/L	0.107	61.46	mg/L	0.213	0.35%
Cd 228.802†	-33.0	0.00081	mg/L	0.000044	0.00162	mg/L	0.000087	5.37%
Co 228.616†	3452.8	0.07274	mg/L	0.000281	0.1455	mg/L	0.00056	0.39%
Cr 267.716†	1364.2	0.2845	mg/L	0.00060	0.5689	mg/L	0.00119	0.21%
Cu 324.752†	39239.2	0.1423	mg/L	0.00066	0.2847	mg/L	0.00132	0.46%
Fe 273.955†	169850.8	157.5	mg/L	0.54	315.0	mg/L	1.08	0.34%
K 766.490†	13038.1	5.970	mg/L	0.0094	11.94	mg/L	0.019	0.16%
Mg 279.077†	42434.5	41.51	mg/L	0.159	83.02	mg/L	0.317	0.38%
Mn 257.610†	68996.6	2.212	mg/L	0.0073	4.424	mg/L	0.0145	0.33%
Mo 202.031†	53.7	0.00273	mg/L	0.000177	0.00546	mg/L	0.000354	6.48%
Na 589.592†	18618.2	1.420	mg/L	0.0054	2.840	mg/L	0.0108	0.38%
Na 330.237†	-16.3	1.202	mg/L	0.2351	2.405	mg/L	0.4701	19.55%
Ni 231.604†	7478.8	2.282	mg/L	0.0035	4.564	mg/L	0.0069	0.15%
Pb 220.353†	-100.8	0.02264	mg/L	0.000305	0.04527	mg/L	0.000610	1.35%
Sb 206.836†	24.4	0.01273	mg/L	0.000715	0.02546	mg/L	0.001431	5.62%
Se 196.026†	28.5	0.02211	mg/L	0.004095	0.04423	mg/L	0.008190	18.52%
Si 288.158†	10945.8	6.804	mg/L	0.0153	13.61	mg/L	0.031	0.23%
Sn 189.927†	-40.9	-0.00757	mg/L	0.002795	-0.01515	mg/L	0.005590	36.91%
Sr 421.552†	220997.9	0.2808	mg/L	0.00075	0.5616	mg/L	0.00149	0.27%
Ti 334.903†	134493.5	8.508	mg/L	0.0284	17.02	mg/L	0.057	0.33%
Tl 190.801†	-24.8	0.00295	mg/L	0.000426	0.00591	mg/L	0.000852	14.42%
V 292.402†	51912.2	0.3445	mg/L	0.00044	0.6890	mg/L	0.00087	0.13%
Zn 206.200†	979.4	0.2941	mg/L	0.00050	0.5882	mg/L	0.00099	0.17%

Sequence No.: 68
Sample ID: YG95 B SWC

Autosampler Location: 346
Date Collected: 4/22/2014 3:15:55 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 B SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG95 B SWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2945510.6	102.1	%	0.09			0.09%
ScR 361.383	245462.8	102.5	%	0.30			0.29%
Ag 328.068†	-209.4	-0.00084	mg/L	0.000293	-0.00168	0.000586	34.94%
Al 308.215†	158943.1	129.7	mg/L	0.11	259.3	0.23	0.09%
As 188.979†	-232.1	0.09015	mg/L	0.001815	0.1803	0.00363	2.01%
B 249.677†	86.1	0.01598	mg/L	0.000470	0.03196	0.000940	2.94%
Ba 233.527†	2192.0	0.5722	mg/L	0.00366	1.144	0.0073	0.64%
Be 313.042†	904.4	0.00188	mg/L	0.000010	0.00377	0.000021	0.55%
Ca 317.933†	281242.7	28.47	mg/L	0.062	56.95	0.125	0.22%
Cd 228.802†	6.8	0.00125	mg/L	0.000051	0.00250	0.000101	4.05%
Co 228.616†	3137.5	0.06794	mg/L	0.000096	0.1359	0.00019	0.14%
Cr 267.716†	2361.6	0.4911	mg/L	0.00106	0.9822	0.00213	0.22%
Cu 324.752†	48580.6	0.1747	mg/L	0.00045	0.3494	0.00091	0.26%
Fe 273.955†	156187.3	144.9	mg/L	0.40	289.7	0.81	0.28%
K 766.490†	12619.6	5.778	mg/L	0.0153	11.56	0.031	0.27%
Mg 279.077†	46095.7	45.11	mg/L	0.054	90.22	0.108	0.12%
Mn 257.610†	114577.7	3.675	mg/L	0.0081	7.349	0.0162	0.22%
Mo 202.031†	184.9	0.01060	mg/L	0.000733	0.02121	0.001465	6.91%
Na 589.592†	19957.1	1.522	mg/L	0.0024	3.044	0.0048	0.16%
Na 330.237†	-5.6	1.261	mg/L	0.3071	2.522	0.6143	24.36%
Ni 231.604†	5180.2	1.581	mg/L	0.0044	3.161	0.0088	0.28%
Pb 220.353†	35.7	0.03083	mg/L	0.000374	0.06166	0.000749	1.21%
Sb 206.836†	25.9	0.00903	mg/L	0.002242	0.01806	0.004484	24.83%
Se 196.026†	25.6	0.01981	mg/L	0.004169	0.03963	0.008337	21.04%
Si 288.158†	6370.5	3.963	mg/L	0.0192	7.926	0.0384	0.48%
Sn 189.927†	-40.5	-0.00805	mg/L	0.000515	-0.01609	0.001030	6.40%
Sr 421.552†	157867.3	0.2006	mg/L	0.00045	0.4012	0.00089	0.22%
Ti 334.903†	106739.5	6.752	mg/L	0.0116	13.50	0.023	0.17%
Tl 190.801†	-25.2	0.00143	mg/L	0.002889	0.00286	0.005777	201.91%
V 292.402†	45756.5	0.3050	mg/L	0.00135	0.6100	0.00270	0.44%
Zn 206.200†	1003.1	0.3007	mg/L	0.00118	0.6014	0.00236	0.39%

Sequence No.: 69
 Sample ID: YG95 C SWC
 Dilution: 2.000000X

Autosampler Location: 347
 Date Collected: 4/22/2014 3:19:56 PM
 Data Type: Original

Nebulizer Parameters: YG95 C SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YG95 C SWC

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2912010.6	100.9	%	0.30			0.30%
ScR 361.383	245820.6	102.6	%	0.33			0.32%
Ag 328.068†	-62.2	0.00003	mg/L	0.000185	0.00006	mg/L	0.000371 620.30%
Al 308.215†	149617.7	122.1	mg/L	0.63	244.1	mg/L	1.27 0.52%
As 188.979†	-215.8	0.1031	mg/L	0.00383	0.2062	mg/L	0.00766 3.72%
B 249.677†	72.8	0.01348	mg/L	0.000608	0.02697	mg/L	0.001216 4.51%
Ba 233.527†	3429.1	0.9063	mg/L	0.00567	1.813	mg/L	0.0113 0.63%
Be 313.042†	982.3	0.00205	mg/L	0.000014	0.00409	mg/L	0.000027 0.67%
Ca 317.933†	423616.9	42.89	mg/L	0.070	85.78	mg/L	0.140 0.16%
Cd 228.802†	87.1	0.00248	mg/L	0.000131	0.00495	mg/L	0.000263 5.30%
Co 228.616†	3009.3	0.06464	mg/L	0.000416	0.1293	mg/L	0.00083 0.64%
Cr 267.716†	1027.7	0.2139	mg/L	0.00080	0.4279	mg/L	0.00159 0.37%
Cu 324.752†	59382.3	0.2129	mg/L	0.00040	0.4258	mg/L	0.00080 0.19%
Fe 273.955†	168766.2	156.5	mg/L	0.62	313.0	mg/L	1.24 0.40%
K 766.490†	20496.1	9.384	mg/L	0.0449	18.77	mg/L	0.090 0.48%
Mg 279.077†	47442.9	46.42	mg/L	0.058	92.84	mg/L	0.116 0.12%
Mn 257.610†	578677.2	18.56	mg/L	0.067	37.13	mg/L	0.135 0.36%
Mo 202.031†	172.2	0.00962	mg/L	0.000360	0.01925	mg/L	0.000721 3.75%
Na 589.592†	32514.5	2.480	mg/L	0.0070	4.960	mg/L	0.0139 0.28%
Na 330.237†	14.1	2.135	mg/L	0.3916	4.269	mg/L	0.7833 18.35%
Ni 231.604†	1594.6	0.4865	mg/L	0.00207	0.9731	mg/L	0.00414 0.43%
Pb 220.353†	-27.7	0.01994	mg/L	0.000958	0.03988	mg/L	0.001917 4.81%
Sb 206.836†	11.6	0.00786	mg/L	0.002668	0.01573	mg/L	0.005337 33.94%
Se 196.026†	38.2	0.02965	mg/L	0.005571	0.05929	mg/L	0.011143 18.79%
Si 288.158†	4182.2	2.604	mg/L	0.0172	5.207	mg/L	0.0344 0.66%
Sn 189.927†	-51.4	-0.00972	mg/L	0.001809	-0.01943	mg/L	0.003617 18.61%
Sr 421.552†	225936.9	0.2871	mg/L	0.00123	0.5742	mg/L	0.00245 0.43%
Ti 334.903†	108237.0	6.846	mg/L	0.0299	13.69	mg/L	0.060 0.44%
Tl 190.801†	-24.8	0.00295	mg/L	0.001864	0.00589	mg/L	0.003729 63.29%
V 292.402†	53518.9	0.3588	mg/L	0.00104	0.7175	mg/L	0.00208 0.29%
Zn 206.200†	1067.6	0.3196	mg/L	0.00188	0.6393	mg/L	0.00377 0.59%

Sequence No.: 70
Sample ID: YG95 D SWC

Autosampler Location: 348
Date Collected: 4/22/2014 3:23:57 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 D SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG95 D SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2964810.9	102.7 %	0.24			0.23%
ScR 361.383	249072.1	104.0 %	0.30			0.29%
Ag 328.068†	-213.2	-0.00077 mg/L	0.000045	-0.00153 mg/L	0.000091	5.90%
Al 308.215†	124200.5	101.3 mg/L	0.51	202.6 mg/L	1.02	0.50%
As 188.979†	-202.4	0.09252 mg/L	0.001065	0.1850 mg/L	0.00213	1.15%
B 249.677†	84.1	0.01561 mg/L	0.001330	0.03122 mg/L	0.002661	8.52%
Ba 233.527†	1206.4	0.3055 mg/L	0.00207	0.6110 mg/L	0.00414	0.68%
Be 313.042†	738.6	0.00151 mg/L	0.000014	0.00303 mg/L	0.000029	0.95%
Ca 317.933†	427599.6	43.29 mg/L	0.311	86.59 mg/L	0.622	0.72%
Cd 228.802†	21.0	0.00034 mg/L	0.000014	0.00067 mg/L	0.000028	4.08%
Co 228.616†	2701.1	0.05779 mg/L	0.000209	0.1156 mg/L	0.00042	0.36%
Cr 267.716†	818.6	0.1700 mg/L	0.00109	0.3400 mg/L	0.00217	0.64%
Cu 324.752†	29771.1	0.1089 mg/L	0.00023	0.2177 mg/L	0.00047	0.21%
Fe 273.955†	152132.2	141.1 mg/L	0.84	282.2 mg/L	1.67	0.59%
K 766.490†	10705.4	4.902 mg/L	0.0284	9.803 mg/L	0.0568	0.58%
Mg 279.077†	47413.4	46.40 mg/L	0.233	92.80 mg/L	0.466	0.50%
Mn 257.610†	84139.8	2.698 mg/L	0.0130	5.396 mg/L	0.0261	0.48%
Mo 202.031†	69.2	0.00346 mg/L	0.000446	0.00693 mg/L	0.000892	12.88%
Na 589.592†	17221.9	1.314 mg/L	0.0106	2.627 mg/L	0.0212	0.81%
Na 330.237†	-3.9	1.147 mg/L	0.1885	2.294 mg/L	0.3770	16.44%
Ni 231.604†	925.1	0.2823 mg/L	0.00098	0.5645 mg/L	0.00195	0.35%
Pb 220.353†	-58.4	0.01177 mg/L	0.000526	0.02354 mg/L	0.001052	4.47%
Sb 206.836†	7.9	0.00657 mg/L	0.003300	0.01313 mg/L	0.006600	50.26%
Se 196.026†	29.9	0.02320 mg/L	0.000776	0.04640 mg/L	0.001553	3.35%
Si 288.158†	3892.5	2.424 mg/L	0.0092	4.847 mg/L	0.0183	0.38%
Sn 189.927†	-42.7	-0.00705 mg/L	0.003028	-0.01410 mg/L	0.006057	42.96%
Sr 421.552†	143257.5	0.1820 mg/L	0.00078	0.3641 mg/L	0.00155	0.43%
Ti 334.903†	99780.5	6.311 mg/L	0.0283	12.62 mg/L	0.057	0.45%
Tl 190.801†	-32.4	-0.00268 mg/L	0.010186	-0.00537 mg/L	0.020373	379.68%
V 292.402†	46843.3	0.3115 mg/L	0.00133	0.6229 mg/L	0.00266	0.43%
Zn 206.200†	864.1	0.2588 mg/L	0.00168	0.5175 mg/L	0.00337	0.65%

Sequence No.: 71
 Sample ID: YG95 EDUP SWC

Autosampler Location: 349
 Date Collected: 4/22/2014 3:27:57 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 EDUP SWC

Analyte Back Pressure Flow
 All 219.0 kPa 0.75 L/min

Mean Data: YG95 EDUP SWC

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2953803.6	102.3	%	0.54				0.53%
ScR 361.383	247218.5	103.2	%	0.51				0.49%
Ag 328.068†	-293.2	-0.00111	mg/L	0.000109	-0.00221	mg/L	0.000218	9.86%
Al 308.215†	220752.7	180.1	mg/L	0.84	360.2	mg/L	1.68	0.47%
As 188.979†	-276.9	0.1454	mg/L	0.00370	0.2908	mg/L	0.00741	2.55%
B 249.677†	114.1	0.02108	mg/L	0.000242	0.04215	mg/L	0.000484	1.15%
Ba 233.527†	3431.8	0.8957	mg/L	0.00449	1.791	mg/L	0.0090	0.50%
Be 313.042†	1262.8	0.00262	mg/L	0.000036	0.00525	mg/L	0.000072	1.36%
Ca 317.933†	486206.3	49.23	mg/L	0.156	98.45	mg/L	0.312	0.32%
Cd 228.802†	32.0	0.00033	mg/L	0.000168	0.00066	mg/L	0.000335	50.51%
Co 228.616†	5447.4	0.1229	mg/L	0.00070	0.2459	mg/L	0.00140	0.57%
Cr 267.716†	1651.3	0.3452	mg/L	0.00140	0.6904	mg/L	0.00279	0.40%
Cu 324.752†	65985.7	0.2389	mg/L	0.00215	0.4777	mg/L	0.00430	0.90%
Fe 273.955†	247959.4	230.0	mg/L	0.21	459.9	mg/L	0.43	0.09%
K 766.490†	21041.2	9.634	mg/L	0.0570	19.27	mg/L	0.114	0.59%
Mg 279.077†	54507.3	53.30	mg/L	0.156	106.6	mg/L	0.31	0.29%
Mn 257.610†	136121.0	4.365	mg/L	0.0106	8.730	mg/L	0.0213	0.24%
Mo 202.031†	52.3	0.00236	mg/L	0.000323	0.00473	mg/L	0.000646	13.66%
Na 589.592†	27501.7	2.098	mg/L	0.0081	4.195	mg/L	0.0162	0.39%
Na 330.237†	-7.7	1.629	mg/L	0.0725	3.258	mg/L	0.1450	4.45%
Ni 231.604†	1600.9	0.4885	mg/L	0.00181	0.9769	mg/L	0.00363	0.37%
Pb 220.353†	-22.7	0.03181	mg/L	0.001032	0.06362	mg/L	0.002065	3.25%
Sb 206.836†	25.1	0.01311	mg/L	0.001047	0.02622	mg/L	0.002093	7.98%
Se 196.026†	37.4	0.02893	mg/L	0.003430	0.05787	mg/L	0.006860	11.85%
Si 288.158†	2472.4	1.542	mg/L	0.0099	3.085	mg/L	0.0197	0.64%
Sn 189.927†	-56.2	-0.01005	mg/L	0.000535	-0.02010	mg/L	0.001070	5.32%
Sr 421.552†	390424.6	0.4961	mg/L	0.00208	0.9922	mg/L	0.00415	0.42%
Ti 334.903†	144489.6	9.139	mg/L	0.0358	18.28	mg/L	0.072	0.39%
Tl 190.801†	-40.7	0.00201	mg/L	0.001422	0.00403	mg/L	0.002844	70.60%
V 292.402†	70555.2	0.4688	mg/L	0.00439	0.9375	mg/L	0.00877	0.94%
Zn 206.200†	1451.5	0.4342	mg/L	0.00183	0.8685	mg/L	0.00365	0.42%

Sequence No.: 72
Sample ID: YG95 E SWC

Autosampler Location: 350
Date Collected: 4/22/2014 3:31:59 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 E SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YG95 E SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2955241.1		102.4 %	0.77			0.76%
ScR 361.383	250716.8		104.7 %	0.25			0.24%
Ag 328.068†	-342.2	-0.00136	mg/L	0.000160	-0.00272	mg/L	0.000320 11.76%
Al 308.215†	208311.6	169.9	mg/L	0.55	339.9	mg/L	1.09 0.32%
As 188.979†	-269.5	0.1599	mg/L	0.00420	0.3199	mg/L	0.00840 2.63%
B 249.677†	98.3	0.01814	mg/L	0.002096	0.03627	mg/L	0.004192 11.56%
Ba 233.527†	3207.2	0.8338	mg/L	0.00332	1.668	mg/L	0.0066 0.40%
Be 313.042†	1200.9	0.00248	mg/L	0.000029	0.00495	mg/L	0.000058 1.17%
Ca 317.933†	481327.9	48.73	mg/L	0.073	97.47	mg/L	0.146 0.15%
Cd 228.802†	33.2	0.00025	mg/L	0.000149	0.00051	mg/L	0.000299 58.83%
Co 228.616†	5338.1	0.1197	mg/L	0.00102	0.2394	mg/L	0.00204 0.85%
Cr 267.716†	1593.9	0.3336	mg/L	0.00255	0.6672	mg/L	0.00510 0.76%
Cu 324.752†	61363.8	0.2229	mg/L	0.00213	0.4459	mg/L	0.00426 0.95%
Fe 273.955†	254075.7	235.6	mg/L	1.37	471.3	mg/L	2.74 0.58%
K 766.490†	18865.1	8.638	mg/L	0.0252	17.28	mg/L	0.050 0.29%
Mg 279.077†	52460.5	51.29	mg/L	0.081	102.6	mg/L	0.16 0.16%
Mn 257.610†	131063.2	4.203	mg/L	0.0206	8.406	mg/L	0.0412 0.49%
Mo 202.031†	55.0	0.00253	mg/L	0.000465	0.00506	mg/L	0.000929 18.38%
Na 589.592†	26949.6	2.056	mg/L	0.0101	4.111	mg/L	0.0201 0.49%
Na 330.237†	-4.6	1.863	mg/L	0.1770	3.726	mg/L	0.3540 9.50%
Ni 231.604†	1463.1	0.4464	mg/L	0.00127	0.8928	mg/L	0.00255 0.29%
Pb 220.353†	10.7	0.03312	mg/L	0.001739	0.06624	mg/L	0.003478 5.25%
Sb 206.836†	28.4	0.01472	mg/L	0.001894	0.02945	mg/L	0.003787 12.86%
Se 196.026†	30.2	0.02327	mg/L	0.002896	0.04653	mg/L	0.005793 12.45%
Si 288.158†	3440.4	2.143	mg/L	0.0097	4.287	mg/L	0.0194 0.45%
Sn 189.927†	-51.9	-0.00868	mg/L	0.000973	-0.01736	mg/L	0.001946 11.21%
Sr 421.552†	373950.4	0.4752	mg/L	0.00176	0.9504	mg/L	0.00351 0.37%
Ti 334.903†	148797.2	9.412	mg/L	0.0305	18.82	mg/L	0.061 0.32%
Tl 190.801†	-44.7	0.00047	mg/L	0.002037	0.00094	mg/L	0.004074 434.69%
V 292.402†	73689.6	0.4898	mg/L	0.00663	0.9795	mg/L	0.01325 1.35%
Zn 206.200†	1352.2	0.4047	mg/L	0.00253	0.8093	mg/L	0.00505 0.62%

Sequence No.: 73

Autosampler Location: 351

Sample ID: YG95 ESPK SWC

Date Collected: 4/22/2014 3:36:00 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 ESPK SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG95 ESPK SWC

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	2927012.1	101.4 %	%	0.18			0.18%
ScR 361.383	242504.7	101.2 %	%	0.23			0.23%
Ag 328.068†	99461.3	0.5195	mg/L	0.00107	1.039	mg/L	0.0021 0.21%
Al 308.215†	249912.7	203.9	mg/L	0.36	407.8	mg/L	0.72 0.18%
As 188.979†	2811.0	2.113	mg/L	0.0041	4.226	mg/L	0.0081 0.19%
B 249.677†	131.0	0.02321	mg/L	0.001698	0.04643	mg/L	0.003395 7.31%
Ba 233.527†	11254.6	3.018	mg/L	0.0146	6.036	mg/L	0.0293 0.49%
Be 313.042†	223236.1	0.5024	mg/L	0.00120	1.005	mg/L	0.0024 0.24%
Ca 317.933†	602796.9	61.03	mg/L	0.133	122.1	mg/L	0.27 0.22%
Cd 228.802†	17240.1	0.5199	mg/L	0.00099	1.040	mg/L	0.0020 0.19%
Co 228.616†	24545.5	0.6114	mg/L	0.00141	1.223	mg/L	0.0028 0.23%
Cr 267.716†	4142.7	0.8614	mg/L	0.00204	1.723	mg/L	0.0041 0.24%
Cu 324.752†	222827.2	0.7869	mg/L	0.00230	1.574	mg/L	0.0046 0.29%
Fe 273.955†	251767.9	233.5	mg/L	0.61	467.0	mg/L	1.22 0.26%
K 766.490†	47807.0	21.89	mg/L	0.049	43.78	mg/L	0.099 0.23%
Mg 279.077†	71320.6	69.79	mg/L	0.101	139.6	mg/L	0.20 0.14%
Mn 257.610†	150119.2	4.814	mg/L	0.0109	9.629	mg/L	0.0218 0.23%
Mo 202.031†	67.7	0.00310	mg/L	0.000262	0.00619	mg/L	0.000523 8.44%
Na 589.592†	168512.7	12.85	mg/L	0.003	25.71	mg/L	0.006 0.02%
Na 330.237†	219.7	12.30	mg/L	0.413	24.60	mg/L	0.826 3.36%
Ni 231.604†	3480.3	1.061	mg/L	0.0039	2.122	mg/L	0.0078 0.37%
Pb 220.353†	16031.4	2.004	mg/L	0.0040	4.009	mg/L	0.0080 0.20%
Sb 206.836†	43.7	0.01467	mg/L	0.002979	0.02933	mg/L	0.005959 20.31%
Se 196.026†	2590.7	2.030	mg/L	0.0078	4.060	mg/L	0.0156 0.39%
Si 288.158†	2198.4	1.376	mg/L	0.0032	2.753	mg/L	0.0064 0.23%
Sn 189.927†	-60.6	-0.00992	mg/L	0.001370	-0.01984	mg/L	0.002741 13.82%
Sr 421.552†	823349.2	1.046	mg/L	0.0007	2.092	mg/L	0.0015 0.07%
Ti 334.903†	145399.5	9.196	mg/L	0.0062	18.39	mg/L	0.012 0.07%
Tl 190.801†	3610.2	1.950	mg/L	0.0019	3.900	mg/L	0.0037 0.10%
V 292.402†	141340.1	0.9573	mg/L	0.00106	1.915	mg/L	0.0021 0.11%
Zn 206.200†	3366.6	1.007	mg/L	0.0030	2.014	mg/L	0.0059 0.29%

Sequence No.: 74

Autosampler Location: 352

Sample ID: ~~YG95 EPOST SWC~~ 222222

Date Collected: 4/22/2014 3:40:03 PM

Dilution: 2.000000X

BA 4/23/14

Data Type: Original

Nebulizer Parameters: YG95 EPOST SWC

Analyte	Back Pressure	Flow
All	220.0 kPa	0.75 L/min

Mean Data: YG95 EPOST SWC

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	2926628.2	101.4 %	%	0.25				0.25%
ScR 361.383	246164.6	102.8 %	%	0.81				0.79%
Ag 328.068†	94491.7	0.4936	mg/L	0.00603	0.9872	mg/L	0.01207	1.22%
Al 308.215†	209690.4	171.1	mg/L	0.44	342.1	mg/L	0.88	0.26%
As 188.979†	2970.1	2.221	mg/L	0.0021	4.441	mg/L	0.0043	0.10%
B 249.677†	104.1	0.01816	mg/L	0.000689	0.03632	mg/L	0.001379	3.80%
Ba 233.527†	10746.4	2.880	mg/L	0.0257	5.760	mg/L	0.0513	0.89%
Be 313.042†	216178.3	0.4864	mg/L	0.00155	0.9729	mg/L	0.00310	0.32%
Ca 317.933†	579764.4	58.70	mg/L	0.215	117.4	mg/L	0.43	0.37%
Cd 228.802†	17399.1	0.5242	mg/L	0.00132	1.048	mg/L	0.0026	0.25%
Co 228.616†	24683.7	0.6147	mg/L	0.00193	1.229	mg/L	0.0039	0.31%
Cr 267.716†	4084.4	0.8500	mg/L	0.00495	1.700	mg/L	0.0099	0.58%
Cu 324.752†	214103.7	0.7565	mg/L	0.00624	1.513	mg/L	0.0125	0.82%
Fe 273.955†	253230.7	234.8	mg/L	0.83	469.7	mg/L	1.67	0.35%
K 766.490†	42409.9	19.42	mg/L	0.081	38.84	mg/L	0.163	0.42%
Mg 279.077†	63013.2	61.64	mg/L	0.211	123.3	mg/L	0.42	0.34%
Mn 257.610†	145064.8	4.653	mg/L	0.0156	9.305	mg/L	0.0312	0.34%
Mo 202.031†	62.5	0.00282	mg/L	0.000673	0.00565	mg/L	0.001347	23.86%
Na 589.592†	169009.0	12.89	mg/L	0.042	25.78	mg/L	0.084	0.32%
Na 330.237†	221.3	12.46	mg/L	0.204	24.93	mg/L	0.408	1.64%
Ni 231.604†	3193.2	0.9734	mg/L	0.00790	1.947	mg/L	0.0158	0.81%
Pb 220.353†	16273.8	2.026	mg/L	0.0067	4.052	mg/L	0.0134	0.33%
Sb 206.836†	49.2	0.01699	mg/L	0.002400	0.03398	mg/L	0.004800	14.13%
Se 196.026†	2677.7	2.098	mg/L	0.0053	4.196	mg/L	0.0106	0.25%
Si 288.158†	3470.6	2.166	mg/L	0.0099	4.331	mg/L	0.0199	0.46%
Sn 189.927†	-61.5	-0.01045	mg/L	0.000683	-0.02090	mg/L	0.001367	6.54%
Sr 421.552†	792116.2	1.007	mg/L	0.0011	2.013	mg/L	0.0023	0.11%
Ti 334.903†	148166.4	9.371	mg/L	0.0231	18.74	mg/L	0.046	0.25%
Tl 190.801†	3643.2	1.968	mg/L	0.0100	3.935	mg/L	0.0200	0.51%
V 292.402†	145544.3	0.9859	mg/L	0.00942	1.972	mg/L	0.0188	0.96%
Zn 206.200†	3098.0	0.9267	mg/L	0.00685	1.853	mg/L	0.0137	0.74%

Sequence No.: 75

Autosampler Location: 353

Sample ID: YG95 MB1SPK SWC

Date Collected: 4/22/2014 3:44:07 PM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 MB1SPK SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG95 MB1SPK SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc.	Units		
ScA 357.253	2964808.4	102.7	%	1.00				0.97%
ScR 361.383	244315.2	102.0	%	0.18				0.17%
Ag 328.068†	104386.7	0.5448	mg/L	0.00716	1.090	mg/L	0.0143	1.31%
Al 308.215†	2660.5	2.163	mg/L	0.0132	4.327	mg/L	0.0263	0.61%
As 188.979†	3310.6	2.108	mg/L	0.0277	4.215	mg/L	0.0553	1.31%
B 249.677†	9.5	0.00071	mg/L	0.000959	0.00143	mg/L	0.001918	134.26%
Ba 233.527†	7706.8	2.091	mg/L	0.0069	4.182	mg/L	0.0138	0.33%
Be 313.042†	228103.7	0.5135	mg/L	0.00057	1.027	mg/L	0.0011	0.11%
Ca 317.933†	102871.1	10.42	mg/L	0.015	20.83	mg/L	0.029	0.14%
Cd 228.802†	17008.1	0.5127	mg/L	0.00501	1.025	mg/L	0.0100	0.98%
Co 228.616†	19563.2	0.5005	mg/L	0.00459	1.001	mg/L	0.0092	0.92%
Cr 267.716†	2543.1	0.5274	mg/L	0.00053	1.055	mg/L	0.0011	0.10%
Cu 324.752†	141969.1	0.4960	mg/L	0.00496	0.9921	mg/L	0.00991	1.00%
Fe 273.955†	2360.1	2.185	mg/L	0.0124	4.371	mg/L	0.0248	0.57%
K 766.490†	22802.5	10.44	mg/L	0.054	20.88	mg/L	0.109	0.52%
Mg 279.077†	11116.7	10.90	mg/L	0.026	21.80	mg/L	0.052	0.24%
Mn 257.610†	15369.6	0.4934	mg/L	0.00237	0.9868	mg/L	0.00473	0.48%
Mo 202.031†	20.9	0.00109	mg/L	0.000079	0.00217	mg/L	0.000159	7.31%
Na 589.592†	140025.6	10.68	mg/L	0.020	21.36	mg/L	0.041	0.19%
Na 330.237†	231.8	10.89	mg/L	0.194	21.78	mg/L	0.388	1.78%
Ni 231.604†	1789.0	0.5449	mg/L	0.00226	1.090	mg/L	0.0045	0.41%
Pb 220.353†	16430.6	2.013	mg/L	0.0211	4.027	mg/L	0.0421	1.05%
Sb 206.836†	9.7	-0.00168	mg/L	0.001496	-0.00336	mg/L	0.002991	88.90%
Se 196.026†	2688.5	2.107	mg/L	0.0280	4.214	mg/L	0.0560	1.33%
Si 288.158†	-1.5	0.00270	mg/L	0.003545	0.00540	mg/L	0.007089	131.23%
Sn 189.927†	-12.5	-0.00261	mg/L	0.000255	-0.00522	mg/L	0.000511	9.77%
Sr 421.552†	413215.0	0.5251	mg/L	0.00172	1.050	mg/L	0.0034	0.33%
Ti 334.903†	189.2	0.01114	mg/L	0.000814	0.02227	mg/L	0.001628	7.31%
Tl 190.801†	3875.8	2.068	mg/L	0.0359	4.136	mg/L	0.0718	1.74%
V 292.402†	72927.2	0.5034	mg/L	0.00620	1.007	mg/L	0.0124	1.23%
Zn 206.200†	1785.2	0.5339	mg/L	0.00088	1.068	mg/L	0.0018	0.16%

Sequence No.: 76

Sample ID: CV 8

Autosampler Location: 7

Date Collected: 4/22/2014 3:48:07 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2909538.5	100.8	%	0.22				0.21%
ScR 361.383	243568.0	101.7	%	0.50				0.49%
Ag 328.068†	207289.1	1.082	mg/L	0.0079	1.082	mg/L	0.0079	0.73%
Al 308.215†	2532.6	2.034	mg/L	0.0077	2.034	mg/L	0.0077	0.38%
As 188.979†	3169.1	2.051	mg/L	0.0020	2.051	mg/L	0.0020	0.10%
B 249.677†	5487.7	1.027	mg/L	0.0019	1.027	mg/L	0.0019	0.19%
Ba 233.527†	3688.0	1.000	mg/L	0.0067	1.000	mg/L	0.0067	0.67%
Be 313.042†	444708.4	1.001	mg/L	0.0009	1.001	mg/L	0.0009	0.09%
Ca 317.933†	20802.3	2.106	mg/L	0.0052	2.106	mg/L	0.0052	0.25%
Cd 228.802†	33375.1	1.017	mg/L	0.0070	1.017	mg/L	0.0070	0.69%
Co 228.616†	38726.6	0.9894	mg/L	0.00545	0.9894	mg/L	0.00545	0.55%
Cr 267.716†	4874.9	1.013	mg/L	0.0026	1.013	mg/L	0.0026	0.26%
Cu 324.752†	280181.3	0.9785	mg/L	0.00809	0.9785	mg/L	0.00809	0.83%
Fe 273.955†	2238.4	2.069	mg/L	0.0040	2.069	mg/L	0.0040	0.19%
K 766.490†	44268.7	20.27	mg/L	0.089	20.27	mg/L	0.089	0.44%
Mg 279.077†	2073.9	2.040	mg/L	0.0085	2.040	mg/L	0.0085	0.41%
Mn 257.610†	29805.2	0.9566	mg/L	0.00153	0.9566	mg/L	0.00153	0.16%
Mo 202.031†	16480.5	0.9845	mg/L	0.00521	0.9845	mg/L	0.00521	0.53%
Na 589.592†	676693.5	51.61	mg/L	0.061	51.61	mg/L	0.061	0.12%
Na 330.237†	1080.0	51.71	mg/L	0.173	51.71	mg/L	0.173	0.34%
Ni 231.604†	3439.1	1.050	mg/L	0.0028	1.050	mg/L	0.0028	0.27%
Pb 220.353†	16207.9	1.986	mg/L	0.0118	1.986	mg/L	0.0118	0.60%
Sb 206.836†	6083.2	2.122	mg/L	0.0069	2.122	mg/L	0.0069	0.32%
Se 196.026†	2574.2	2.017	mg/L	0.0029	2.017	mg/L	0.0029	0.15%
Si 288.158†	3359.0	2.091	mg/L	0.0289	2.091	mg/L	0.0289	1.38%
Sn 189.927†	3195.2	1.009	mg/L	0.0023	1.009	mg/L	0.0023	0.22%
Sr 421.552†	801970.1	1.019	mg/L	0.0011	1.019	mg/L	0.0011	0.11%
Ti 334.903†	16312.3	1.031	mg/L	0.0004	1.031	mg/L	0.0004	0.03%
Tl 190.801†	3790.0	2.019	mg/L	0.0049	2.019	mg/L	0.0049	0.24%
V 292.402†	145811.5	1.006	mg/L	0.0081	1.006	mg/L	0.0081	0.81%
Zn 206.200†	3470.6	1.038	mg/L	0.0023	1.038	mg/L	0.0023	0.23%

Sequence No.: 77
Sample ID: CB 8

Autosampler Location: 1
Date Collected: 4/22/2014 3:52:09 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2952571.4	102.3	%	0.47				0.46%
ScR 361.383	246712.5	103.0	%	0.12				0.12%
Ag 328.068†	38.3	0.00020	mg/L	0.000031	0.00020	mg/L	0.000031	15.69%
Al 308.215†	3.7	0.00297	mg/L	0.002482	0.00297	mg/L	0.002482	83.60%
As 188.979†	2.5	0.00163	mg/L	0.001791	0.00163	mg/L	0.001791	109.87%
B 249.677†	5.4	0.00101	mg/L	0.000691	0.00101	mg/L	0.000691	68.11%
Ba 233.527†	2.0	0.00054	mg/L	0.000502	0.00054	mg/L	0.000502	92.36%
Be 313.042†	25.3	0.00006	mg/L	0.000048	0.00006	mg/L	0.000048	84.13%
Ca 317.933†	-1.9	-0.00019	mg/L	0.001284	-0.00019	mg/L	0.001284	679.52%
Cd 228.802†	2.8	0.00008	mg/L	0.000020	0.00008	mg/L	0.000020	26.52%
Co 228.616†	4.1	0.00010	mg/L	0.000069	0.00010	mg/L	0.000069	67.94%
Cr 267.716†	2.0	0.00042	mg/L	0.000649	0.00042	mg/L	0.000649	155.98%
Cu 324.752†	205.8	0.00072	mg/L	0.000071	0.00072	mg/L	0.000071	9.84%
Fe 273.955†	2.0	0.00188	mg/L	0.000113	0.00188	mg/L	0.000113	6.03%
K 766.490†	-82.0	-0.03754	mg/L	0.012049	-0.03754	mg/L	0.012049	32.10%
Mg 279.077†	-0.3	-0.00027	mg/L	0.006702	-0.00027	mg/L	0.006702	>999.9%
Mn 257.610†	-0.9	-0.00003	mg/L	0.000055	-0.00003	mg/L	0.000055	198.20%
Mo 202.031†	14.2	0.00085	mg/L	0.000466	0.00085	mg/L	0.000466	55.10%
Na 589.592†	86.5	0.00660	mg/L	0.003334	0.00660	mg/L	0.003334	50.55%
Na 330.237†	5.2	0.2508	mg/L	0.25201	0.2508	mg/L	0.25201	100.48%
Ni 231.604†	1.6	0.00048	mg/L	0.000464	0.00048	mg/L	0.000464	96.55%
Pb 220.353†	0.1	0.00001	mg/L	0.000780	0.00001	mg/L	0.000780	>999.9%
Sb 206.836†	24.5	0.00855	mg/L	0.001348	0.00855	mg/L	0.001348	15.77%
Se 196.026†	-1.5	-0.00118	mg/L	0.001973	-0.00118	mg/L	0.001973	167.25%
Si 288.158†	-0.2	-0.00015	mg/L	0.005429	-0.00015	mg/L	0.005429	>999.9%
Sn 189.927†	0.3	0.00010	mg/L	0.001175	0.00010	mg/L	0.001175	>999.9%
Sr 421.552†	28.9	0.00004	mg/L	0.000068	0.00004	mg/L	0.000068	184.31%
Ti 334.903†	19.6	0.00124	mg/L	0.000460	0.00124	mg/L	0.000460	37.03%
Tl 190.801†	-0.4	-0.00019	mg/L	0.000492	-0.00019	mg/L	0.000492	262.49%
V 292.402†	39.6	0.00027	mg/L	0.000154	0.00027	mg/L	0.000154	56.15%
Zn 206.200†	1.8	0.00055	mg/L	0.000810	0.00055	mg/L	0.000810	148.11%

Sequence No.: 78
Sample ID: YG95 F SWC

Autosampler Location: 354
Date Collected: 4/22/2014 3:56:09 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 F SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YG95 F SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2928551.5	101.5	%	0.45				0.44%
ScR 361.383	248489.0	103.7	%	0.51				0.49%
Ag 328.068†	-75.8	-0.00005	mg/L	0.000305	-0.00010	mg/L	0.000609	612.86%
Al 308.215†	168728.3	137.6	mg/L	1.28	275.3	mg/L	2.57	0.93%
As 188.979†	-273.3	0.1145	mg/L	0.00254	0.2289	mg/L	0.00507	2.22%
B 249.677†	313.5	0.05847	mg/L	0.003654	0.1169	mg/L	0.00731	6.25%
Ba 233.527†	3215.9	0.8400	mg/L	0.01024	1.680	mg/L	0.0205	1.22%
Be 313.042†	911.3	0.00187	mg/L	0.000023	0.00373	mg/L	0.000047	1.25%
Ca 317.933†	402268.8	40.73	mg/L	0.294	81.46	mg/L	0.588	0.72%
Cd 228.802†	-515.7	0.00686	mg/L	0.000146	0.01371	mg/L	0.000291	2.13%
Co 228.616†	5304.7	0.1172	mg/L	0.00074	0.2344	mg/L	0.00148	0.63%
Cr 267.716†	7997.7	1.663	mg/L	0.0159	3.326	mg/L	0.0318	0.96%
Cu 324.752†	1043921.6	3.654	mg/L	0.0168	7.307	mg/L	0.0336	0.46%
Fe 273.955†	206943.1	191.9	mg/L	1.20	383.8	mg/L	2.41	0.63%
K 766.490†	15174.3	6.948	mg/L	0.0900	13.90	mg/L	0.180	1.29%
Mg 279.077†	58249.4	57.00	mg/L	0.501	114.0	mg/L	1.00	0.88%
Mn 257.610†	86993.3	2.790	mg/L	0.0179	5.579	mg/L	0.0358	0.64%
Mo 202.031†	376.7	0.02187	mg/L	0.000390	0.04375	mg/L	0.000781	1.79%
Na 589.592†	28073.9	2.141	mg/L	0.0206	4.283	mg/L	0.0411	0.96%
Na 330.237†	9.9	2.162	mg/L	0.1527	4.324	mg/L	0.3053	7.06%
Ni 231.604†	77711.5	23.71	mg/L	0.221	47.42	mg/L	0.442	0.93%
Pb 220.353†	9998.2	1.251	mg/L	0.0087	2.502	mg/L	0.0174	0.70%
Sb 206.836†	92.0	0.01838	mg/L	0.002236	0.03677	mg/L	0.004473	12.17%
Se 196.026†	31.1	0.02409	mg/L	0.002736	0.04817	mg/L	0.005472	11.36%
Si 288.158†	3615.5	2.254	mg/L	0.0129	4.507	mg/L	0.0259	0.57%
Sn 189.927†	2.5	0.00734	mg/L	0.002627	0.01468	mg/L	0.005254	35.80%
Sr 421.552†	179109.7	0.2276	mg/L	0.00193	0.4552	mg/L	0.00387	0.85%
Ti 334.903†	130309.7	8.242	mg/L	0.0693	16.48	mg/L	0.139	0.84%
Tl 190.801†	-30.9	0.00274	mg/L	0.001120	0.00548	mg/L	0.002239	40.84%
V 292.402†	55968.3	0.3764	mg/L	0.00224	0.7528	mg/L	0.00447	0.59%
Zn 206.200†	2901.7	0.8683	mg/L	0.00534	1.737	mg/L	0.0107	0.62%

Sequence No.: 79
 Sample ID: YG95 G SWC

Autosampler Location: 355
 Date Collected: 4/22/2014 3:59:26 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 G SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YG95 G SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2934645.1	101.7	%	0.46				0.46%
ScR 361.383	248793.4	103.9	%	0.78				0.76%
Ag 328.068†	-235.6	-0.00077	mg/L	0.000169	-0.00154	mg/L	0.000337	21.86%
Al 308.215†	172360.2	140.6	mg/L	1.25	281.2	mg/L	2.51	0.89%
As 188.979†	-303.3	0.1253	mg/L	0.00308	0.2505	mg/L	0.00617	2.46%
B 249.677†	134.6	0.02503	mg/L	0.000493	0.05006	mg/L	0.000986	1.97%
Ba 233.527†	1980.8	0.5078	mg/L	0.00430	1.016	mg/L	0.0086	0.85%
Be 313.042†	997.2	0.00204	mg/L	0.000037	0.00407	mg/L	0.000075	1.84%
Ca 317.933†	560890.6	56.79	mg/L	0.419	113.6	mg/L	0.84	0.74%
Cd 228.802†	9.5	0.00042	mg/L	0.000059	0.00084	mg/L	0.000118	14.06%
Co 228.616†	3686.1	0.07798	mg/L	0.000608	0.1560	mg/L	0.00122	0.78%
Cr 267.716†	1512.4	0.3139	mg/L	0.00415	0.6278	mg/L	0.00831	1.32%
Cu 324.752†	36068.2	0.1325	mg/L	0.00113	0.2649	mg/L	0.00227	0.86%
Fe 273.955†	206218.2	191.2	mg/L	0.33	382.5	mg/L	0.66	0.17%
K 766.490†	14596.4	6.683	mg/L	0.0400	13.37	mg/L	0.080	0.60%
Mg 279.077†	67451.3	66.02	mg/L	0.393	132.0	mg/L	0.79	0.60%
Mn 257.610†	115737.8	3.711	mg/L	0.0114	7.423	mg/L	0.0227	0.31%
Mo 202.031†	92.0	0.00461	mg/L	0.000494	0.00923	mg/L	0.000987	10.70%
Na 589.592†	44811.2	3.418	mg/L	0.0261	6.836	mg/L	0.0522	0.76%
Na 330.237†	26.6	3.234	mg/L	0.2317	6.467	mg/L	0.4633	7.16%
Ni 231.604†	2756.3	0.8410	mg/L	0.00868	1.682	mg/L	0.0174	1.03%
Pb 220.353†	-66.0	0.01861	mg/L	0.000831	0.03721	mg/L	0.001663	4.47%
Sb 206.836†	28.0	0.01429	mg/L	0.001719	0.02859	mg/L	0.003438	12.03%
Se 196.026†	29.9	0.02309	mg/L	0.002354	0.04619	mg/L	0.004707	10.19%
Si 288.158†	5201.6	3.239	mg/L	0.0343	6.478	mg/L	0.0687	1.06%
Sn 189.927†	-60.6	-0.01052	mg/L	0.000680	-0.02104	mg/L	0.001360	6.47%
Sr 421.552†	275328.3	0.3499	mg/L	0.00241	0.6997	mg/L	0.00483	0.69%
Ti 334.903†	143313.0	9.064	mg/L	0.0618	18.13	mg/L	0.124	0.68%
Tl 190.801†	-33.1	0.00205	mg/L	0.000438	0.00409	mg/L	0.000876	21.41%
V 292.402†	64564.1	0.4296	mg/L	0.00317	0.8592	mg/L	0.00635	0.74%
Zn 206.200†	1132.2	0.3391	mg/L	0.00312	0.6782	mg/L	0.00624	0.92%

Sequence No.: 80
Sample ID: YG95 H SWC

Autosampler Location: 356
Date Collected: 4/22/2014 4:03:27 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 H SWC

Analyte	Back Pressure	Flow
All	218.0 kPa	0.75 L/min

Mean Data: YG95 H SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2919883.9	101.2	%	0.66				0.65%
ScR 361.383	244771.5	102.2	%	0.59				0.58%
Ag 328.068†	-237.3	-0.00084	mg/L	0.000186	-0.00168	mg/L	0.000371	22.15%
Al 308.215†	158837.0	129.6	mg/L	0.81	259.2	mg/L	1.63	0.63%
As 188.979†	-283.4	0.1192	mg/L	0.00429	0.2384	mg/L	0.00857	3.60%
B 249.677†	149.5	0.02782	mg/L	0.000802	0.05563	mg/L	0.001604	2.88%
Ba 233.527†	1847.7	0.4748	mg/L	0.00363	0.9496	mg/L	0.00725	0.76%
Be 313.042†	913.6	0.00186	mg/L	0.000033	0.00373	mg/L	0.000065	1.76%
Ca 317.933†	481163.0	48.72	mg/L	0.259	97.43	mg/L	0.518	0.53%
Cd 228.802†	-47.1	0.00225	mg/L	0.000156	0.00451	mg/L	0.000312	6.92%
Co 228.616†	3671.0	0.07800	mg/L	0.000907	0.1560	mg/L	0.00181	1.16%
Cr 267.716†	1937.8	0.4022	mg/L	0.00329	0.8043	mg/L	0.00657	0.82%
Cu 324.752†	80535.2	0.2869	mg/L	0.00100	0.5739	mg/L	0.00200	0.35%
Fe 273.955†	181711.3	168.5	mg/L	0.90	337.0	mg/L	1.79	0.53%
K 766.490†	15638.8	7.160	mg/L	0.0347	14.32	mg/L	0.069	0.48%
Mg 279.077†	61858.0	60.55	mg/L	0.342	121.1	mg/L	0.68	0.56%
Mn 257.610†	82861.4	2.657	mg/L	0.0159	5.314	mg/L	0.0318	0.60%
Mo 202.031†	82.0	0.00414	mg/L	0.000506	0.00829	mg/L	0.001011	12.20%
Na 589.592†	27469.2	2.095	mg/L	0.0072	4.190	mg/L	0.0144	0.34%
Na 330.237†	-1.1	1.743	mg/L	0.2485	3.486	mg/L	0.4971	14.26%
Ni 231.604†	14108.6	4.305	mg/L	0.0341	8.609	mg/L	0.0683	0.79%
Pb 220.353†	-80.3	0.01553	mg/L	0.000222	0.03105	mg/L	0.000444	1.43%
Sb 206.836†	22.7	0.01075	mg/L	0.001880	0.02151	mg/L	0.003761	17.48%
Se 196.026†	27.3	0.02110	mg/L	0.007879	0.04219	mg/L	0.015759	37.35%
Si 288.158†	4350.6	2.710	mg/L	0.0293	5.420	mg/L	0.0585	1.08%
Sn 189.927†	-49.9	-0.00822	mg/L	0.001423	-0.01644	mg/L	0.002846	17.31%
Sr 421.552†	145706.7	0.1852	mg/L	0.00096	0.3703	mg/L	0.00192	0.52%
Ti 334.903†	134754.3	8.523	mg/L	0.0505	17.05	mg/L	0.101	0.59%
Tl 190.801†	-29.4	0.00152	mg/L	0.001637	0.00304	mg/L	0.003274	107.74%
V 292.402†	59369.2	0.3957	mg/L	0.00109	0.7914	mg/L	0.00218	0.28%
Zn 206.200†	1909.5	0.5713	mg/L	0.00311	1.143	mg/L	0.0062	0.54%

Sequence No.: 81
 Sample ID: YG95 I SWC

Autosampler Location: 357
 Date Collected: 4/22/2014 4:07:28 PM
 Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 I SWC

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: YG95 I SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2933517.1	101.6	%	0.36				0.36%
ScR 361.383	250909.3	104.8	%	0.54				0.51%
Ag 328.068†	-330.6	-0.00125	mg/L	0.000286	-0.00249	mg/L	0.000573	22.97%
Al 308.215†	277052.8	226.0	mg/L	1.56	452.0	mg/L	3.12	0.69%
As 188.979†	-407.1	0.1457	mg/L	0.00524	0.2915	mg/L	0.01048	3.60%
B 249.677†	247.0	0.04609	mg/L	0.001675	0.09217	mg/L	0.003350	3.63%
Ba 233.527†	4578.5	1.207	mg/L	0.0092	2.413	mg/L	0.0184	0.76%
Be 313.042†	1301.8	0.00267	mg/L	0.000019	0.00534	mg/L	0.000038	0.71%
Ca 317.933†	548586.1	55.54	mg/L	0.525	111.1	mg/L	1.05	0.94%
Cd 228.802†	125.5	0.00453	mg/L	0.000190	0.00906	mg/L	0.000380	4.20%
Co 228.616†	4628.4	0.09759	mg/L	0.000373	0.1952	mg/L	0.00075	0.38%
Cr 267.716†	2928.6	0.6099	mg/L	0.00363	1.220	mg/L	0.0073	0.60%
Cu 324.752†	276580.6	0.9741	mg/L	0.00172	1.948	mg/L	0.0034	0.18%
Fe 273.955†	249351.3	231.3	mg/L	2.38	462.5	mg/L	4.75	1.03%
K 766.490†	35620.8	16.31	mg/L	0.103	32.62	mg/L	0.207	0.63%
Mg 279.077†	62277.1	60.92	mg/L	0.579	121.8	mg/L	1.16	0.95%
Mn 257.610†	141675.2	4.543	mg/L	0.0415	9.086	mg/L	0.0830	0.91%
Mo 202.031†	972.8	0.05725	mg/L	0.000400	0.1145	mg/L	0.00080	0.70%
Na 589.592†	43039.9	3.283	mg/L	0.0223	6.566	mg/L	0.0446	0.68%
Na 330.237†	9.2	3.020	mg/L	0.3254	6.041	mg/L	0.6508	10.77%
Ni 231.604†	4585.5	1.399	mg/L	0.0113	2.798	mg/L	0.0226	0.81%
Pb 220.353†	-205.7	0.02035	mg/L	0.001047	0.04071	mg/L	0.002093	5.14%
Sb 206.836†	44.6	0.01857	mg/L	0.003470	0.03713	mg/L	0.006939	18.69%
Se 196.026†	43.5	0.03367	mg/L	0.006196	0.06733	mg/L	0.012392	18.41%
Si 288.158†	6982.7	4.345	mg/L	0.0036	8.690	mg/L	0.0072	0.08%
Sn 189.927†	-53.6	-0.00801	mg/L	0.000339	-0.01601	mg/L	0.000678	4.23%
Sr 421.552†	140102.5	0.1780	mg/L	0.00115	0.3561	mg/L	0.00230	0.65%
Ti 334.903†	181837.5	11.50	mg/L	0.080	23.00	mg/L	0.159	0.69%
Tl 190.801†	-45.3	-0.00039	mg/L	0.003705	-0.00078	mg/L	0.007409	951.05%
V 292.402†	80267.8	0.5352	mg/L	0.00059	1.070	mg/L	0.0012	0.11%
Zn 206.200†	1509.8	0.4522	mg/L	0.00235	0.9044	mg/L	0.00470	0.52%

Sequence No.: 82
Sample ID: YG95 J SWC

Autosampler Location: 358
Date Collected: 4/22/2014 4:11:29 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 J SWC

Analyte Back Pressure Flow
All 218.0 kPa 0.75 L/min

Mean Data: YG95 J SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2939130.5	101.8	%	0.30				0.29%
ScR 361.383	248741.9	103.9	%	0.14				0.14%
Ag 328.068†	-220.8	-0.00082	mg/L	0.000129	-0.00163	mg/L	0.000257	15.75%
Al 308.215†	144298.8	117.7	mg/L	0.62	235.4	mg/L	1.25	0.53%
As 188.979†	-252.6	0.1056	mg/L	0.00421	0.2112	mg/L	0.00843	3.99%
B 249.677†	339.9	0.06352	mg/L	0.001550	0.1270	mg/L	0.00310	2.44%
Ba 233.527†	1728.6	0.4448	mg/L	0.00089	0.8895	mg/L	0.00178	0.20%
Be 313.042†	765.6	0.00155	mg/L	0.000026	0.00310	mg/L	0.000052	1.68%
Ca 317.933†	392562.3	39.75	mg/L	0.141	79.49	mg/L	0.282	0.35%
Cd 228.802†	10.2	0.00106	mg/L	0.000021	0.00212	mg/L	0.000042	1.98%
Co 228.616†	3042.4	0.06406	mg/L	0.000842	0.1281	mg/L	0.00168	1.31%
Cr 267.716†	4215.4	0.8758	mg/L	0.00337	1.752	mg/L	0.0067	0.38%
Cu 324.752†	77353.7	0.2755	mg/L	0.00098	0.5510	mg/L	0.00196	0.36%
Fe 273.955†	168305.7	156.1	mg/L	1.05	312.2	mg/L	2.11	0.68%
K 766.490†	13528.1	6.194	mg/L	0.0507	12.39	mg/L	0.101	0.82%
Mg 279.077†	54929.9	53.77	mg/L	0.201	107.5	mg/L	0.40	0.37%
Mn 257.610†	76247.2	2.445	mg/L	0.0184	4.890	mg/L	0.0368	0.75%
Mo 202.031†	293.3	0.01691	mg/L	0.000312	0.03381	mg/L	0.000624	1.85%
Na 589.592†	100813.6	7.689	mg/L	0.0422	15.38	mg/L	0.084	0.55%
Na 330.237†	123.1	7.586	mg/L	0.1744	15.17	mg/L	0.349	2.30%
Ni 231.604†	4316.1	1.317	mg/L	0.0058	2.634	mg/L	0.0117	0.44%
Pb 220.353†	342.1	0.06545	mg/L	0.002101	0.1309	mg/L	0.00420	3.21%
Sb 206.836†	43.0	0.01083	mg/L	0.001910	0.02166	mg/L	0.003819	17.63%
Se 196.026†	28.1	0.02173	mg/L	0.003197	0.04346	mg/L	0.006395	14.71%
Si 288.158†	3825.6	2.383	mg/L	0.0013	4.767	mg/L	0.0025	0.05%
Sn 189.927†	-42.4	-0.00711	mg/L	0.000384	-0.01422	mg/L	0.000767	5.40%
Sr 421.552†	144962.1	0.1842	mg/L	0.00124	0.3684	mg/L	0.00249	0.68%
Ti 334.903†	120044.6	7.593	mg/L	0.0431	15.19	mg/L	0.086	0.57%
Tl 190.801†	-30.7	-0.00053	mg/L	0.002667	-0.00107	mg/L	0.005334	498.55%
V 292.402†	53619.8	0.3593	mg/L	0.00151	0.7187	mg/L	0.00303	0.42%
Zn 206.200†	974.8	0.2920	mg/L	0.00166	0.5841	mg/L	0.00332	0.57%

Sequence No.: 83
Sample ID: YG95 K SWC

Autosampler Location: 359
Date Collected: 4/22/2014 4:15:29 PM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: YG95 K SWC

Analyte Back Pressure Flow
All 219.0 kPa 0.75 L/min

Mean Data: YG95 K SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2968376.6	102.8	%	1.28				1.25%
ScR 361.383	249205.6	104.0	%	0.93				0.89%
Ag 328.068†	-219.7	-0.00087	mg/L	0.000169	-0.00173	mg/L	0.000339	19.55%
Al 308.215†	155884.5	127.2	mg/L	0.20	254.3	mg/L	0.40	0.16%
As 188.979†	-199.7	0.1006	mg/L	0.00382	0.2011	mg/L	0.00765	3.80%
B 249.677†	148.0	0.02760	mg/L	0.001541	0.05520	mg/L	0.003082	5.58%
Ba 233.527†	2344.8	0.6092	mg/L	0.00294	1.218	mg/L	0.0059	0.48%
Be 313.042†	941.3	0.00196	mg/L	0.000035	0.00393	mg/L	0.000069	1.77%
Ca 317.933†	312447.3	31.63	mg/L	0.073	63.27	mg/L	0.145	0.23%
Cd 228.802†	88.0	0.00290	mg/L	0.000254	0.00580	mg/L	0.000509	8.77%
Co 228.616†	2764.1	0.05896	mg/L	0.000853	0.1179	mg/L	0.00171	1.45%
Cr 267.716†	2098.3	0.4375	mg/L	0.00146	0.8749	mg/L	0.00291	0.33%
Cu 324.752†	190285.5	0.6712	mg/L	0.00968	1.342	mg/L	0.0194	1.44%
Fe 273.955†	188324.8	174.7	mg/L	0.43	349.3	mg/L	0.86	0.25%
K 766.490†	16197.8	7.416	mg/L	0.0355	14.83	mg/L	0.071	0.48%
Mg 279.077†	43751.1	42.79	mg/L	0.070	85.58	mg/L	0.140	0.16%
Mn 257.610†	100440.6	3.221	mg/L	0.0061	6.442	mg/L	0.0122	0.19%
Mo 202.031†	360.0	0.02101	mg/L	0.000347	0.04203	mg/L	0.000693	1.65%
Na 589.592†	28706.9	2.190	mg/L	0.0023	4.379	mg/L	0.0047	0.11%
Na 330.237†	11.9	1.991	mg/L	0.2779	3.982	mg/L	0.5559	13.96%
Ni 231.604†	3582.8	1.093	mg/L	0.0070	2.186	mg/L	0.0140	0.64%
Pb 220.353†	-40.5	0.01867	mg/L	0.000753	0.03735	mg/L	0.001507	4.03%
Sb 206.836†	31.1	0.01145	mg/L	0.003641	0.02290	mg/L	0.007283	31.81%
Se 196.026†	27.3	0.02118	mg/L	0.002693	0.04236	mg/L	0.005386	12.72%
Si 288.158†	3813.8	2.374	mg/L	0.0112	4.749	mg/L	0.0224	0.47%
Sn 189.927†	-36.2	-0.00636	mg/L	0.000522	-0.01273	mg/L	0.001045	8.21%
Sr 421.552†	106886.3	0.1358	mg/L	0.00019	0.2716	mg/L	0.00037	0.14%
Ti 334.903†	102293.9	6.471	mg/L	0.0050	12.94	mg/L	0.010	0.08%
Tl 190.801†	-34.0	0.00017	mg/L	0.002628	0.00033	mg/L	0.005256	>999.9%
V 292.402†	50272.5	0.3342	mg/L	0.00560	0.6685	mg/L	0.01119	1.67%
Zn 206.200†	1158.7	0.3469	mg/L	0.00345	0.6937	mg/L	0.00691	1.00%

Sequence No.: 84
 Sample ID: YG95 L SWC
 Dilution: 2.000000X

Autosampler Location: 360
 Date Collected: 4/22/2014 4:19:29 PM
 Data Type: Original

Nebulizer Parameters: YG95 L SWC

Analyte Back Pressure Flow
 All 218.0 kPa 0.75 L/min

Mean Data: YG95 L SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2973183.7	103.0	%	1.04				1.01%
ScR 361.383	249491.3	104.2	%	0.28				0.27%
Ag 328.068†	-259.6	-0.00101	mg/L	0.000130	-0.00202	mg/L	0.000261	12.91%
Al 308.215†	172464.6	140.7	mg/L	0.27	281.4	mg/L	0.53	0.19%
As 188.979†	-285.5	0.1233	mg/L	0.00500	0.2467	mg/L	0.00999	4.05%
B 249.677†	161.8	0.03011	mg/L	0.000107	0.06023	mg/L	0.000214	0.36%
Ba 233.527†	2465.9	0.6391	mg/L	0.00125	1.278	mg/L	0.0025	0.20%
Be 313.042†	930.6	0.00191	mg/L	0.000015	0.00382	mg/L	0.000030	0.79%
Ca 317.933†	408225.3	41.33	mg/L	0.079	82.66	mg/L	0.158	0.19%
Cd 228.802†	70.3	0.00265	mg/L	0.000155	0.00529	mg/L	0.000309	5.85%
Co 228.616†	4020.7	0.08719	mg/L	0.000912	0.1744	mg/L	0.00182	1.05%
Cr 267.716†	1525.2	0.3174	mg/L	0.00160	0.6349	mg/L	0.00320	0.50%
Cu 324.752†	200200.3	0.7061	mg/L	0.00626	1.412	mg/L	0.0125	0.89%
Fe 273.955†	208953.0	193.8	mg/L	0.28	387.6	mg/L	0.57	0.15%
K 766.490†	14333.7	6.563	mg/L	0.0128	13.13	mg/L	0.026	0.20%
Mg 279.077†	60090.6	58.80	mg/L	0.044	117.6	mg/L	0.09	0.08%
Mn 257.610†	208851.4	6.699	mg/L	0.0041	13.40	mg/L	0.008	0.06%
Mo 202.031†	332.8	0.01924	mg/L	0.000169	0.03848	mg/L	0.000338	0.88%
Na 589.592†	55306.3	4.218	mg/L	0.0082	8.437	mg/L	0.0163	0.19%
Na 330.237†	45.4	4.111	mg/L	0.1532	8.221	mg/L	0.3064	3.73%
Ni 231.604†	4180.4	1.275	mg/L	0.0071	2.551	mg/L	0.0141	0.55%
Pb 220.353†	-23.3	0.02301	mg/L	0.001926	0.04603	mg/L	0.003853	8.37%
Sb 206.836†	23.3	0.01205	mg/L	0.003079	0.02409	mg/L	0.006158	25.56%
Se 196.026†	30.9	0.02395	mg/L	0.007926	0.04791	mg/L	0.015852	33.09%
Si 288.158†	4848.6	3.019	mg/L	0.0167	6.038	mg/L	0.0334	0.55%
Sn 189.927†	-43.8	-0.00717	mg/L	0.001790	-0.01434	mg/L	0.003581	24.98%
Sr 421.552†	144610.3	0.1838	mg/L	0.00028	0.3675	mg/L	0.00057	0.15%
Ti 334.903†	136845.5	8.656	mg/L	0.0128	17.31	mg/L	0.026	0.15%
Tl 190.801†	-36.4	0.00084	mg/L	0.003214	0.00168	mg/L	0.006428	381.72%
V 292.402†	53223.8	0.3522	mg/L	0.00297	0.7044	mg/L	0.00595	0.84%
Zn 206.200†	1249.3	0.3740	mg/L	0.00159	0.7481	mg/L	0.00319	0.43%

Sequence No.: 85

Sample ID: CV 9

Autosampler Location: 7

Date Collected: 4/22/2014 4:23:29 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2919768.3	101.2 %	0.75			0.74%
ScR 361.383	242113.3	101.1 %	0.68			0.67%
Ag 328.068†	208563.8	1.088 mg/L	0.0085	1.088 mg/L	0.0085	0.78%
Al 308.215†	2570.2	2.065 mg/L	0.0181	2.065 mg/L	0.0181	0.88%
As 188.979†	3138.1	2.032 mg/L	0.0229	2.032 mg/L	0.0229	1.13%
B 249.677†	5555.7	1.040 mg/L	0.0094	1.040 mg/L	0.0094	0.91%
Ba 233.527†	3742.8	1.015 mg/L	0.0091	1.015 mg/L	0.0091	0.90%
Be 313.042†	440922.8	0.9926 mg/L	0.00454	0.9926 mg/L	0.00454	0.46%
Ca 317.933†	21036.1	2.130 mg/L	0.0157	2.130 mg/L	0.0157	0.74%
Cd 228.802†	33293.9	1.015 mg/L	0.0070	1.015 mg/L	0.0070	0.69%
Co 228.616†	38671.0	0.9880 mg/L	0.00737	0.9880 mg/L	0.00737	0.75%
Cr 267.716†	4922.2	1.023 mg/L	0.0086	1.023 mg/L	0.0086	0.84%
Cu 324.752†	281223.0	0.9821 mg/L	0.00172	0.9821 mg/L	0.00172	0.18%
Fe 273.955†	2260.8	2.090 mg/L	0.0119	2.090 mg/L	0.0119	0.57%
K 766.490†	44787.8	20.51 mg/L	0.058	20.51 mg/L	0.058	0.28%
Mg 279.077†	2095.8	2.061 mg/L	0.0129	2.061 mg/L	0.0129	0.62%
Mn 257.610†	29850.8	0.9581 mg/L	0.00390	0.9581 mg/L	0.00390	0.41%
Mo 202.031†	16397.8	0.9795 mg/L	0.00787	0.9795 mg/L	0.00787	0.80%
Na 589.592†	685091.3	52.25 mg/L	0.141	52.25 mg/L	0.141	0.27%
Na 330.237†	1086.5	52.02 mg/L	0.543	52.02 mg/L	0.543	1.04%
Ni 231.604†	3477.5	1.061 mg/L	0.0089	1.061 mg/L	0.0089	0.83%
Pb 220.353†	16142.7	1.979 mg/L	0.0124	1.979 mg/L	0.0124	0.63%
Sb 206.836†	6051.8	2.111 mg/L	0.0197	2.111 mg/L	0.0197	0.93%
Se 196.026†	2548.5	1.997 mg/L	0.0212	1.997 mg/L	0.0212	1.06%
Si 288.158†	3403.3	2.119 mg/L	0.0461	2.119 mg/L	0.0461	2.17%
Sn 189.927†	3166.8	1.001 mg/L	0.0103	1.001 mg/L	0.0103	1.03%
Sr 421.552†	811388.7	1.031 mg/L	0.0034	1.031 mg/L	0.0034	0.33%
Ti 334.903†	16489.3	1.042 mg/L	0.0056	1.042 mg/L	0.0056	0.54%
Tl 190.801†	3766.5	2.006 mg/L	0.0135	2.006 mg/L	0.0135	0.67%
V 292.402†	146135.1	1.009 mg/L	0.0082	1.009 mg/L	0.0082	0.81%
Zn 206.200†	3507.3	1.049 mg/L	0.0083	1.049 mg/L	0.0083	0.79%

Sequence No.: 86

Sample ID: CB 9

Autosampler Location: 1

Date Collected: 4/22/2014 4:27:33 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	219.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2999864.8	103.9	%	0.40				0.39%
ScR 361.383	249962.4	104.4	%	0.31				0.29%
Ag 328.068†	45.2	0.00024	mg/L	0.000206	0.00024	mg/L	0.000206	87.19%
Al 308.215†	7.3	0.00591	mg/L	0.008113	0.00591	mg/L	0.008113	137.30%
As 188.979†	3.3	0.00216	mg/L	0.000967	0.00216	mg/L	0.000967	44.66%
B 249.677†	8.2	0.00154	mg/L	0.000700	0.00154	mg/L	0.000700	45.44%
Ba 233.527†	-0.1	-0.00003	mg/L	0.000477	-0.00003	mg/L	0.000477	>999.9%
Be 313.042†	15.4	0.00003	mg/L	0.000014	0.00003	mg/L	0.000014	41.66%
Ca 317.933†	-3.3	-0.00033	mg/L	0.000333	-0.00033	mg/L	0.000333	99.52%
Cd 228.802†	0.3	-0.00000	mg/L	0.000072	-0.00000	mg/L	0.000072	>999.9%
Co 228.616†	2.0	0.00005	mg/L	0.000124	0.00005	mg/L	0.000124	259.19%
Cr 267.716†	7.5	0.00156	mg/L	0.000718	0.00156	mg/L	0.000718	46.06%
Cu 324.752†	94.7	0.00033	mg/L	0.000240	0.00033	mg/L	0.000240	72.60%
Fe 273.955†	-0.8	-0.00073	mg/L	0.000699	-0.00073	mg/L	0.000699	96.30%
K 766.490†	-89.9	-0.04117	mg/L	0.023493	-0.04117	mg/L	0.023493	57.06%
Mg 279.077†	-4.5	-0.00437	mg/L	0.004273	-0.00437	mg/L	0.004273	97.72%
Mn 257.610†	-4.8	-0.00015	mg/L	0.000147	-0.00015	mg/L	0.000147	95.20%
Mo 202.031†	11.6	0.00069	mg/L	0.000147	0.00069	mg/L	0.000147	21.30%
Na 589.592†	12.2	0.00093	mg/L	0.001928	0.00093	mg/L	0.001928	207.32%
Na 330.237†	5.1	0.2456	mg/L	0.17351	0.2456	mg/L	0.17351	70.66%
Ni 231.604†	2.5	0.00076	mg/L	0.000671	0.00076	mg/L	0.000671	87.86%
Pb 220.353†	-0.5	-0.00005	mg/L	0.000749	-0.00005	mg/L	0.000749	>999.9%
Sb 206.836†	21.1	0.00736	mg/L	0.003032	0.00736	mg/L	0.003032	41.19%
Se 196.026†	-0.8	-0.00063	mg/L	0.001908	-0.00063	mg/L	0.001908	304.30%
Si 288.158†	-5.0	-0.00309	mg/L	0.003470	-0.00309	mg/L	0.003470	112.40%
Sn 189.927†	3.0	0.00095	mg/L	0.000195	0.00095	mg/L	0.000195	20.60%
Sr 421.552†	44.1	0.00006	mg/L	0.000017	0.00006	mg/L	0.000017	30.03%
Ti 334.903†	26.3	0.00166	mg/L	0.000365	0.00166	mg/L	0.000365	21.96%
Tl 190.801†	0.9	0.00048	mg/L	0.002299	0.00048	mg/L	0.002299	476.81%
V 292.402†	13.8	0.00010	mg/L	0.000151	0.00010	mg/L	0.000151	149.73%
Zn 206.200†	-0.0	-0.00001	mg/L	0.000107	-0.00001	mg/L	0.000107	852.34%

**General Chemistry Raw Data
Analyst Notes and Raw Data**

ARI Job ID: YG94, YG95

4-23-14

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET
 (dry at 104 (12-24 hr) then combust at 550 (30 min))
 DATE: 4/22/14 (A)
 ANALYST: KE 17:48
 Analytical Balance: 1123230597

Instrumentation
 Drying Ovens: 12
 Muffle Furnace: 62790918520
Batch drying time
 record times as mm/dd/yy hh:mm
 4/22/2014 17:48 CDE
 4/23/2014 5:54 KE
 elapsed hrs = 12.1

TS (%) calculated as:
 Final dry wt (g) = (Dry Wt - Tare Wt)
 TS = (Final Dry Wt)/(grams Sample-Tare)
 TVS (mg/kg dry wt) calculated as:
 Final ash wt (g) = (min ash wt - tare wt)
 TVS (mg/kg) = [(Dry wt-Ash wt)/(dry weight)] *1,000,000
 if ash wt > dry wt, "Chk for Err"
 if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000"

SAMPLE ID	DISH #	Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	TS (%)	ASH WT 550C (grams)		Ash Wt (g)	TVS (mg/kg)	TVS (%)
											1	2			
Blank			4/22/14 16.34 CDE	4/22/14 16.16 CDE	4/23/14 6:12 KE	10.0000	9.9999	10.0000	Cal OK!		1	2			
YG87 A1			6.0209	1.1436	1.1435	6.0209	1.1477	5.2672	Cal OK!	0.00					
YG94 A1			7.6344	1.1436	5.2672	7.6344	1.1669	5.8670	Cal OK!	4.12				84.53%	
YG94 A1 dup			7.3961	1.1436	5.8670	7.3961	1.1529	5.8170	Cal OK!	4.70				72.67%	
										4.66				74.71%	

RPD = 2.76% RPD = NA

YG94 B1			6.5719	1.1538	6.1117	6.5719	1.1538	6.1117		4.96				91.51%	
YG94 C1			7.1475	1.1366	6.8940	7.1475	1.1366	6.8940		5.76				95.78%	
YG94 D1			6.2508	1.1320	5.9517	6.2508	1.1320	5.9517		4.82				94.16%	
YG94 E1			7.9407	1.1403	6.0256	7.9407	1.1403	6.0256		4.89				71.84%	
YG94 F1			7.7682	1.1299	7.0156	7.7682	1.1299	7.0156		5.89				88.66%	
YG94 G1			7.2222	1.1813	6.9640	7.2222	1.1813	6.9640		5.78				95.73%	
YG94 H1			7.1381	1.1542	6.8679	7.1381	1.1542	6.8679		5.71				95.48%	
YG95 A1			6.8603	1.1301	5.8466	6.8603	1.1301	5.8466		4.72				82.31%	
YG95 B1			6.7284	1.1631	6.1360	6.7284	1.1631	6.1360		4.97				89.36%	
YG95 C1			7.2106	1.1370	6.9671	7.2106	1.1370	6.9671		5.83				95.99%	
YG95 D1			7.4439	1.1446	7.2026	7.4439	1.1446	7.2026		6.06				96.17%	
YG95 E1			7.5774	1.1301	5.3674	7.5774	1.1301	5.3674		4.24				65.72%	
YG95 F1			7.1355	1.1731	6.8355	7.1355	1.1731	6.8355		5.66				94.97%	
YG95 G1			7.0550	1.1023	6.7088	7.0550	1.1023	6.7088		5.61				94.18%	
YG95 H1			7.3566	1.1423	7.0019	7.3566	1.1423	7.0019		5.86				94.29%	
YH60 A1			6.2087	1.1084	4.7065	6.2087	1.1084	4.7065		3.60				70.55%	
YH60 B1			6.4020	1.1126	5.1111	6.4020	1.1126	5.1111		4.00				75.59%	
YH60 C1			6.2891	1.1430	4.7462	6.2891	1.1430	4.7462		3.60				70.02%	



Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL / VOLATILE SOLIDS (TS/TVS) BENCHSHEET

(A)

Analyst: <u>CP</u>		Date: <u>4-22-14</u>	Oven ID: <u>012</u>	Muffle ID: <u>1123230597</u>	Balance ID: <u>1123230597</u>
Time in Oven: <u>17:49</u>		Time Out of Oven: <u>18:54</u>		Elapsed Time (> 12 Hrs):	
TS (%) calculated as: Final Dry Weight (g) = (Dry Weight - Tare Weight) TS = (Final Dry Weight) / (Grams Sample - Tare Weight)					
TVS (mg/kg dry weight) calculated as: Final Ash Weight (g) = (Minimum Ash Weight - Tare Weight) TVS (mg/kg) = [(Dry Weight - Ash Weight) / (Dry Weight) * 1,000,000 If Ash Weight > Dry Weight then "Check for Error" If Dry Weight - Ash Weight < 0.001 < (1/Dry Weight) * 1,000,000					
Sample ID	Dish #	CV-02	CV-02	CV-02	CV-02
		Date & Time:	CV-02	CV-02	CV-02
		Cal Weight (10.0000):	CV-02	CV-02	CV-02
		Sample	Dry Weight 104°C	Dry Weight 104°C	Dry Weight 550°C
		Tare	1	2	3
			grams	grams	grams
BLANK	1	1.1436			
Y687 A1	2	1.1477	1.1435		
Y694 A1	3	1.1669	5.2672		
A1P	4	1.1529	5.8670		
B1	5	1.1538	5.8170		
C1	6	1.1366	6.1117		
D1	7	1.1320	6.8940		
E1	8	1.1403	5.9517		
F1	9	1.1299	6.0256		
G1	10	1.1813	7.0156		
H1	11	1.1542	6.9640		
Y695 A1	12	1.1301	6.8679		
B1	13	1.1631	5.8466		
C1	14	1.1370	6.1360		
D1	15	1.1446	6.9671		
E1	16	1.1301	7.2026		
F1	17	1.1731	5.3674		
G1	18	1.1023	6.8355		
H1	19	1.1423	6.7088		
Y460 A1	20	1.1084	6.96	7.0019	
B1	21	1.1126	4.7065		
C1	22	1.1430	5.1111		
			4.7462		
			4-22-14		

4-25-14

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time 4/21/14 15:50	Date / Time: 4/24/14 15:04
REAGENTS	Analyst: CC	Analyst: CC
Sulfuric acid: C001431	EQUIPMENT	
Diphenylcarbazine: C001584	pH Meter ID: ACCUMET AR60	
	Electrode ID: SN1320016P 16	
	Balance ID: 19350128	
	Spec ID: SPEC #1	

CALIBRATION

Curve Standard

ARI ID: C000892	stock	0.0709	g K2Cr2O7	500	mL pH2 = 50.1	mg/L Cr+6
Date Prepared: 4/24/2014	Intermediate	5	mL Stock to	50	mL pH2 = 5.01	mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL

mL intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs		
		1	2			
0.0	0.00	0.000		0.000	= blank abs	
0.1	0.01	0.008		0.008	E 0.008	#VALUE!
0.5	0.05	0.040		0.040	0.040	97%
1.0	0.10	0.081		0.081	0.101	101%
5.0	0.50	0.398		0.398	0.507	101%
10.0	1.00	0.783		0.783	1.000	100%

Regression Data
 Conc = (abs-intercept)/slope
 intercept = 0.0020
 slope = 0.7813
 r = 1.000
 Comment: Calibration OK!
 maxabs = 0.783

Calibration Verification Standard

Source	ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6
intermediate	mL stock to	mL DI =		mg/L Cr+6
CVS =	0.050	mL stock to	200	mL DI = 0.26

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)

Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6 as K2Cr2O7
DQL Intermediate	Dilute 0.1	mL stock to	10	10
DQL Standard	Dilute 0.40	mL Int to	100	0.04
Insoluble Chk	source = Fisher 053150/ B002310		16.088%	percent Cr+6 as PbCrO4

SAMPLE DATA

mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	sample pH adjusted dilution: 40 mL adjusted to 50				Spectrophotometric Data			Conc (mg/L)	NOTES
	dilution	ABS @ 540nm	Background	Extract mg/L	dilution	ABS @ 540nm	Background		
ICB	1	0.000		-0.003			< 0.01	Blk OK	
ICV	1	0.208		0.264			0.264	105.49%	
	Extraction Data								
	% Solids	weight (g)	ext vol (L)	adjusted dilution	dilution	ABS @ 540nm	Background	Extract mg/L	mg/kg dry wt
Prep Blk	100.00%	2.501	0.100	1.250	1	0.002		0.000	< 0.4
Prep Chk Sol	100.00%	2.503	0.100	1.250	1	0.309		0.491	19.626
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6			19.98	mg/kg
Prep Chk Insol	100.00%	2.503	0.100	1.250	20	0.525		0.837	669
	Insol Spk at	10.7	mg PbCrO4 =	1.721	mg Cr+6			688	mg/kg
YG94 A1	72.67%	2.568	0.100	1.250	1	0.052		0.080	4.3
YG94 A1 dup	72.67%	2.566	0.100	1.250	1	0.040		0.061	3.3
	soluble ms	72.67%	2.563	0.100	1.250	1	0.342	0.544	29.2
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6			26.8	mg/kg
insoluble ms	72.67%	2.565	0.100	1.250	20	0.489		0.779	836.1
	Insol Spk at	10.6	mg PbCrO4 =	1.705	mg Cr+6			915	mg/kg
YG94 B1	91.51%	2.548	0.100	1.250	1	0.131		0.206	8.9
YG94 C1	95.78%	2.500	0.100	1.250	1	0.016		0.022	0.9
YG94 D1	94.16%	2.547	0.100	1.250	1	0.021		0.030	1.3
CCB					1	0.000		-0.003	< 0.01
CCV					1	0.208		0.264	0.264
YG94 E1	71.84%	2.500	0.100	1.250	1	0.015		0.021	1.3
YG94 F1	88.66%	2.531	0.100	1.250	1	0.160		0.253	11.3
YG94 G1	95.73%	2.500	0.100	1.250	1	0.015		0.021	0.9
YG94 H1	95.48%	2.522	0.100	1.250	1	0.010		0.013	0.6
YG95 A1	82.31%	2.525	0.100	1.250	1	0.006		0.006	< 0.48
YG95 B1	89.36%	2.520	0.100	1.250	1	0.018		0.026	1.1
YG95 C1	95.99%	2.518	0.100	1.250	1	0.005		0.005	< 0.41
YG95 D1	96.17%	2.506	0.100	1.250	1	0.004		0.003	< 0.42
YG95 E1	65.72%	2.560	0.100	1.250	1	0.016		0.022	1.3
YG95 F1	94.97%	2.524	0.100	1.250	1	0.165		0.261	10.9
CCB					1	0.001		-0.001	< 0.01
CCV					1	0.204		0.259	0.259
YG95 G1	94.18%	2.503	0.100	1.250	1	0.008		0.010	< 0.43
YG95 H1	94.28%	2.567	0.100	1.250	1	0.011		0.014	0.6
YH14 I1	100.00%	2.504	0.100	1.250	4	1.110		1.773	70.8
YG94 A1	72.67%	2.568	0.100	1.250	4	0.054	0.000	0.078	4.2
YG94 A1 dup	72.67%	2.566	0.100	1.250	4	0.040	0.000	0.061	3.3
YH14 I1	100.00%	2.504	0.100	1.250	2	0.566		0.902	72.1
CCB					1	0.000		-0.003	< 0.01
CCV					1	0.208		0.264	0.264

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)		Digested Date / Time 4/21/14 15:50 Analyst: CC	Analyzed Date / Time: 04/24/14 15:04 Analyst: ee
REAGENTS Sulfuric acid: C001431 Diphenylcarbazine: C001584		EQUIPMENT	pH Meter ID: ACCUMET AR60 Electrode ID: SN1320016P 16 Balance ID: 19350128 Spec ID: SPEC #1

CALIBRATION

Curve Standard

ARI ID: C000892 stock 0.0709 g K2Cr2O7 to 500 mL pH2 = 50.1 mg/L Cr+6
 Date Prepared: 04/24/14 Intermediate 5 mL Stock to 50 mL pH2 = 5.01 mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL

mL Intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs	
		1	2		
0.0	0.00	0.000			= blank abs
0.1	0.01	0.003			#VALUE!
0.5	0.05	0.010			#VALUE!
1.0	0.10	0.021			#VALUE!
5.0	0.50	0.399			#VALUE!
10.0	1.00	0.783			#VALUE!

Regression Data
 Conc = (abs-intercept)/slope
 intercept =
 slope =
 r =
 Comment:
 maxabs =

Calibration Verification Standard

Source	ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6
Intermediate	ml stock to	mL DI =	mg/L Cr+6
CVS =	0.050 ml stock to	200 mL DI =	0.25 mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)

Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000 mg/L Cr+6 as K2Cr2O7
DQL Intermediate	Dilute 0.1 mL stock to	10	10 mg/L Cr+6 as K2Cr2O8
DQL Standard	Dilute 0.40 mL Int to	100	0.04 mg/L Cr+6 as K2Cr2O8
Insoluble Chk	source = Fisher 053150/ B002310	16.088%	percent Cr+6 as PbCrO4

SAMPLE DATA
 mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	Extraction Data				Spectrophotometric Data			Conc (mg/L)	NOTES
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	ABS @ 540nm	Background		
ICB					1	0.000			
ICV					1	0.203			
Prep Blk	100.00%	2.501	0.100	1.250	1	0.002			
Prep Chk Sol	100.00%	2.503	0.100	1.250	1	0.309			
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6			19.98	mg/kg
Prep Chk Insol	100.00%	2.503	0.100	1.250	20	0.525			
	Insol Spk at	10.7	mg PbCrO4 =	1.721	mg Cr+6			688	mg/kg
YG94 A1	72.67%	2.568	0.100	1.250	1	0.052			
YG94 A1 dup	72.67%	2.566	0.100	1.250	1	0.040			
soluble ms	72.67%	2.563	0.100	1.250	1	0.342			
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6			26.8	mg/kg
insoluble ms	72.67%	2.565	0.100	1.250	20	0.489			
	Insol Spk at	10.6	mg PbCrO4 =	1.705	mg Cr+6			915	mg/kg
YG94 B1	91.51%	2.546	0.100	1.250	1	0.131			
YG94 C1	95.78%	2.500	0.100	1.250	1	0.016			
YG94 D1	94.16%	2.547	0.100	1.250	1	0.021			
CCB					1	0.000			
CCV					1	0.209			
YG94 E1	71.84%	2.500	0.100	1.250	1	0.015			
YG94 F1	88.66%	2.531	0.100	1.250	1	0.160			
YG94 G1	95.73%	2.500	0.100	1.250	1	0.015			
YG94 H1	95.48%	2.522	0.100	1.250	1	0.010			
YG95 A1	82.31%	2.525	0.100	1.250	1	0.006			
YG95 B1	89.36%	2.520	0.100	1.250	1	0.013			
YG95 C1	95.99%	2.518	0.100	1.250	1	0.005			
YG95 D1	96.17%	2.506	0.100	1.250	1	0.004			
YG95 E1	65.72%	2.560	0.100	1.250	1	0.016			
YG95 F1	94.97%	2.524	0.100	1.250	1	0.165			
CCB					1	0.001			
CCV					1	0.204			
YG95 G1	94.18%	2.503	0.100	1.250	1	0.008			
YG95 H1	94.29%	2.567	0.100	1.250	1	0.011			
YH14 I1	100.00%	2.504	0.100	1.250	1	1.110			
YG94 A1		2.5	0.100	1.250	1	0.051	0.000		
↓ A.d.p		2.5	0.100	1.250	1	0.040	0.000		
YH14 I1		2.5	0.100	1.250	2	0.566			
CCB		2.5	0.100	1.250	1	0.000			
CCV		2.5	0.100	1.250	1	0.203			
		2.5	0.100	1.250	1				
CCB		2.5	0.100	1.250	1				
CCV		2.5	0.100	1.250	1				

**Hexavalent Chromium
3060 Alkaline Digestion Protocol**

Date: 04/21/14 15:50
Analyst: ee

1) Digest

Balance ID: 19350128

Sample	2.5	g	
soluble spike (K ₂ Cr ₂ O ₇)	0.05	mL	use 1000 mg/L LCS = 0.5 mg/L = 20ppm solid
insoluble spike (PbCrO ₄)	10-20	mg PbCrO ₄	PbCrO ₄ = 16.888% Cr
optional trivalent spike (Cr(III)·6H ₂ O)	5	mg Cr(III)·6H ₂ O	Cr(III)·6H ₂ O = 19.500% Cr
ID: C001345 Alk-CO3 Digest Soln	50	mL	20 g NaOH + 30 g Na ₂ CO ₃ , dilute to 1 liter (pH >11.5)
ID: B002452 MgCl ₂	0.4	g	anhydrous powder
ID: C001352 1M Phosphate buffer	0.5	mL	87.09 g K ₂ HPO ₄ + 68.04 g KH ₂ PO ₄ to 1 liter
mix	5	minutes	
heat (90-95 °C)	60	minutes	Set Block temp to 115 °C (AIM Prgm #3)

2) Transfer to filtration funnel (3X10 mL rinses) and filter (0.45µm membrane)

3) Neutralize filtrate to pH 7.5 ±0.5

ID: C001351 / C001608 5M Nitric acid dropwise

Soluble Spike: _____ ERA # 160412 / B001620 _____

4) Dilute to 100 mL

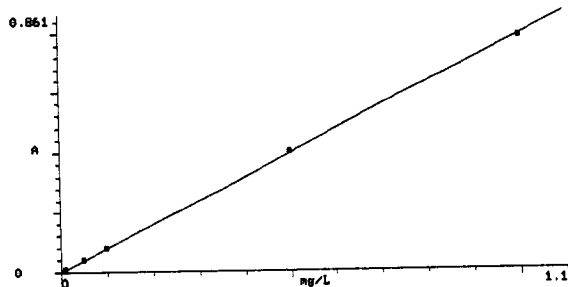
Insoluble Spike: _____ Fisher: 053150 / B002310 _____

reagent water

Sample	Client ID	grams	mL	Notes
Dig Blank		2.5 01	100	Temp: _____ °C pH: _____
Blk Spk	Soluble (K ₂ Cr ₂ O ₇)	2.5 03	100	added 0.05 mL 1000 ppm stock
Blk Spk	Insoluble (PbCrO ₄)	2.5 03	100	added 10.7 mg PbCrO ₄
YG94 A1		2.5 68	100	clay chunks
YG94 A1 dup		2.5 66	100	
YG94 A1 sol spk		2.5 63	100	added 0.05 mL 1000 ppm stock
YG94 A1 insol spk		2.5 65	100	added 10.6 mg PbCrO ₄
YG94 B1		2.5 66	100	sand & little pebbles
YG94 C1		2.5 00	100	
YG94 D1		2.5 47	100	↓
YG94 E1		2.5 00	100	clay
YG94 F1		2.5 31	100	sand & pebbles & some clay
YG94 G1		2.5 00	100	sand & pebbles
YG94 H1		2.5 22	100	sand
YG95 A1		2.5 25	100	fine ↓ clump
YG95 B1		2.5 20	100	↓ & pebbles
YG95 C1		2.5 18	100	small gravel
YG95 D1		2.5 06	100	coarse sand
YG95 E1		2.5 60	100	clay
YG95 F1		2.5 24	100	sand & pebbles
YG95 G1		2.5 03	100	
YG95 H1		2.5 67	100	↓
YH14 I1		2.5 04	100	?E
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 15:04 24Apr14
 Test Name CHROME 6
 Date Standards Measured 24Apr14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.784
 Intercept 0.00145
 Std Dev 0.003
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.040
0.100	0.081
0.500	0.398
1.000	0.783

OK
04/24/14

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C 15:06 24Apr14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off

ID#	Abs 540nm
1	0.000

2 0.208

3 0.002

4 0.309

5 0.525

6 0.052

7 0.040

8 0.342

9 0.489

10 0.131

11 0.016

12 0.021

13 0.000

14 0.208

15 0.015

16 0.160

17 0.015

18 0.010

19 0.006

20 0.018

21 0.005

22 0.004

23 0.016

24 0.165

25 0.001

26 0.204

27 0.008

28 0.011

29 1.110

30 0.051

31 0.040

32 0.566

33 0.000

skgd K604 A

34 0.000



Adp

35 0.000

36 0.208

4-23-14

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET
 (dry at 104 (12-24 hr) then combust at 550 (30 min))
DATE: 4/22/14 (A)
ANALYST: KE 17:48
Analytical Balance: 1123230597

Drying Ovens: 12
Muffle Furnace: 62790918520

Batch drying time
 record times as mm/dd/yyyy hh:mm
 4/22/2014 17:48 date/time in oven CDE
 4/23/2014 5:54 date/time out KE
 elapsed hrs = 12.1

SAMPLE ID	DISH #	Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	ASH WT 550C (grams)		Ash Wt (g)	TVS (mg/kg)	TVS (%)
													1	2			
Blank			4/22/14 16:34 CDE	4/22/14 16:16 CDE	4/23/14 6:12 KE	10.0000	9.9899	10.0000	Cal OK!	Cal OK!	Cal OK!	Cal OK!					
YG87 A1			6.2508	7.9407	7.682	1.1436	1.1477	5.2672	5.8670	5.8170	0.00	4.12	4.70	4.66			
YG94 A1			7.1381	6.8603	6.7284	1.1435	1.1477	5.2672	5.8670	5.8170	0.00	4.12	4.70	4.66			
YG94 A1 dup			7.1381	6.8603	6.7284	1.1435	1.1477	5.2672	5.8670	5.8170	0.00	4.12	4.70	4.66			

SAMPLE ID	DISH #	Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02	ASH WT 550C (grams)		Ash Wt (g)	TVS (mg/kg)	TVS (%)
													1	2			
YG94 B1			6.5719	7.1475	6.2508	1.1538	1.1366	6.1117	6.8940	6.8679	4.96	5.76	4.82	4.89			
YG94 C1			7.1475	6.2508	6.7284	1.1366	1.1320	6.8940	6.9671	6.9640	5.76	4.82	4.89	5.89			
YG94 D1			6.2508	7.9407	7.682	1.1320	1.1403	5.9517	6.0256	7.0156	4.82	4.89	5.89	5.78			
YG94 E1			7.9407	6.2508	6.7284	1.1403	1.1299	6.0256	7.0156	6.9640	4.89	5.89	5.78	5.71			
YG94 F1			7.682	6.2508	6.7284	1.1299	1.1813	7.0156	6.9640	6.8679	5.89	5.78	5.71	4.72			
YG94 G1			7.222	7.1381	6.8603	1.1813	1.1542	6.9640	6.8679	6.8679	4.72	4.97	5.83	6.06			
YG94 H1			7.1381	6.8603	6.7284	1.1542	1.1301	6.8679	6.8679	6.8679	4.97	5.83	6.06	4.24			
YG95 A1			6.8603	7.1381	6.8603	1.1301	1.1631	6.8679	6.8679	6.8679	4.72	4.97	5.83	6.06			
YG95 B1			6.7284	7.1381	6.8603	1.1631	1.1370	6.1360	6.9671	6.9640	4.97	5.83	6.06	4.24			
YG95 C1			7.2106	7.4439	7.5774	1.1370	1.1446	6.9671	7.2026	6.8355	5.83	6.06	4.24	5.66			
YG95 D1			7.4439	7.5774	7.1355	1.1446	1.1301	7.2026	5.3674	6.8355	6.06	4.24	5.66	5.61			
YG95 E1			7.5774	7.1355	7.0550	1.1301	1.1731	5.3674	6.8355	6.7088	4.24	5.66	5.61	5.86			
YG95 F1			7.1355	7.0550	7.3566	1.1023	1.1423	6.7088	7.0019	7.0019	5.66	5.61	5.86	3.60			
YG95 G1			7.0550	7.3566	6.2087	1.1423	1.1084	6.7088	7.0019	7.0019	5.66	5.61	5.86	4.00			
YG95 H1			7.3566	6.2087	6.4020	1.1084	1.1126	6.7088	4.7065	5.1111	4.00	3.60	4.00	3.60			
YH60 A1			6.2087	6.4020	6.2891	1.1126	1.1430	4.7065	5.1111	4.7462	3.60	3.60	3.60	3.60			
YH60 B1			6.4020	6.2891		1.1430		4.7462			3.60	3.60	3.60	3.60			
YH60 C1			6.2891								3.60	3.60	3.60	3.60			



Analytical Resources, Incorporated
Analytical Chemists and Consultants

TOTAL / VOLATILE SOLIDS (TS/TVS) BENCHSHEET

4-23-14 (A)

Analyst: <u>WPS</u> Date: <u>4-22-14</u> Oven ID: <u>012</u> Muffle ID: <u>1123230597</u>		Time in Oven: <u>17:49</u> Time Out of Oven: <u>18:54</u> Elapsed Time (> 12 Hrs):		Balance ID: <u>1123230597</u>	
Sample ID	Dish #	CV-02	CV-02	CV-02	CV-02
BLANK	1	CV-02	CV-02	CV-02	CV-02
Y687 A1	2	CV-02	CV-02	CV-02	CV-02
Y699 A1	3	CV-02	CV-02	CV-02	CV-02
A1P	4	CV-02	CV-02	CV-02	CV-02
B1	5	CV-02	CV-02	CV-02	CV-02
C1	6	CV-02	CV-02	CV-02	CV-02
D1	7	CV-02	CV-02	CV-02	CV-02
E1	8	CV-02	CV-02	CV-02	CV-02
F1	9	CV-02	CV-02	CV-02	CV-02
G1	10	CV-02	CV-02	CV-02	CV-02
H1	11	CV-02	CV-02	CV-02	CV-02
Y695 A1	12	CV-02	CV-02	CV-02	CV-02
B1	13	CV-02	CV-02	CV-02	CV-02
C1	14	CV-02	CV-02	CV-02	CV-02
D1	15	CV-02	CV-02	CV-02	CV-02
E1	16	CV-02	CV-02	CV-02	CV-02
F1	17	CV-02	CV-02	CV-02	CV-02
G1	18	CV-02	CV-02	CV-02	CV-02
H1	19	CV-02	CV-02	CV-02	CV-02
YH60 A1	20	CV-02	CV-02	CV-02	CV-02
B1	21	CV-02	CV-02	CV-02	CV-02
C1	22	CV-02	CV-02	CV-02	CV-02

TS (%) calculated as:
Final Dry Weight (g) = (Dry Weight - Tare Weight)
TS = (Final Dry Weight) / (Grams Sample - Tare Weight)

TVS (mg/kg dry weight) calculated as:
Final Ash Weight (g) = (Minimum Ash Weight - Tare Weight)
TVS (mg/kg) = [(Dry Weight - Ash Weight) / (Dry Weight) * 1,000,000
If Ash Weight > Dry Weight then "Check for Error"
If Dry Weight - Ash Weight < 0.001 < (1/Dry Weight) * 1,000,000

Sample	Tare	Dry Weight 104°C	Dry Weight	Ash Weight 550°C
0	1.1436	1	grams	2
60209	1.1477	2	grams	3
7.6344	1.1669	1	grams	2
7.3961	1.1529	2	grams	3
6.5719	1.1538	1	grams	2
7.1475	1.1366	2	grams	3
6.2508	1.1320	1	grams	2
7.9407	1.1403	2	grams	3
7.7682	1.1299	1	grams	2
7.2222	1.1813	2	grams	3
7.1381	1.1542	1	grams	2
6.8603	1.1301	2	grams	3
6.7284	1.1631	1	grams	2
7.2106	1.1370	2	grams	3
7.4439	1.1446	1	grams	2
7.5774	1.1301	2	grams	3
7.1355	1.1731	1	grams	2
7.0550	1.1023	2	grams	3
7.3566	1.1423	1	grams	2
6.2087	1.1084	2	grams	3
6.4020	1.1126	1	grams	2
6.2891	1.1430	2	grams	3

4-22-14 CAF

W
4-25-14

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time 4/21/14 15:50	Date / Time: 4/24/14 15:04
REAGENTS	Analyst: CC	Analyst: CC
Sulfuric acid: C001431	EQUIPMENT	
Diphenylcarbazine: C001584	pH Meter ID: ACCUMET AR60	
	Electrode ID: SN1320016P 16	
	Balance ID: 19350128	
	Spec ID: SPEC #1	

CALIBRATION

Curve Standard

ARI ID: C000892	stock	0.0709	g K2Cr2O7	500	mL pH2 = 50.1	mg/L Cr+6
Date Prepared: 4/24/2014	Intermediate	5	mL Stock to	50	mL pH2 = 5.01	mg/L Cr+6

Standard Curve Data final volume of prepared standards = 50 mL

mL intermediate	Conc (mg/L)	Absorbance @ 540 nm		Avg Blk Corr Abs		
		1	2			
0.0	0.00	0.000		0.000	= blank abs	
0.1	0.01	0.008		0.008	E 0.008	#VALUE!
0.5	0.05	0.040		0.040	0.049	97%
1.0	0.10	0.081		0.081	0.101	101%
5.0	0.50	0.398		0.398	0.507	101%
10.0	1.00	0.783		0.783	1.000	100%

Regression Data
 Conc = (abs-intercept)/slope
 intercept = 0.0020
 slope = 0.7813
 r = 1.000
 Comment: Calibration OK!
 maxabs = 0.783

Calibration Verification Standard

Source	ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6
intermediate	ml stock to	mL DI =		mg/L Cr+6
CVS =	0.050	ml stock to	200	mL DI = 0.25

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)

Soluble Chk	source = ERA # 160412/ B001620	Stock Conc	1,000	mg/L Cr+6 as K2Cr2O7
DQL Intermediate	Dilute 0.1	mL stock to	10	10
DQL Standard	Dilute 0.40	mL int to	100	0.04
Insoluble Chk	source = Fisher 053150/ B002310		16.088%	percent Cr+6 as PbCrO4

SAMPLE DATA

mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	sample pH adjusted dilution: 40 mL adjusted to 50				Spectrophotometric Data			Conc (mg/L)	NOTES
	dilution	ABS @ 540nm	Background	Extract mg/L					
ICB	1	0.000		-0.003			< 0.01	Blk OK	
ICV	1	0.208		0.264			0.264	105.49%	
	% Solids	weight (g)	ext vol (L)	adjusted dilution	dilution	ABS @ 540nm	Background	Extract mg/L	mg/kg dry wt
Prep Blk	100.00%	2.501	0.100	1.250	1	0.002		0.000	< 0.4
Prep Chk Sol	100.00%	2.503	0.100	1.250	1	0.309		0.491	19.626
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6			19.98	mg/kg
Prep Chk Insol	100.00%	2.503	0.100	1.250	20	0.525		0.837	669
	Insol Spk at	10.7	mg PbCrO4 =	1.721	mg Cr+6			688	mg/kg
YG94 A1	72.67%	2.568	0.100	1.250	1	0.052		0.080	4.3
YG94 A1 dup	72.67%	2.566	0.100	1.250	1	0.040		0.061	3.3
	soluble ms	72.67%	2.563	0.100	1.250	1	0.342	0.544	29.2
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6			26.8	mg/kg
insoluble ms	72.67%	2.565	0.100	1.250	20	0.489		0.779	836.1
	Insol Spk at	10.6	mg PbCrO4 =	1.705	mg Cr+6			915	mg/kg
YG94 B1	91.51%	2.546	0.100	1.250	1	0.131		0.206	8.9
YG94 C1	95.78%	2.500	0.100	1.250	1	0.016		0.022	0.9
YG94 D1	94.16%	2.547	0.100	1.250	1	0.021		0.030	1.3
CCB					1	0.000		-0.003	< 0.01
CCV					1	0.208		0.264	0.264
YG94 E1	71.84%	2.500	0.100	1.250	1	0.015		0.021	1.2
YG94 F1	88.66%	2.531	0.100	1.250	1	0.160		0.253	11.3
YG94 G1	95.73%	2.500	0.100	1.250	1	0.015		0.021	0.9
YG94 H1	95.48%	2.522	0.100	1.250	1	0.010		0.013	0.6
YG95 A1	82.31%	2.525	0.100	1.250	1	0.006		0.006	< 0.48
YG95 B1	89.38%	2.520	0.100	1.250	1	0.018		0.026	1.1
YG95 C1	95.99%	2.518	0.100	1.250	1	0.005		0.005	< 0.41
YG95 D1	96.17%	2.506	0.100	1.250	1	0.004		0.003	< 0.42
YG95 E1	85.72%	2.560	0.100	1.250	1	0.016		0.022	1.3
YG95 F1	94.97%	2.524	0.100	1.250	1	0.165		0.261	10.9
CCB					1	0.001		-0.001	< 0.01
CCV					1	0.204		0.259	0.259
YG95 G1	94.18%	2.503	0.100	1.250	1	0.008		0.010	< 0.43
YG95 H1	94.29%	2.567	0.100	1.250	1	0.011		0.014	0.6
YH14 I1	100.00%	2.504	0.100	1.250	4	1.110		1.773	70.8
YG94 A4	72.67%	2.568	0.100	1.250	4	0.051	0.000	0.078	4.2
YG94 A1 dup	72.67%	2.566	0.100	1.250	4	0.040	0.000	0.061	3.3
YH14 I1	100.00%	2.504	0.100	1.250	2	0.566		0.902	72.1
CCB					1	0.000		-0.003	< 0.01
CCV					1	0.208		0.264	0.264

HEXAVALENT CHROMIUM (Solid Samples 3060 Extraction) Diphenyl carbazide finish (SW-846 7196A)	Digested	Analyzed
	Date / Time 4/21/14 15:50	Date / Time: 04/24/14 15:04
REAGENTS	ID	EQUIPMENT
Sulfuric acid: C001431		pH Meter ID: ACCUMET AR60
Diphenylcarbazine: C001584		Electrode ID: SN1320018P 16
		Balance ID: 19350128
		Spec ID: SPEC #1

CALIBRATION	
Curve Standard	
ARI ID: C000892	stock 0.0709 g K2Cr2O7
Date Prepared: 04/24/14	Intermediate 5 mL Stock to 50 mL pH2 = 5.01 mg/L Cr+6
Standard Curve Data final volume of prepared standards = 50 mL	

mL intermediate	Conc (mg/L)	Absorbance @ 540 nm	Avg Blk Corr Abs	Regression Data
		1	2	Conc = (abs-intercept)/slope
0.0	0.00	0.000		intercept =
0.1	0.01	0.008		slope =
0.5	0.05	0.040		r =
1.0	0.10	0.081		Comment:
5.0	0.50	0.399		maxabs =
10.0	1.00	0.793		

Calibration Verification Standard	
Source	ERA # 160412/ B001620
intermediate	Stock Conc 1,000 mg/L Cr+6
CVS =	0.050 mL stock to 200 mL DI = 0.25 mg/L Cr+6

Prep Check Standard (Prepare blanks and standards in alkaline-carbonate solution and digest along with samples)	
Soluble Chk	source = ERA # 160412/ B001620 Stock Conc 1,000 mg/L Cr+6 as K2Cr2O7
DQL Intermediate	Dilute 0.1 mL stock to 10 10 mg/L Cr+6 as K2Cr2O8
DQL Standard	Dilute 0.40 mL int to 100 0.04 mg/L Cr+6 as K2Cr2O8
Insoluble Chk	source = Fisher 053150/ B002310 16 088% percent Cr+6 as PbCrO4

SAMPLE DATA mg/L = ((Abs - Blkabs - Bkgabs) - intercept) / slope

SAMPLE ID	Spectrophotometric Data				Conc (mg/L)	NOTES
	dilution	ABS @ 540nm	Background	Extract mg/L		
ICB	1	0.000				
ICV	1	0.208				
Extraction Data						
	% Solids	weight (g)	ext vol (L)	pH adjusted dilution	dilution	mg/kg dry wt
Prep Blk	100.00%	2.501	0.100	1.250	1	
Prep Chk Sol	100.00%	2.503	0.100	1.250	1	
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6	19.98 mg/kg
Prep Chk Insol	100.00%	2.503	0.100	1.250	20	
	Insol Spk at	10.7	mg PbCrO4 =	1.721	mg Cr+6	688 mg/kg
YG94 A1	72.67%	2.568	0.100	1.250	1	
YG94 A1 dup	72.67%	2.566	0.100	1.250	1	
	soluble ms	72.67%	2.563	0.100	1.250	
	Sol Spk at	0.05	mL Solstk =	0.05	mg Cr+6	26.8 mg/kg
	insoluble ms	72.67%	2.565	0.100	1.250	
	Insol Spk at	10.6	mg PbCrO4 =	1.705	mg Cr+6	915 mg/kg
YG94 B1	91.51%	2.546	0.100	1.250	1	
YG94 C1	95.78%	2.500	0.100	1.250	1	
YG94 D1	94.16%	2.547	0.100	1.250	1	
CCB					1	
CCV					1	
YG94 E1	71.84%	2.500	0.100	1.250	1	
YG94 F1	88.66%	2.531	0.100	1.250	1	
YG94 G1	95.73%	2.500	0.100	1.250	1	
YG94 H1	95.48%	2.522	0.100	1.250	1	
YG95 A1	82.31%	2.525	0.100	1.250	1	
YG95 B1	89.36%	2.520	0.100	1.250	1	
YG95 C1	95.99%	2.518	0.100	1.250	1	
YG95 D1	96.17%	2.506	0.100	1.250	1	
YG95 E1	85.72%	2.560	0.100	1.250	1	
YG95 F1	94.97%	2.524	0.100	1.250	1	
CCB					1	
CCV					1	
YG95 G1	94.18%	2.503	0.100	1.250	1	
YG95 H1	94.29%	2.567	0.100	1.250	1	
YH14 I1	100.00%	2.504	0.100	1.250	1	
YG94 A1		2.5	0.100	1.250	1	
↓ A. dup		2.5	0.100	1.250	1	
YH14 I1		2.5	0.100	1.250	2	
CCA		2.5	0.100	1.250	1	
CCV		2.5	0.100	1.250	1	
		2.5	0.100	1.250	1	
		2.5	0.100	1.250	1	
CCB					1	
CCV					1	

04/24/14

**Hexavalent Chromium
3060 Alkaline Digestion Protocol**

Date: 04/21/14 15:50
Analyst: ee

1) Digest

Balance ID: 19350128

Sample	2.5	g	
soluble spike (K ₂ Cr ₂ O ₇)	0.05	mL	use 1000 mg/L LCS = 0.5 mg/L = 20ppm solid
insoluble spike (PbCrO ₄)	10-20	mg PbCrO ₄	PbCrO ₄ = 16.888% Cr
optional trivalent spike (Cr(III)·6H ₂ O)	5	mg Cr(III)·6H ₂ O	Cr(III)·6H ₂ O = 19.500% Cr
ID: <u>001345</u> Alk-CO ₃ Digest Soln	50	mL	20 g NaOH + 30 g Na ₂ CO ₃ , dilute to 1 liter (pH >11.5)
ID: <u>B002452</u> MgCl ₂	0.4	g	anhydrous powder
ID: <u>C001352</u> 1M Phosphate buffer	0.5	mL	87.09 g K ₂ HPO ₄ + 68.04 g KH ₂ PO ₄ to 1 liter
mix	5	minutes	
heat (90-95 °C)	60	minutes	Set Block temp to 115 °C (AIM Prgm #3)

2) Transfer to filtration funnel (3X10 mL rinses) and filter (0.45µm membrane)

3) Neutralize filtrate to pH 7.5 ±0.5

ID: 001351 / C001605 5M Nitric acid dropwise

Soluble Spike: _____ ERA # 160412 / B001620

4) Dilute to 100 mL

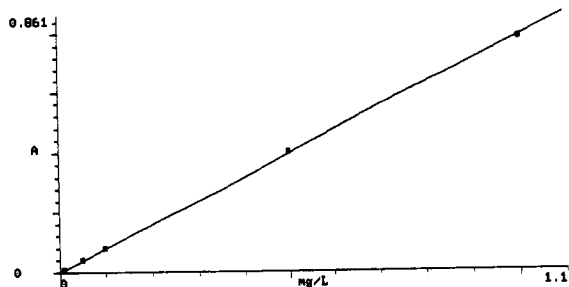
Insoluble Spike: _____ Fisher: 053150 / B002310

reagent water

Sample	Client ID	grams	mL	Notes
Dig Blank		2.5 01	100	Temp: _____ °C pH: _____
Blk Spk	Soluble (K ₂ Cr ₂ O ₇)	2.5 03	100	added <u>0.05</u> mL 1000 ppm stock
Blk Spk	Insoluble (PbCrO ₄)	2.5 03	100	added <u>10.7</u> mg PbCrO ₄
YG94 A1		2.5 68	100	clay chunks
YG94 A1 dup		2.5 66	100	
YG94 A1 sol spk		2.5 63	100	added <u>0.05</u> mL 1000 ppm stock
YG94 A1 insol spk		2.5 65	100	added <u>10.6</u> mg PbCrO ₄
YG94 B1		2.5 46	100	sand & little pebbles
YG94 C1		2.5 00	100	
YG94 D1		2.5 47	100	
YG94 E1		2.5 00	100	clay ↓
YG94 F1		2.5 31	100	sand & pebbles & some clay
YG94 G1		2.5 00	100	sand & pebbles
YG94 H1		2.5 22	100	sand
YG95 A1		2.5 25	100	fine ↓ clumps
YG95 B1		2.5 20	100	↓ & pebbles
YG95 C1		2.5 18	100	small gravel
YG95 D1		2.5 06	100	coarse sand
YG95 E1		2.5 60	100	clay
YG95 F1		2.5 24	100	sand & pebbles
YG95 G1		2.5 03	100	
YG95 H1		2.5 67	100	↓
YH14 I1		2.5 04	100	PE
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	
		2.5	100	

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 15:04 24Apr14
 Test Name CHROME 6
 Date Standards Measured 24Apr14
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.000/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.784
 Intercept 0.00145
 Std Dev 0.003
 Corr Coeff 1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.008
0.050	0.040
0.100	0.081
0.500	0.398
1.000	0.783

OK
04/24/14

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C 15:06 24Apr14
 Test Name CHROME 6[Saved]
 Measurement Mode Absorbance
 Wavelength 540nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/1.000
 Statistics Off

ID#	Abs 540nm
1	0.000
2	0.208
3	0.002
4	0.309
5	0.525
6	0.052
7	0.040
8	0.342
9	0.489
10	0.131
11	0.016
12	0.021

13 0.000

14 0.208

15 0.015

16 0.160

17 0.015

18 0.010

19 0.006

20 0.018

21 0.005

22 0.004

23 0.016

24 0.165

25 0.001

26 0.204

27 0.008

28 0.011

29 1.110

30 0.051

31 0.040

32 0.566

33 0.000

skgd K604 A

34 0.000

↓ ADP

35 0.000

36 0.208



Criteria Flagged:	ARI Job No.: <u>YG94</u>
Unacceptable Blank: <input type="checkbox"/>	Date of Event: <u>04/24/14</u>
Unacceptable Duplicate: <input checked="" type="checkbox"/>	Client ID: _____
Unacceptable Spike: <input type="checkbox"/>	Method/Element: <u>Cr 6+</u>
Unacceptable Reference: <input type="checkbox"/>	Prep Code: _____

Details of Problem/Recommended Corrective Action:
Higher than acceptable duplicate at around 27% RPD.

Samples Affected: A1

Corrective Action Taken: Re-analyzed 5 read samples & duplicate 5 backgrounds to check. RPD was still high.

Analyst Initials: CE
Date: 04/24/14

Supervisor: W
Date: 4-25-14

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