



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HEADQUARTERS, JOINT BASE LEWIS-MCCHORD
1010 LIGGETT AVENUE, BOX 339500, MAIL STOP 1AA
JOINT BASE LEWIS-MCCHORD, WA 98433-9500

Public Works

June 3, 2015

Mr. Ted Silvestri
Yakima Health District
1210 Ahtanum Ridge Drive
Union Gap, Washington 98903-1813

Dear Mr. Silvestri:

Enclosed for your review is one hard copy and one CD of the 2014 Annual Groundwater Monitoring Report, Limited Purpose Landfill, Yakima Training Center, Washington. In response to your May 1, 2015 letter, the document has been revised to clarify that data analysis for iron and manganese (and not trichloroethene) was conducted following EPA's 2009 guidance document.

There is no mention of requirements for sampling for volatile organic compounds in JBLM's operating permit for the Yakima Limited Purpose Landfill. Sampling and reporting for this site has previously been contracted through mid 2016 based on the current permit requirements.

JBLM requested to reduce sampling based on the significant decline in iron and manganese which were the only statistically significant exceedances of accepted regulatory values for constituents of concern. Originally, the slightly elevated values of these metals were thought to have been a common artifact resulting from the drilling of wells in basalt. JBLM can statistically demonstrate that future exceedances of any constituents under this permit are unlikely.

JBLM has previously viewed people and animals as "receptors" and groundwater as a "pathway". Please have Ecology provide a reference that identifies groundwater as a potential receptor so JBLM can properly reference Ecology's view in our future reports.

If you have any questions or need clarification, please contact either myself (253) 477-3742 or Mr. Tom Lynott (253)-966-1802.

Sincerely,

A handwritten signature in blue ink, appearing to read "William W. Myers".

William W. Myers
Installation Restoration Program Manager

CF:
Ms. Patricia Shanley, Central Region, Ecology



MAY 2015

2014 Annual

Groundwater Monitoring Report

Limited Purpose Landfill

Joint Base Lewis-McChord Yakima Training Center Yakima, Washington

Joint Base Lewis-McChord Public Works – Environmental Division

IMLM-PWE

MS 17 Box 339500

Joint Base Lewis-McChord, Washington 98433



CONTRACT NO. W912DW-11-D-1031
TASK ORDER NO. 0001

2014 ANNUAL
GROUNDWATER MONITORING REPORT

MAY 2015

LIMITED PURPOSE LANDFILL
JOINT BASE LEWIS-MCCHORD YAKIMA TRAINING CENTER
YAKIMA, WASHINGTON

DCN: TTEC-BTL-1031-003-015-016

Prepared for:
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
AND
PUBLIC WORKS – ENVIRONMENTAL DIVISION
JOINT BASE LEWIS-MCCHORD, WASHINGTON

Prepared By:



TETRA TECH EC, INC

A SUBCONTRACTOR TO
SEALASKA ENVIRONMENTAL SERVICES, LLC
POULSBO, WASHINGTON

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ABBREVIATIONS AND ACRONYMS

µg/L	micrograms per liter
bgs	below ground surface
CCP	Compliance Cleanup Program
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
IRP	Installation Restoration Program
JBLM	Joint Base Lewis-McChord
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
MSW	municipal solid waste
ORP	oxidation-reduction potential
PAIC	Pomona Artesian Irrigation Company
PQL	practical quantification limit
RPD	relative percent difference
SAP	Sampling and Analysis Plan
WAC	<i>Washington Administrative Code</i>
YHD	Yakima Health District
YTC	Yakima Training Center

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1. INTRODUCTION

This report documents groundwater monitoring activities conducted at the Yakima Training Center (YTC) Limited Purpose Landfill from January to December 2014. Tetra Tech EC, Inc. prepared this groundwater monitoring report for Joint Base Lewis-McChord Public Works, Environmental Division. All work was completed in accordance with the *Washington Administrative Code* (WAC) Chapter 173-350-500(4) and the 2013 Groundwater Sampling and Analysis Plan (SAP) (Versar 2013a).

This report presents water level measurements, sampling procedures, and analytical data of groundwater samples collected during four monitoring events conducted in 2014. To establish a data baseline, eight sampling events were conducted within the first year after three new monitoring wells were completed in March 2009. The ninth sampling event, conducted in June 2010, was the first quarterly sampling event per the 2008 groundwater SAP section of the Work Plan (Versar 2008). Quarterly sampling was conducted by Versar Inc. through second quarter 2014 when Tetra Tech EC took over the quarterly sampling program.

1.1 YTC BACKGROUND

YTC is an active United States Army sub-installation of Joint Base Lewis-McChord (JBLM) located approximately 5 miles northeast of the City of Yakima (Figure 1). YTC has been used for training military artillery, infantry, and engineering units since 1941. Expansion of YTC occurred in the early 1950s with the acquisition of additional land and permanent construction of the Cantonment area in the southwest portion of YTC. An expansion of YTC to the north occurred in the early 1990s. Currently, the YTC is approximately 327,233 acres in area (Figure 2).

1.2 SITE GEOLOGY AND HYDROGEOLOGY

YTC is located within the Yakima Fold Belt, which is characterized by southeast-trending anticlines and synclines. Most of the YTC Cantonment area is located within the synclinal valley between the anticlinal Yakima Ridge and Umtanum Ridge.

In general, YTC is underlain by a thick sequence of basalt flows known as the Columbia River Basalt Group. From youngest to oldest, the four formations that compose the Columbia River Basalt Group are the Saddle Mountain Basalt, Wanapum Basalt, Grande Ronde Basalt, and Imnaha Basalt (Schuster *et. al.* 1997). Portions of the YTC Cantonment area have sedimentary rocks/deposits of the Ellensburg Formation and/or quaternary deposits on top of the basalt flows (Schuster *et. al.* 1997).

The uppermost geologic unit at the Limited Purpose Landfill is continental sedimentary deposits of the Upper Ellensburg Formation, which overlie the Columbia River Basalt Group (Versar 2013b, Schuster *et. al.* 1997, Bartz 2008). The Upper Ellensburg Formation is present underneath the site from near ground surface to depths greater than 100 feet below ground

surface (bgs) (Bartz 2008). A limited amount of groundwater is present in the relatively low-permeability soils and semi-consolidated rocks within the Upper Ellensburg Formation (Versar 2013b, Bartz 2008). This is the shallowest groundwater underneath the landfill. The direction of groundwater flow underneath the landfill is to the northwest and/or north towards the axis of the synclinal valley (Versar 2013b).

1.3 POTENTIAL GROUNDWATER RECEPTORS

The potential groundwater receptors nearest to the landfill are two domestic water supply wells (Pomona Well and Pomona Artesian Irrigation Company [PAIC] Well) located approximately 1.5 miles northwest of the landfill.

The Pomona Well is an artesian well used by YTC as a primary production source for the Cantonment Area Water System. The Pomona Well is completed in the Wanapum and/or Grande Ronde Formation (Hong West 1996) with open borehole completion between depths of approximately 353 and 407 feet bgs (Fain 2000, Cory 2004). Sources of information provided incorrect well construction details for the Pomona Well (including a typographic error in Table 2-1 of the current Water System Plan) (Cory 2004). A down-hole video survey conducted by YTC in 1995 is considered to be the most accurate source of construction detail information for the Pomona Well to date. In addition to indicating the open interval referenced above, the video survey also indicated that water was entering the Pomona Well at approximately 401 feet bgs (Fain 2000).

The PAIC Well is an artesian well used as the sole production well for the PAIC Water System which serves approximately 60 homes and businesses west of YTC (Wilson 2004). The PAIC Well construction appears to have been identical to the Pomona Well construction. In 1913, the PAIC used the same driller to install both wells within 100 feet of each other (Fain 2000). Well logs from pump tests conducted in 1940 indicate identical (although very generic) well construction details for the Pomona Well and PAIC Well (Fain 2000). The construction details on the 1940 well logs were 10-inch-diameter casings to a depth of 60 feet bgs and 6 and 5/8-inch-diameter casings from 60 feet bgs to 430 feet bgs for both wells.

Since the video survey of the Pomona Well showed the 1940 well log and other sources of post-drilling anecdotal information to be incorrect with respect to the actual well construction details of the Pomona Well, it is reasonable to assume that the video survey is also a more accurate representation of well construction details for the PAIC Well than the 1940 well log. Again, the basis for assuming nearly identical well construction details for the Pomona Well and PAIC Well are that both wells are artesian, both wells have similar production capacities, that both wells were installed at the same time and location by the same well driller for the same water system, and both wells have identical 1940 well logs.

The Pomona and PAIC Wells are currently sampled twice a year and analyzed for volatile organic compounds during February or March and during August or September as part of a

Resource Conservation and Recovery Act Corrective Action sampling program. Given the distance of both the Pomona Well and PAIC Well from the landfill and the hydraulic separation between the localized perched groundwater and the aquifer(s) in which the water supply wells are completed, it is unlikely that these potential receptors could be impacted by the landfill.

1.4 PROJECT BACKGROUND AND INVESTIGATION CHRONOLOGY

YTC operates its Limited Purpose Landfill under an existing permit from Yakima Health District (YHD). The Limited Purpose Landfill is located adjacent to a former permitted municipal solid waste (MSW) landfill.

Four monitoring wells (MW-1 through MW-4) were installed around the former MSW landfill for compliance purposes. YTC Environmental Division staff has performed some sampling of these four monitoring wells to address groundwater monitoring requirements for the Limited Purpose Landfill in WAC Chapter 173-350-500. However, the adequacy of the existing downgradient compliance monitoring wells and the groundwater monitoring sampling approach was questioned in a 15 December 2006 letter from Washington State Department of Ecology (Ecology) to YHD and an 11 July 2007 letter from YHD to YTC.

YTC Public Works Environmental Division staff requested that the staff of the JBLM Installation Restoration Program (IRP), formerly the Compliance Cleanup Program (CCP), assume responsibility for conducting groundwater monitoring activities at the landfill beginning in 2008. JBLM discussed the conceptual components of this plan with YHD, Ecology, and YTC staff during a June 2008 meeting. JBLM CCP added the landfill as an Army CCP site in the AEDB-CC database in June 2008.

Four monitoring wells (MW-1 through MW-4) had been installed prior to March 2009. MW-1 was installed in 1988, and MW-2 through MW-4 were installed in 1990 (Figure 3). Monitoring well construction details are presented in Table 1. MW-1 through MW-3 are screened in the rubble zone at the top of the uppermost basalt flow. Due to caving in the original borehole, MW-4 is screened in the low-permeability, unconsolidated to semi-consolidated deposits of the Upper Ellensburg Formation.

According to a data summary provided by YTC (Bartz 2008), previous groundwater monitoring events were conducted in July 1997, December 1999, December 2000, September 2004, June 2004, February 2006, October 2006, January 2007, August 2007, and February 2008. During these past events, samples were typically collected only from MW-4, since MW-1 through MW-3 were usually dry.

Monitoring wells MW-1 through MW-3 were decommissioned, and three new monitoring wells were advanced and completed within the vicinities of MW-1 through MW-3 in March 2009 (Project Resources, Inc. 2009). These new wells, designated as MW-5, MW-6, and MW-7, are shown on Figure 3. Boring logs and well completion diagrams for wells MW-1 through MW-7

are included in Appendix A of the 2010 groundwater monitoring report for the YTC Limited Purpose Landfill (Versar 2011).

A groundwater SAP was completed in August 2013 (Versar 2013a). This SAP updated the original well installation and groundwater monitoring plan from 2008 and reflects changes in the monitoring network since then, including a description of statistical procedures to be performed on the data and the addition of collecting one duplicate sample from a YTC landfill monitoring well annually. Groundwater sampling and analysis conducted in 2015 will be conducted under a new groundwater SAP.

2. FIELD ACTIVITIES

JBLM IRP contractors completed four groundwater sampling events at the YTC Limited Purpose Landfill. Versar completed the 12 March and 17 June 2014 sampling events, and Tetra Tech EC, Inc. completed the 23 September and 9 December 2014 sampling events. Copies of the completed field forms are included in Appendix A. During each sampling event, an electronic water level indicator was used to measure depth to water in monitoring wells MW-4 through MW-7. No measurable amounts of groundwater were present in wells MW-5 or MW-7 during any of the sampling events. Monitoring well construction details are presented in Table 1.

During the March, June, and September 2014 sampling events, monitoring wells MW-4 and MW-6 were purged using a stainless steel Grundfos pump. However, due to extremely muddy conditions during the December sampling event, MW-4 was inaccessible and therefore was not sampled. Both monitoring wells recharged slowly, and the water levels in both wells were drawn down during purging. Before a sample was collected, water quality parameters (pH, specific conductivity, and temperature) were measured using a calibrated Horiba U-10 meter. The Horiba meter's calibration was checked at the beginning of each day prior to sampling activities. Groundwater samples were collected immediately after field measurements had been recorded without turning off the pumping system.

In 2014, monitoring wells MW-4 and MW-6 were purged dry the evening before they were sampled, which is consistent with prior sampling events. Water quality parameter measurements were recorded and samples were collected the next morning, within 24 hours of purging the well. Groundwater was pumped for approximately 2 minutes before water quality parameters were recorded, and then a sample was collected. Depth to water, pH, specific conductivity, and temperature measurements are presented in Table 2.

A duplicate sample was collected from monitoring well MW-4 during the June 2014 monitoring event.

Groundwater samples taken in March and June 2014 were transported by Versar to Analytical Resources, Inc. in Tukwila, Washington. Samples taken in September and December were transported by courier to ALS Environmental in Kelso, Washington. Samples were transported on the day following their collection under proper chain of custody for analysis per the project SAP. Groundwater samples were analyzed for geochemical indicator parameters listed in WAC Chapter 173-350-500(4)(h)(ii) and leachate indicators listed in WAC Chapter 173-350-500(4)(h)(iii). Copies of all laboratory narratives and sample data forms are included in Appendix A.

Investigation-derived waste was disposed of as follows:

- Purge water and decontamination water were discarded to the ground on-site.
- Personal protective equipment (nitrile gloves) and other trash were disposed of in a YTC dumpster as part of the normal YTC solid waste stream.

3. RESULTS

Geochemical and leachate indicator analytes listed in WAC Chapter 173-350 are presented in Table 3. Because only two wells produced any measureable amounts of water since 2012 (MW-4 and MW-6), no iso-contour lines were produced for this report because of insufficient data points (i.e., two monitoring wells instead of a minimum of three).

Samples collected from MW-4 and MW-6 were analyzed for chloride, iron, manganese, nitrate, sulfate, and total dissolved solids. These six elements and compounds were chosen because they have Maximum Containment Levels (MCLs) associated with them per WAC Chapter 173-200 (Versar 2013b).

In 2014, iron concentrations ranged from not detected (March and June) to 0.0046 milligram per liter (mg/L) (September) in samples collected from upgradient well MW-4. Manganese concentrations ranged from 0.004 mg/L (March) to 0.009 mg/L (September) in MW-4.

In 2014, iron concentrations ranged from not detected (March, June, December) to 0.0053 mg/L (September) in samples collected from downgradient well MW-6. Manganese concentrations ranged from 0.016 mg/L (March) to 0.065 mg/L (December).

In 2014, no constituents were detected above their respective MCL in samples collected from MW-4. Manganese was detected at 0.065 mg/L, which is above its MCL of 0.05 mg/L, in a sample collected from MW-6 in December.

The relative percent differences (RPDs) between the primary and duplicate samples collected at the YTC LPL are presented in Table 4. Typically, RPDs below 50 percent are considered acceptable and no further action is needed. All of the RPDs for each constituent between the primary and duplicate samples collected from MW-4 in June 2014 were below 50 percent.

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4. DATA ANALYSIS AND CONCLUSIONS

Iron and manganese are the only analytes consistently detected above their respective groundwater MCL of 0.3 mg/L and 0.05 mg/L, respectively, per WAC Chapter 173-200. Iron and manganese concentrations in downgradient well MW-6 have been consistently higher than concentrations in upgradient well MW-4, although they have been steadily decreasing over time. Iron and manganese concentrations detected over time in samples collected from monitoring wells MW-4 and MW-6 are illustrated on Figures 4 and 5, respectively.

The statistical analysis of the iron and manganese data were performed using an add-in software package (Analyse-It) to Microsoft Excel. Statistical methods performed included the Shapiro Wilk Test for Normality and linear regression and the Mann-Kendall correlation test. Those statistical methods generally followed the guidelines presented in *Statistical Methods in Water Resources* (Helsel and Hirsch 2002) and are included in the U.S. Environmental Protection Agency's (EPA's) unified guidance for *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities* (EPA 2009). Summary statistics (mean, standard deviation, minimum concentration, and maximum concentration) were also calculated using Microsoft Excel's Descriptive Statistics tool.

All concentration measurements not known to be in error were considered valid; suspect "outliers" were not removed from the data set and were included in the analyses. Data reported as "non-detect" represent concentration measurements below the practical quantification limits (PQL) but above the minimum detection limit for each constituent. These data were evaluated at the reporting limit value, i.e., if the reporting limit was 0.5 microgram per liter ($\mu\text{g/L}$), then the concentration value was set at 0.5 $\mu\text{g/L}$. PQLs for all constituents analyzed in samples collected at the Limited Purpose Landfill are listed in Table 4 of the 2013 SAP (Versar 2013a).

4.1 SHAPIRO WILK TEST FOR NORMALITY

Before data were analyzed for trends, the data were tested for normal distribution. The null and alternate hypotheses are a summary of a test's objectives, which in this case is to test for the data's distribution. The null hypothesis, or what is assumed to be true before given evidence that it may be false, for all tests for normality is that a data set is normally distributed. The alternate hypothesis, then, is that a data set is not normally distributed (Helsel and Hirsch 2002). A significance level, or alpha level, of 0.05 was used when determining whether or not historical data from monitoring wells were normally distributed. P values, generated using the Shapiro Wilk Test for Normality, were then compared to the alpha level. The alpha level is the "cutoff" point for the test statistic in making a decision whether or not the data were normally distributed. P values show the strength of the test in determining whether or not the data were normally distributed. P values range from 0 to 1; the closer a P value is to 1, the better the data set is normally distributed. P values equal to or below 0.05 (alpha level) were not considered normally distributed.

Data sets that were not considered normally distributed were then transformed by taking the natural log of the original values. This is generally the most common transformation of water resources data. The Shapiro Wilk Test for Normality was run on the transformed data with the same criteria as the data sets above.

4.2 LINEAR REGRESSION AND MANN-KENDALL CORRELATION ANALYSES

Linear regression trend analyses were conducted on all concentration data that were found to be normally or lognormally distributed using the Shapiro Wilk Test for normality. In this instance, the null hypothesis for the test is that there is no trend in the data (Helsel and Hirsch 2002). The alpha level for the linear regression analysis was set at 0.05. P values generated by the analysis were then compared to the alpha level. P values less than the alpha value suggested a trend in the data.

The Mann-Kendall test for correlation was performed on data that were not normally or lognormally distributed. No assumptions need to be made about the distribution of the data in order to perform the Mann-Kendall test (Helsel and Hirsch 2002). The null hypothesis is the same as the linear regression test above in that there is no trend in the data. The alpha level was kept the same at 0.05 although the Mann-Kendall test computes a P value for a two-tailed prediction interval. As such, the alpha levels are actually 0.025 or 0.975. A P value that is smaller than 0.025 or larger than 0.975 suggests a correlation between the change in constituent concentration and time.

4.3 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on review of the linear regression trend graphs for data (Appendix B) and trend analysis (Table 5):

- Data for all constituents in samples collected from MW-4 show decreasing trends, of which nitrate and iron are statistically decreasing.
- Manganese results indicate non-detects in 50 percent or (greater) of the samples; therefore statistical analyses were not performed for manganese in MW-4.
- Data for all constituents in samples collected from MW-6 show statistically significant decreasing trends.
- If concentrations of constituents, especially iron and manganese, continue to decrease in samples collected from both MW-4 and MW-6 to below their respective MCLs, a decrease in the sampling schedule to semiannual is recommended for sampling optimization.

5. REFERENCES

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TABLES

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Table 1

Monitoring Well Construction Details

Yakima Training Center Limited Purpose Landfill, Yakima, Washington

Well ID	Total Depth (ft bgs)	Screen Interval (ft bgs)	Elevation at TOC (ft MSL)	Easting UTM (m)	Northing UTM (m)	Date Installed	Date Decommissioned
MW-1	117.00	107-117	1630a	-	-	4-Nov-88	23-Mar-09
MW-2	118.00	108-118	-	-	-	31-Aug-90	23-Mar-09
MW-3	157.00	147-157	1665a	-	-	11-Sep-90	23-Mar-09
MW-4	123.50	113.5-123.5	1757b	697580.46	5171258.31	5-Oct-90	-
MW-5	99.54	89-99	-	697214.08	5171716.90	20-Mar-09	-
MW-6	50.55	40-50	1633b	697082.17	5171566.82	21-Mar-09	-
MW-7	105.65	105-95	-	697104.11	5171718.79	20-Mar-09	-

Notes:

^a Approximate elevations recorded on well logs.

^b Approximate elevations determined using a handheld GPS on 15 June 2010.

Abbreviations and Acronyms:

bgs – below ground surface

ft – feet

GPS – global positioning system

m – meter

MSL – above mean sea level

TOC – top-of-casing

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Table 2
Depth-to-Water and Field Parameter Measurements
 Yakima Training Center Limited Purpose Landfill, Yakima, Washington

Well ID (TOC)	Date	Depth to Water (ft)	Elevation (ft MSL)	pH	Cond. (ms/cm)	Temp (°C)
MW-4 1,757	7-Apr-09	69.55	1,687.45	7.24	0.296	14.40
	19-May-09	67.39	1,689.61	6.71	0.286	15.40
	30-Jun-09	67.42	1,689.58	5.28	0.287	14.80
	11-Aug-09	68.05	1,688.95	6.29	0.283	14.70
	21-Sep-09	67.37	1,689.63	6.93	0.284	14.20
	2-Nov-09	67.34	1,689.66	6.13	0.296	14.30
	12-Jan-10	67.79	1,689.21	5.30	0.290	14.00
	16-Mar-10	67.75	1,689.25	6.66	0.288	14.20
	15-Jun-10	67.75	1,689.25	6.87	0.281	14.30
	29-Sep-10	67.73	1,689.27	6.12	0.315	13.10
	7-Dec-10	67.78	1,689.22	5.98	0.290	13.40
	22-Mar-11	67.65	1,689.35	6.99	0.299	13.20
	14-Jun-11	67.22	1,689.78	6.46	0.288	14.90
	22-Sep-11	68.82	1,688.18	6.90	0.285	15.90
	13-Dec-11	68.56	1,688.44	6.59	0.359	10.10
	28-Mar-12	67.59	1,689.41	-	-	-
	26-Jun-12	67.50	1,689.50	-	-	-
	21-Aug-12	67.29	1,689.71	-	-	-
	27-Dec-12	70.23	1,686.77	8.36	-	13.60
	20-Mar-13	72.62	1,684.38	8.44	0.227	14.70
	12-Jun-13	72.34	1,684.66	8.89	0.246	14.50
	26-Sep-13	67.27	1,689.73	7.44	-	14.10
	18-Dec-13	70.70	1,686.30	7.76	0.449	13.90
12-Mar-14	67.35	1,689.65	7.85	0.404	15.20	
17-Jun-14	73.40	1,683.60	-	-	-	
23-Sep-14	68.04	1,688.96	8.39	0.353	14.70	
9-Dec-14	*	*	*	*	*	
MW-5	7-Apr-09	Dry	-	-	-	-
	19-May-09	Dry	-	-	-	-
	30-Jun-09	Dry	-	-	-	-
	11-Aug-09	Dry	-	-	-	-
	21-Sep-09	Dry	-	-	-	-
	2-Nov-09	Dry	-	-	-	-
	12-Jan-10	Dry	-	-	-	-
	16-Mar-10	Dry	-	-	-	-
	15-Jun-10	Dry	-	-	-	-
	29-Sep-10	Dry	-	-	-	-
	7-Dec-10	Dry	-	-	-	-
	22-Mar-11	Dry	-	-	-	-
	14-Jun-11	Dry	-	-	-	-
	22-Sep-11	Dry	-	-	-	-
	13-Dec-11	Dry	-	-	-	-
	28-Mar-12	Dry	-	-	-	-
26-Jun-12	Dry	-	-	-	-	
21-Aug-12	Dry	-	-	-	-	

Well ID (TOC)	Date	Depth to Water (ft)	Elevation (ft MSL)	pH	Cond. (ms/cm)	Temp (°C)
MW-5 (cont.)	27-Dec-12	Dry	-	-	-	-
	20-Mar-13	Dry	-	-	-	-
	12-Jun-13	Dry	-	-	-	-
	26-Sep-13	Dry	-	-	-	-
	18-Dec-13	Dry	-	-	-	-
	12-Mar-14	Dry	-	-	-	-
	17-Jun-14	Dry	-	-	-	-
	23-Sep-14	Dry	-	-	-	-
MW-6 1,633	9-Dec-14	Dry	-	-	-	-
	7-Apr-09	38.64	1,594.36	7.19	0.416	14.80
	19-May-09	38.70	1,594.30	6.76	0.433	14.40
	30-Jun-09	38.73	1,594.27	6.39	0.403	14.10
	11-Aug-09	38.98	1,594.02	7.74	0.386	14.20
	21-Sep-09	39.04	1,593.96	7.92	0.386	14.80
	2-Nov-09	38.87	1,594.13	6.48	0.380	13.90
	12-Jan-10	39.05	1,593.95	6.50	0.380	12.00
	16-Mar-10	39.03	1,593.97	6.87	0.376	11.80
	15-Jun-10	38.97	1,594.03	7.31	0.361	13.40
	29-Sep-10	39.00	1,594.00	-	-	-
	7-Dec-10	39.06	1,593.94	6.07	0.161	9.50
	22-Mar-11	38.90	1,594.10	7.09	0.372	12.90
	14-Jun-11	38.78	1,594.22	6.53	0.364	13.50
	22-Sep-11	39.05	1,593.95	6.78	0.359	14.50
	13-Dec-11	38.96	1,594.04	7.80	0.281	11.00
	28-Mar-12	38.85	1,594.15	-	-	-
	26-Jun-12	38.88	1,594.12	-	-	-
	21-Aug-12	38.95	1,594.05	-	-	-
	27-Dec-12	39.10	1,593.90	8.73	-	14.20
20-Mar-13	41.75	1,591.25	8.44	0.349	14.70	
12-Jun-13	42.58	1,590.42	9.42	0.327	14.40	
26-Sep-13	39.40	1,593.60	7.26	-	12.50	
18-Dec-13	40.40	1,592.60	7.32	0.538	11.90	
12-Mar-14	39.50	1,593.50	7.66	0.526	13.90	
17-Jun-14	40.65	1,592.35	-	-	-	
23-Sep-14	40.10	1,592.90	8.08	0.416	14.20	
9-Dec-14	39.40	1,593.60	5.8	0.43	8.60	
MW-7	7-Apr-09	Dry	-	-	-	-
	19-May-09	Dry	-	-	-	-
	30-Jun-09	Dry	-	-	-	-
	11-Aug-09	Dry	-	-	-	-
	21-Sep-09	Dry	-	-	-	-
	2-Nov-09	Dry	-	-	-	-
	12-Jan-10	Dry	-	-	-	-
	16-Mar-10	Dry	-	-	-	-
	15-Jun-10	Dry	-	-	-	-
	29-Sep-10	Dry	-	-	-	-
	7-Dec-10	Dry	-	-	-	-
	22-Mar-11	Dry	-	-	-	-
14-Jun-11	Dry	-	-	-	-	
22-Sep-11	Dry	-	-	-	-	

Well ID (TOC)	Date	Depth to Water (ft)	Elevation (ft MSL)	pH	Cond. (ms/cm)	Temp (°C)
MW-7 (cont.)	13-Dec-11	Dry	-	-	-	-
	28-Mar-12	Dry	-	-	-	-
	26-Jun-12	Dry	-	-	-	-
	21-Aug-12	Dry	-	-	-	-
	27-Dec-12	Dry	-	-	-	-
	20-Mar-13	Dry	-	-	-	-
	12-Jun-13	Dry	-	-	-	-
	26-Sep-13	Dry	-	-	-	-
	18-Dec-13	Dry	-	-	-	-
	12-Mar-14	Dry	-	-	-	-
	17-Jun-14	Dry	-	-	-	-
23-Sep-14	Dry	-	-	-	-	
9-Dec-14	Dry	-	-	-	-	

Notes:

Conductivity probe did not work during 2012. Water quality parameters were not measured during the March, June, and August sampling events due to oversights.

Abbreviations and Acronyms:

-- No data, not applicable

* – Well not accessible due to road conditions

°C – degrees Celsius

Cond. (ms/cm) – conductivity in microsiemens per centimeter
 ft – feet

MSL – mean sea level

TOC – top of casing elevation above mean sea level

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Table 3
Summary of Geochemical and Leachate Indicator Analytes
 Yakima Training Center Limited Purpose Landfill, Yakima, Washington

Well ID	Sample Date	Alkalinity (mg/L)	Ammonia (mg/L)	Bicarbonate (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Nitrate (mg/L)	Sodium (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)
MW-4	7-Apr-09	149	<0.05	149	29.0	5.37	2.08	11.8	0.03	2.03	25.1	16.3	206	<0.5
	19-May-09	147	<0.05	147	28.1	5.58	1.08	11.1	0.02	2.22	26.0	17.3	202	<0.5
	1-Jul-09	147	<0.05	147	27.4	5.63	0.54	10.6	0.01	2.19	25.2	17.0	200	0.69
	12-Aug-09	136	<0.05	136	28.5	5.48	0.83	11.1	0.02	2.11	25.3	16.9	242	<0.5
	22-Sep-09	146	<0.05	146	26.6	5.89	0.72	10.0	0.02	2.27	21.4	17.4	249	0.63
	3-Nov-09	140	<0.04	140	72.0	5.00	1.30	29.0	<0.05	2.20	65.0	17.0	210	<1.0
	13-Jan-10	140	<0.04	140	30.0	5.50	0.68	12.0	<0.02	2.40	27.0	-	160	<1.0
	17-Mar-10	143	<0.6	143	31.0	5.00	0.28	12.0	<0.02	2.20	27.0	16.0	188	<1.0
	15-Jun-10	150	<0.6	150	28.0	5.10	0.34	8.4	<0.02	2.30	27.0	16.0	110	<1.0
	29-Sep-10	140	<0.6	140	30.0	5.10	<0.2	12.0	<0.02	2.20	25.0	16.0	130	<1.0
	7-Dec-10	140	-	140	32.0	5.20	1.40	14.0	<0.02	2.30	24.0	16.0	180	<1.0
	22-Mar-11	140	-	140	28.0	5.80	0.67	12.0	<0.02	2.20	28.0	15.0	440	<1.0
	14-Jun-11	140	-	140	30.0	5.20	0.27	11.0	<0.02	2.20	34.0	16.0	200	<1.0
	22-Sep-11	140	<0.05	140	32.0	5.00	0.32	13.0	<0.02	2.1 H	27.0	16.0	200	<1.0
	14-Dec-11	140	<0.05	140	29.0	-	1.10	11.0	<0.02	2.20	28.0	-	200	<1.0
	28-Mar-12	140	<0.1	140	30.0	5.10	<0.2	12.0	<0.02	2.20	28.0	15.0	350	<1.0
26-Jun-12	140	<0.1	140	29.0	4.90	2.60	13.0	0.11	2.10	26.0	15.0	240	<1.0	
21-Aug-12	140	<0.1	140	28.0	5.00	<0.2	11.0	<0.02	2.20	30.0	16.0	190	1.0	
Duplicate	27-Dec-12	149	0.02	149	28.9	5.40	<0.05	11.5	0.01	2.20	29.3	17.0	198	<1.5
	27-Dec-12	150	0.03	150	29.0	5.40	<0.05	11.7	0.01	2.20	29.4	17.1	199	<1.5
	20-Mar-13	149	0.05	149	28.9	5.50	<0.05	11.5	0.01	2.20	27.9	17.0	197	4.9
	12-Jun-13	147	<0.05	147	29.3	5.70	0.07	11.4	<0.02	2.10	28.0	16.8	208	1.5
Duplicate	26-Sep-13	146	<0.05	146	29.0	5.40	<0.05	11.4	<0.02	2.20	27.4	16.8	182	1.5
	18-Dec-13	149	0.11	149	29.0	5.60	0.05	11.1	<0.02	2.10	27.6	17.5	204	1.5
	18-Dec-13	150	<0.05	150	28.9	5.60	0.05	11.2	<0.02	2.20	27.7	18.0	206	1.5
Duplicate	12-Mar-14	144	0.044	144	28.4	5.50	< 0.05	11.1	0.004	2.10	27.3	16.2	176	< 1.5
	17-Jun-14	152	0.033	152	28.8	5.90	< 0.05	10.7	0.008	2.10	27.4	17.0	196	6.42
	17-Jun-14	151	0.043	151	28.8	5.90	< 0.05	10.8	0.007	2.10	27.4	17.0	198	6.62
Duplicate	23-Sep-14	151	-	151	27.9	4.62	0.0046	11.0	0.0095	1.87	27.0	16.6	204	0.58
	9-Dec-14	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-6	7-Apr-09	212	0.14	212	39.2	11.00	20.70	15.5	0.92	158	57.3	30.9	307	3.78
	19-May-09	219	0.11	219	36.1	15.30	7.15	11.0	0.34	1.94	67.1	36.9	318	4.04
	1-Jul-09	210	<0.05	210	33.9	12.30	9.79	11.4	0.39	2.47	61.9	23.9	316	2.97
	12-Aug-09	159	<0.05	159	40.5	11.50	22.90	15.9	0.99	2.66	61.3	31.3	548	2.48
	22-Sep-09	199	<0.05	199	36.9	9.56	20.00	14.7	0.07	2.40	69.4	28.2	269	2.05
	3-Nov-09	190	<0.04	190	26.0	8.10	4.10	9.30	0.17	2.30	57.0	26.0	310	1.10

Well ID	Sample Date	Alkalinity (mg/L)	Ammonia (mg/L)	Bicarbonate (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Nitrate (mg/L)	Sodium (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)
MW-6 (cont.) Duplicate	13-Jan-10	180	<0.04	180	29.0	8.50	2.20	11.0	0.09	2.60	68.0	-	350	<1.0
	13-Jan-10	190	<0.04	180	28.0	8.60	1.80	10.0	0.08	2.60	67.0	-	310	1.20
	17-Mar-10	190	<0.6	190	33.0	7.20	18.00	17.0	0.64	2.10	66.0	22.0	390	1.20
	15-Jun-10	190	<0.6	190	27.0	6.30	4.00	8.70	0.27	2.00	67.0	20.0	230	<1.0
	29-Sep-10	180	<0.6	180	25.0	6.60	0.37	10.0	0.19	1.90	63.0	24.0	220	<1.0
	7-Dec-10	180	-	180	27.0	7.30	5.90	12.0	0.28	2.10	18.0	20.0	280	<1.0
	22-Mar-11	180	-	180	26.00	6.70	6.80	12.0	0.29	2.00	59.0	19.0	810	<1.0
	14-Jun-11	180	-	180	23.0	7.10	3.50	10.0	0.14	2.00	51.0	19.0	280	1.10
	22-Sep-11	180	<0.05	180	26.0	6.20	3.10	12.0	0.16	1.8 H	63.0	18.0	240	<1.0
	14-Dec-11	230	<0.05	230	22.0	-	0.70	9.00	0.023	1.90	59.0	-	260	1.20
	28-Mar-12	180	<0.1	180	28.0	6.90	8.20	13.0	0.49	1.80	65.0	18.0	290	<1.0
	26-Jun-12	180	<0.1	180	24.0	6.20	9.20	12.0	0.40	1.80	57.0	19.0	260	1.20
	21-Aug-12	180	0.32	180	21.0	6.50	<0.2	8.30	<0.02	1.80	59.0	19.0	270	1.50
	27-Dec-12	191	0.03	191	22.0	7.20	<0.05	9.30	0.055	1.90	63.4	20.5	259	<1.5
	20-Mar-13	190	0.09	190	21.5	7.10	0.14	9.31	0.062	1.80	60.7	21.0	256	4.50
	12-Jun-13	188	<0.05	188	24.7	7.30	9.57	12.8	0.329	1.70	62.0	21.7	259	1.5
26-Sep-13	182	<0.05	182	21.6	6.80	<0.05	8.71	<0.02	1.80	60.5	20.2	252	1.5	
18-Dec-13	184	<0.05	184	21.2	7.60	0.05	8.75	<0.02	1.80	60.2	20.6	252	1.5	
12-Mar-14	178	0.02	178	20.7	7.60	<0.05	8.68	0.016	1.70	59.0	20.0	246	<1.5	
17-Jun-14	184	0.022	184	21.1	7.20	<0.05	8.56	0.019	1.80	58.2	19.8	232	<1.5	
23-Sep-14	189	-	189	21.0	5.98	0.0053	8.74	0.0212	1.35	58.7	18.1	232	0.66	
9-Dec-14	193	<0.05	193	21.4	5.86	<0.01	9.07	0.065	1.50	60.0	19.9	264	0.56	
GW MCL	-	-	-	-	-	250	0.30	-	0.05	10	-	250	500	-

Notes:

H – Sample was analyzed beyond holding time specified in Sampling and Analysis Plan by 2 days.

BOLD – Analyte detected above laboratory method recording limit.

SHADE – Analyte detected above groundwater criteria value per WAC Chapter 173-200-040.

GW MCL – Groundwater maximum contaminant level per WAC Chapter 173-200-040.

<0.05 – Analyte not detected above laboratory reporting limit of 0.05 mg/L.

Abbreviations and Acronyms:

-- No data, not applicable

* – Well not accessible, was not sampled

mg/L – milligrams per liter

TDS – total dissolved solids

TOC – top of casing elevation in feet above mean sea level

Table 4

Relative Percent Differences Between Primary and Duplicate Samples
 Yakima Training Center Limited Purpose Landfill, Yakima, Washington

	Sample Date	Alkalinity (mg/L)	Ammonia (mg/L)	Bicarbonate (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Nitrate (mg/L)	Sodium (mg/L)	Sulfate (mg/L)	TDS (mg/L)	TOC (mg/L)
MW-4														
Primary	17-Jun-14	152	0.033	152	28.8	5.90	< 0.05	10.7	0.008	2.10	27.4	17.0	196	6.4
Duplicate		151	0.043	151	28.8	5.90	< 0.05	10.8	0.007	2.10	27.4	17.0	198	6.6
RPD		0.7%	26.3%	0.7%	0.0%	0.0%	-	0.9%	13.3%	0.0%	0.0%	0.0%	1.0%	3.1%

Notes:

<0.05 – Analyte not detected above laboratory recording limit of 0.05 mg/L.

RPD – Relative percent difference between the primary and duplicate samples. Typically, if the RPD is below 50%, then no corrective action is needed.

Abbreviations and Acronyms:

-- No data; not applicable

mg/L – milligrams per liter

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Table 5
Statistics Results

Yakima Training Center Limited Purpose Landfill, Yakima, Washington

Well ID	MW-4						MW-6					
Constituent	Chloride (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Chloride (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	TDS (mg/L)
Descriptive Statistics												
First Sample Date	7-Apr-09						7-Apr-09					
Last Sample Date	23-Sep-14						9-Dec-14					
Number of Samples	25	26	26	26	24	26	26	27	27	27	25	27
Number of NDs	0	9	15	0	0	0	0	6	3	0	0	0
Sample Mean	5.34	0.58	0.02	2.17	16.41	212.15	7.92	5.82	0.24	7.74	22.28	303.70
Standard Deviation	0.33	0.67	0.02	0.10	0.74	63.11	2.26	7.06	0.27	30.03	4.83	120.38
Minimum Concentration	4.62	0.05	0.004	1.87	15	110	5.86	0.0053	0.016	1.35	18	220
Maximum Concentration	5.90	2.6	0.11	2.4	17.4	440	15.3	22.9	0.991	158	36.9	810
Date ^a	17-Jun-14	26-Jun-12	26-Jun-12	13-Jan-10	22-Sep-09	22-Mar-11	19-May-09	12-Aug-09	12-Aug-09	7-Apr-09	19-May-09	22-Mar-11
Distribution of Data												
P Value	0.533	0.002	-	0.008	0.028	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	<0.0001
Normally Distributed?	Yes	No	-	No	No	No	No	No	No	No	No	No
Log P Value	-	0.087	-	0.004	0.020	0.0012	0.0007	0.005	0.043	<0.0001	0.0008	<0.0001
Log Normally Distributed?	-	Yes	-	No	No	No	No	No	No	No	No	No
Trend Analysis												
Linear Regression P Value	0.7238	0.0365	-	-	-	-	-	-	-	-	-	-
Slope	-2.4860E-05	-0.001913	-	-	-	-	-	-	-	-	-	-
Trend	Down	Down	-	-	-	-	-	-	-	-	-	-
Statistically Significant?	No	Yes	-	-	-	-	-	-	-	-	-	-
Tau Statistic	-	-	-	-0.34	-0.03	-0.09	-0.43	-0.62	-0.48	-0.78	-0.45	-0.47
Two Tailed P Value	-	-	-	0.0232	0.8593	0.5216	0.0023	<0.0001	0.0005	<0.0001	0.0020	0.0007
Trend	-	-	-	Down	Down	Down	Down	Down	Down	Down	Down	Down
Statistically Significant?	-	-	-	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Notes:

^a Date sample with highest concentration of constituent was collected from monitoring well.
 Statistics not performed on data sets that are over half non-detect.

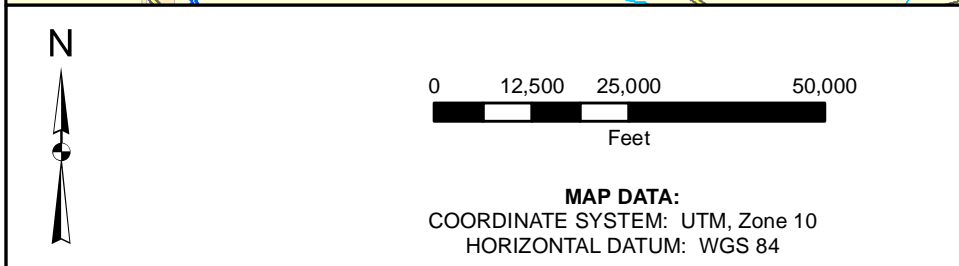
Abbreviations and Acronyms:

-- not applicable
 mg/L – milligrams per liter
 ND – non-detect
 TDS – total dissolved solids

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FIGURES

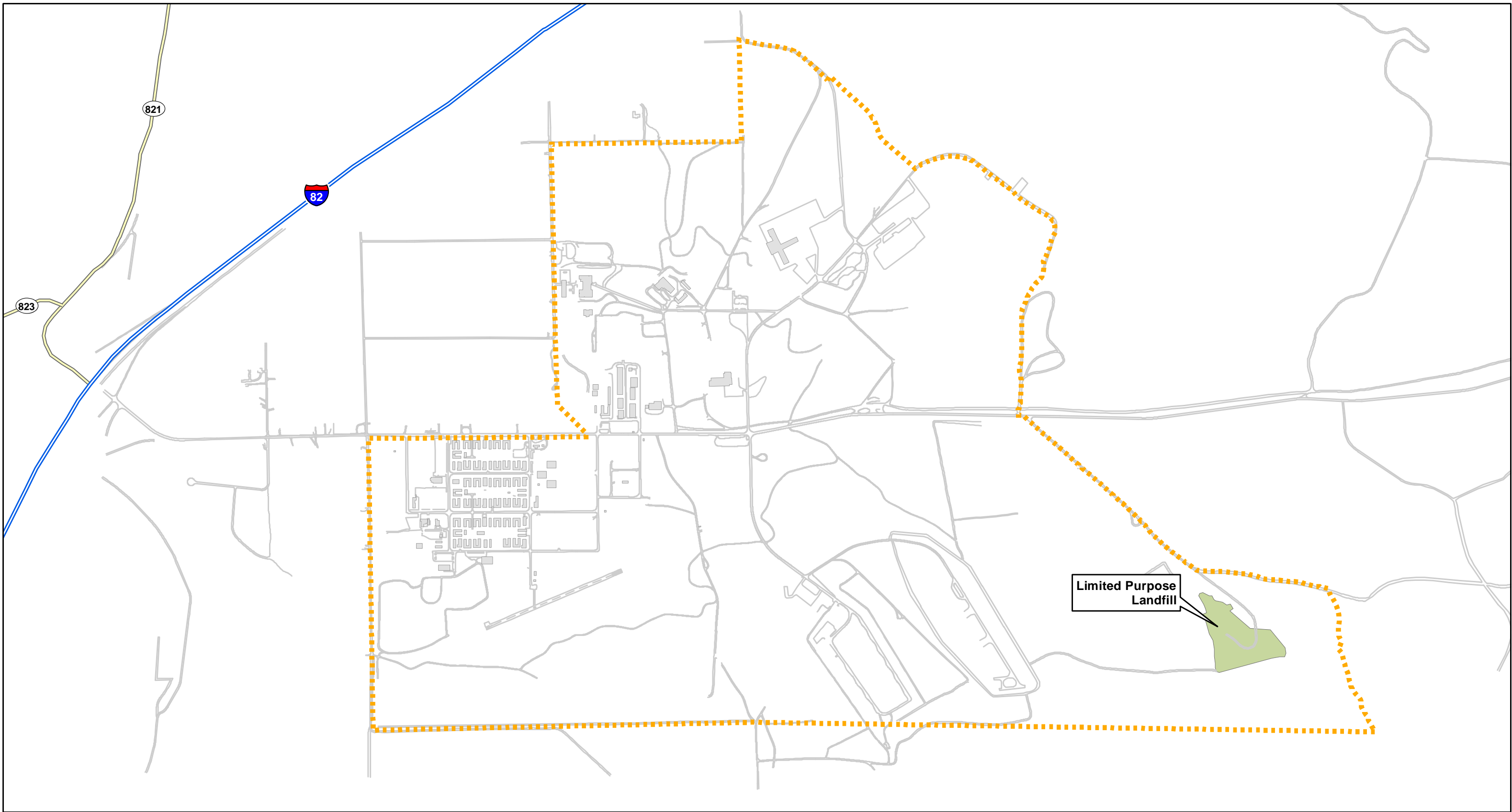
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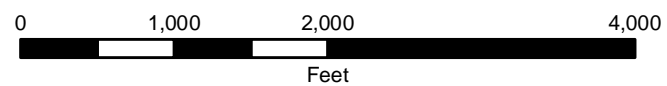
MAP DATA:
 COORDINATE SYSTEM: UTM, Zone 10
 HORIZONTAL DATUM: WGS 84

JBLM
 Yakima Training Center
 Location Map

Figure
1



-  LIMITED PURPOSE LANDFILL
-  CANTONMENT AREA BOUNDARY

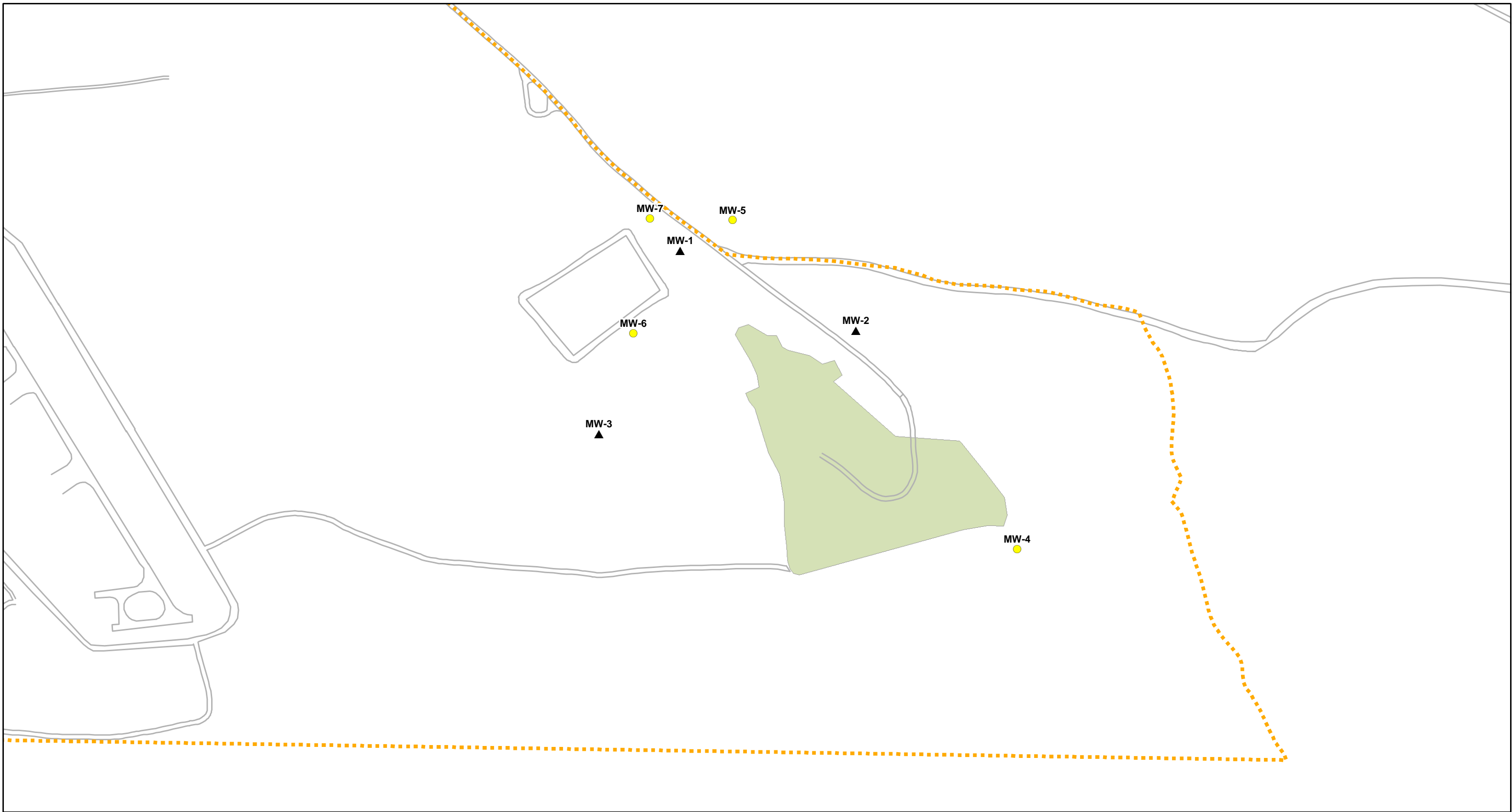


1 inch = 1,250 feet

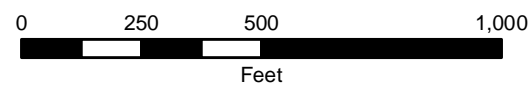
MAP DATA:
 COORDINATE SYSTEM: UTM, Zone 10
 HORIZONTAL DATUM: WGS 84

PROJECT LOCATION MAP

Figure
2



- ACTIVE MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- LIMITED PURPOSE LANDFILL
- CANTONMENT AREA BOUNDARY

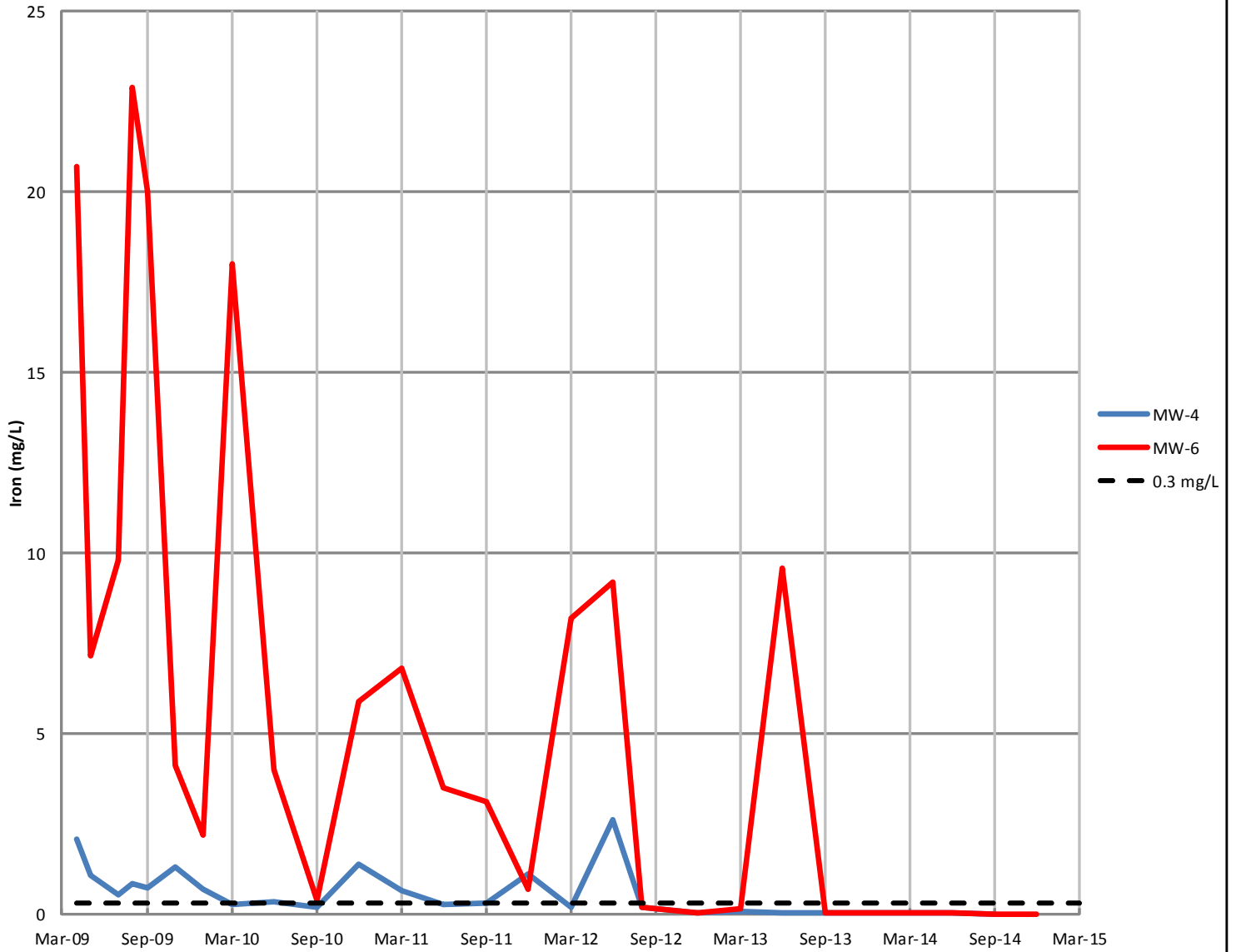


1 inch = 400 feet

MAP DATA:
 COORDINATE SYSTEM: UTM, Zone 10
 HORIZONTAL DATUM: WGS 84

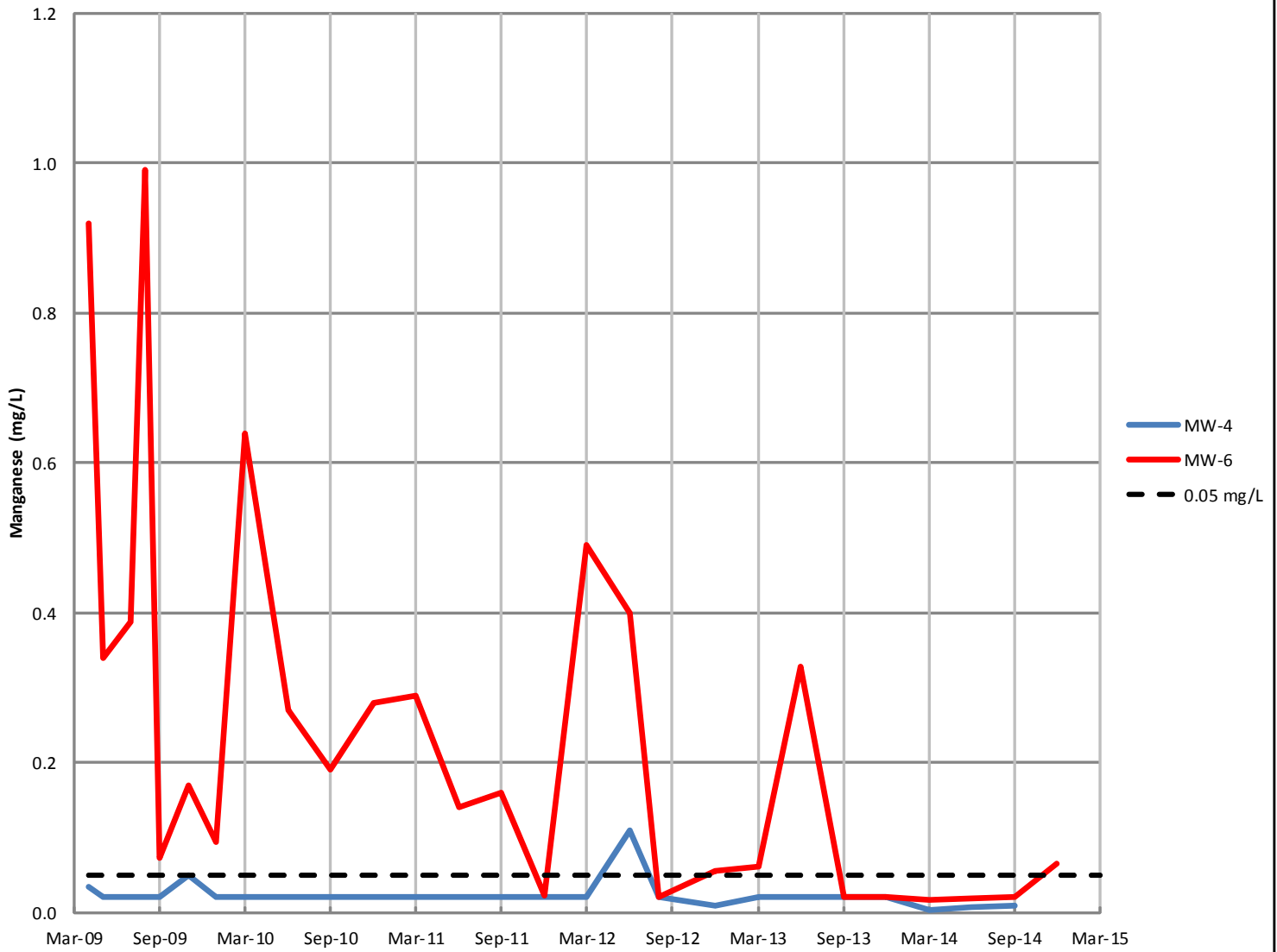
LANDFILL MONITORING WELL
 LOCATION

Figure
3



JBLM
 Yakima Training Center
 Iron Concentrations
 over Time

Figure
4



<p>JBLM Yakima Training Center</p> <p>Manganese Concentrations over Time</p>	<p>Figure</p> <h1>5</h1>
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APPENDIX A
COMPLETED FIELD FORMS AND
LABORATORY ANALYTICAL REPORTS
(laboratory reports on CD only)

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Completed Field Forms

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Groundwater Monitoring Well Field Parameters
 Limited Purpose Landfill, Yakima Training Center, Washington

Monitoring Well MW-4

Time	1620	1100			
DTW	67.35	—			
pH	 	7.85			
Cond.	 	404			
Turb.	 	—			
Temp	 	15.2			
DO	 	8.16 ^{83.3%}			
ORP	 	-46			

Notes

11 MAR 14

Sample Data 12 MAR 14

Sample Time 1100

1620 AT MW-4 TO PURGE / PUMP DRY

1630 BEGON PUMPING

1705 END PUMPING DTW \approx 118 FT

1710 OFFSITE WILL BE BACK @ 1000 TOMORROW

TO SAMPLE MW-4 & MW-6 & MEASURE PARAMETERS

12 MAR 14 T. LYNOTT, J. BECKER, P. SHANLEY ONSITE

1035 ARRIVE AT MW-4 TO SAMPLE DTW \approx 85.2 FT

PULLED PUMP UP \approx 8' OFF OF BOTTOM

1100 SAMPLE TIME - METALS FF

1125 SETTING UP ON MW-6

1140 SAMPLE TIME FOR MW-6 METALS SAMPLE FIELD FILTERED

Signature



Date

12 MAR 14

Groundwater Monitoring Well Field Parameters
 Limited Purpose Landfill, Yakima Training Center, Washington

Monitoring Well mw-6

Time	1600 ^{11 MAR 14}				
DTW	39.5	40.3			
pH	 	7.66			
Cond.	 	0528			
Turb.	 	—	—	—	—
Temp	 	13.9			
DO	 	8.42 82.8%			
ORP	 	-36			

Notes

Sample Data 12 MAR 14
 Sample Time 1140

11 MAR 14
 1600 ONSITE TO PURGE WELLS DRY WELL BE BACK
 TOMORROW TO SAMPLE WELLS
 1605 PUMP IS ON TO PURGE WELL
 1607 PUMP IS DRY
 1610 MW-7 IS DRY
 1612 MW-5 IS DRY

[Large handwritten scribble/signature]

Signature *[Signature]* Date 12 MAR 14

2014Q02 Groundwater Sampling Event
 Limited Purpose Landfill, Yakima Training Center, Washington

Monitoring Well	Depth to Water	Sample Date	Sample Time	Conductivity	Temperature
MW-4	73.4	17JUN14	1030	DUP-1 @ 0900	
MW-5	DRY	17JUNE14	X		
MW-6	40.65	17JUN14	1100		
MW-7	DRY	17JUN14	X		

Notes: Collect 1 Dupe J. BECKER ON SITE TO PURGE WELLS MW-4, MW-6.

PUMP ON @ MW-6 @ 1415. PUMP OFF @ 1419. WELLS

MW-5, MW-7 BOTH DRY. PUMP ON @ MW-4 @ 1435.

PUMPED WELL ~ 15 MIN. 20' OF DRAWDOWN. OFF SITE @ 1500,

16 JUNE 2014.

J. BECKER ON SITE TO SAMPLE WELLS MW-4, MW-6 @ 0900, 17 JUNE 2014.

CONTROLLER WOULD NOT RAMP UP TO NECESSARY LEVEL TO PUMP

~~MW-4.~~ BOTH MW-4, MW-6 WERE BAILED. PARAMETERS

WERE NOT TAKEN AND SAMPLES WERE NOT FIELD FILTERED

(NOTED ON THE C.O.C.) OFF SITE TO THE LAB @ 1200.

WATER SAMPLING LOG

Project: JBLM - Yakima Training Center

Well No.: MW-4 Date Well Purged: 9-22-14 Date Well Sampled: 9.23.14

Well Data

Measuring Point (MP): Top of Casing

Depth to Water Below MP: 88.20 Purge Method: groundfos

DTW - 68.04 original ↳ post purging

Water Sample Data

Sample Number: MW-4 Time Sample Collected: 0930

Sampling Method: groundfos

Sampling Personnel: D Ramquist, M Farrow

Remarks: dedicated tubing

Checklist

- Well capped and locked (pre-sampling) new lock - master 22 - key # 337
- Water level measured
- Appropriate sample containers filled and capped
- Samples placed in cooler with blue ice
- PDB deployed (if applicable)
- Well capped and locked (post-sampling)

Liters Out	Time	PH	Temp	DO	Spec. Cond.	ORP	Turb
	0924	8.16	15.10	9.20	.350	117	47.5
	0927	8.27	14.20	8.08	.354	124	30.4
	0930	8.39	14.70	7.68	.353	132	29.4

purged well on 9/22 @ ~ 200 ml

WATER SAMPLING LOG

Project: JBLM – Yakima Training Center

Well No.: MW-6 Date Well Purged: 12-8-14 Date Well Sampled: 12-9-14

Well Data

Measuring Point (MP): Top of Casing

Depth to Water Below MP: 57.40 Purge Method: low flow

Water Sample Data

Sample Number: MW-6 Time Sample Collected: 0930

Sampling Method: low flow

Sampling Personnel: D Ramquist, M Fauron

Remarks: Well purged dry during sampling - could not take duplicate

Checklist

- Well capped and locked (pre-sampling)
- Water level measured
- Appropriate sample containers filled and capped
- Samples placed in cooler with blue ice
- PDB deployed (if applicable)
- Well capped and locked (post-sampling)

Liters Out	Time	PH	Temp	DO	Spec. Cond.	ORP	Turb
	0928	5.8	8.1	9.71	430	278	574

12-9-14 DTW-41.6

Laboratory Analytical Reports
(on CD only)

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January 19, 2015

Analytical Report for Service Request No: K1410444
Revised Report No: K1410444.01

Keir Craigie
Tetra Tech, Inc.
19803 North Creek Parkway
Bothell, WA 98011

RE: JBLM-YTC/194-8468

Dear Keir:

Enclosed are the revised results of the samples submitted to our laboratory on September 25, 2014. For your reference, these analyses have been assigned our service request number K1410444.01.

Per your request, results for Calcium, Iron, Magnesium, Manganese and Sodium have been added to this report.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at Gregory.Salata@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Gregory Salata, Ph.D.
Client Services Manager

GS/aj

Page 1 of 250



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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
 - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses**

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjllabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

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ALS ENVIRONMENTAL

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/ 194-8468
Sample Matrix: Water

Service Request No.: K1410444
Date Received: 09/25/14

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at ALS Environmental on 09/25/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Nitrite and Nitrate as Nitrogen by EPA Method 300.0:

Sample MW-4 and MW-6 were received with insufficient holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

Carbon, Total Organic by Method 9060:

The Relative Percent Difference (RPD) criterion for the replicate analysis in sample MW-6 was not applicable because the concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Dissolved Metals

No anomalies associated with the analysis of these samples were observed.

Approved by _____





Chain of Custody

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52879

CHAIN OF CUSTODY

52879

001

SR# 6740444
 COC Set ___ of ___
 COC# _____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
 www.alsglobal.com

Project Name		Project Number		6H		48H		7D		14D		28D		180D		Remarks													
Project Manager		Company		Address		Phone #		Sampler Signature		Sampler Printed Name		NUMBER OF CONTAINERS																	
CLIENT SAMPLE ID	LABID	SAMPLING Date	SAMPLING Time	Matrix	SM 9221 B / Tot. Coli MT	300.0 / NO2	300.0 / NO3	300.0 / NO3 Diss	SM 5210 B / BOD 5 Day	8270D / PAH SIM	8270D / SVO	8330B / Nitrate+Nitrite	SM 2540 C / TDS	8260C / VOC FP	NWTPH-Dx / NW_TPH	NWTPH-Gx / NW_GAS	SM 2320 B / Alkalinity D	SM 2320 B / Bicarb Alk	SM 4500-CN- E / CN T	300.0 / SO4-D	300.0 / NO2-NO3-T	300.0 / NO2-NO3-T	7470A / Hg	9060 / TOC T	SM 4500-NH3 G / Ammonia	SM 5220 C / COD T	200.7 / Metals D		
1. MW-4		9/23/14	0930	W 4																	X	X		X	X			X	
2. MW-6		9/23/14	0955	W 4																	X	X		X	X			X	
3.																													
4.																													
5.																													
6.																													
7.																													
8.																													
9.																													
10.																													

Report Requirements

I. Routine Report: Method Blank, Surrogate, as required

II. Report Dup., MS, MSD as required

III. CLP Like Summary (no raw data)

IV. Data Validation Report

V. EDD

Invoice Information

P.O.# _____

Bill To: _____

Turnaround Requirements

___ 24 hr. ___ 48 hr.

Standard

Requested Report Date _____

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Special Instructions/Comments: Filter Metals

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One)

1 cooler

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <u>Dana Das</u>	Signature <u>[Signature]</u>	Signature	Signature	Signature	Signature
Printed Name <u>Dana Ramquist</u>	Printed Name <u>Les Kennedy</u>	Printed Name	Printed Name	Printed Name	Printed Name
Firm <u>Tetra Tech</u>	Firm <u>ALS</u>	Firm	Firm	Firm	Firm
Date/Time <u>9/24/14 1200</u>	Date/Time <u>9/25/14 1000</u>	Date/Time	Date/Time	Date/Time	Date/Time



Cooler Receipt and Preservation Form

Client / Project: Tetra Tech Service Request K14 10444

Received: 9/25/14 Opened: 9/25/14 By: UU Unloaded: 9/25/14 By: UU

- 1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
- 2. Samples were received in: (circle) Cooler Box Envelope Other _____ NA
- 3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 front
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number		NA	Filed
0.6	0.6	0.9	0.9	0	276	52879	9708	5357	6152	
0.5	0.7	4.5	4.7	+0.2	308	↓	9708	5357	6141	NA 9/25/14 UU
2.8	2.6	5.7	5.5	0.2	336		9708	5357	6130	

- 4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves _____
- 5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- 6. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Y N
- 7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- 8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
- 9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- 10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below. NA Y N
- 11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
- 12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Out of	Head-	Broke	pH	Reagent	Volume	Reagent Lot	Initials	Time
	Bottle Type	Temp	space				added	Number		

Notes, Discrepancies, & Resolutions: Received 2 VOA vials labeled TVR-7 that is not listed on the COC FA 9/25/14



General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Chloride, Dissolved

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	4.62	0.40	0.06	0.06	2	09/25/14 19:15	9/25/14	
MW-6	K1410444-002	5.98	0.40	0.06	0.06	2	09/25/14 19:29	9/25/14	
Method Blank	K1410444-MB	ND U	0.20	0.03	0.03	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/25/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1411992-03

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1411992-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Chloride, Dissolved	300.0	0.40	0.06	0.06	4.41	4.41	4.41	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Chloride, Dissolved

Sample Name: Batch QC
Lab Code: KQ1411992-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411992-03MS		Duplicate Matrix Spike KQ1411992-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Chloride, Dissolved	4.41	13.6	10.0	92	13.6	10.0	92	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Chloride, Dissolved

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	4.92	5.00	98	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Chloride, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	5.00	4.88	98	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	5.00	4.87	97	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	5.00	4.85	97	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	5.00	4.87	97	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	5.00	4.85	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Chloride, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.20	0.03	0.03	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.20	0.03	0.03	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.20	0.03	0.03	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.20	0.03	0.03	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.20	0.03	0.03	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Nitrite as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	ND U	0.10	0.006	0.004	2	09/25/14 19:15	9/25/14	*
MW-6	K1410444-002	ND U	0.10	0.006	0.004	2	09/25/14 19:29	9/25/14	*
Method Blank	K1410444-MB	ND U	0.050	0.003	0.002	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/25/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC **Units:** mg/L
Lab Code: KQ1411991-03 **Basis:** NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1411991-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Nitrite as Nitrogen	300.0	0.10	0.006	0.004	ND	ND	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Nitrite as Nitrogen

Sample Name: Batch QC
Lab Code: KQ1411991-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411991-03MS		Duplicate Matrix Spike KQ1411991-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrite as Nitrogen	ND U	10.3	10.0	103	10.4	10.0	104	90-110	<1	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Nitrite as Nitrogen

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	2.42	2.50	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Nitrite as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	2.50	2.41	97	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	2.50	2.40	96	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	2.50	2.41	96	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	2.50	2.42	97	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	2.50	2.40	96	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Nitrite as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.050	0.003	0.002	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.050	0.003	0.002	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.050	0.003	0.002	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.050	0.003	0.002	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.050	0.003	0.002	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Nitrate as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	1.87	0.10	0.04	0.01	2	09/25/14 19:15	9/25/14	*
MW-6	K1410444-002	1.35	0.10	0.04	0.01	2	09/25/14 19:29	9/25/14	*
Method Blank	K1410444-MB	ND U	0.050	0.020	0.005	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: NA
Date Received: NA

Units: mg/L
Basis: NA

Replicate Sample Summary
Nitrate as Nitrogen

Sample Name:	Lab Code:	LOQ	LOD	MDL	Sample Duplicate		Average	RPD	RPD Limit	Date Analyzed
					Result	Result				
Batch QC	K1410335-004DUP	0.10	0.04	0.01	0.15	0.15	0.151	<1	20	09/25/14
Batch QC	KQ1411991-03DUP	0.10	0.04	0.01	0.26	0.25	0.254	1	20	09/25/14

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Nitrate as Nitrogen

Sample Name: Batch QC
Lab Code: K1410335-004
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1410335-004MS		Duplicate Matrix Spike K1410335-004DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrate as Nitrogen	0.15	9.43	10.0	93	9.47	10.0	93	90-110	<1	20

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ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Nitrate as Nitrogen

Sample Name: Batch QC
Lab Code: KQ1411991-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411991-03MS		Duplicate Matrix Spike KQ1411991-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrate as Nitrogen	0.26	9.52	10.0	93	9.61	10.0	94	90-110	<1	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Nitrate as Nitrogen

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	2.37	2.50	95	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Nitrate as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	2.50	2.37	95	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	2.50	2.36	95	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	2.50	2.36	94	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	2.50	2.37	95	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	2.50	2.35	94	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Nitrate as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.050	0.020	0.005	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.050	0.020	0.005	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.050	0.020	0.005	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.050	0.020	0.005	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.050	0.020	0.005	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Sulfate, Dissolved

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	16.6	0.40	0.04	0.02	2	09/25/14 19:15	9/25/14	
MW-6	K1410444-002	18.1	1.0	0.1	0.05	5	09/25/14 19:01	9/25/14	
Method Blank	K1410444-MB	ND U	0.20	0.02	0.01	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.

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QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/25/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1411992-03

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1411992-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Sulfate, Dissolved	300.0	0.40	0.04	0.02	7.01	6.89	6.95	2	20

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ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Sulfate, Dissolved

Sample Name: Batch QC
Lab Code: KQ1411992-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411992-03MS		Duplicate Matrix Spike KQ1411992-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Sulfate, Dissolved	7.01	16.3	10.0	93	16.3	10.0	93	90-110	<1	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Sulfate, Dissolved

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	4.87	5.00	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Sulfate, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	5.00	4.88	98	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	5.00	4.85	97	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	5.00	4.83	97	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	5.00	4.87	97	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	5.00	4.85	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Sulfate, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.20	0.02	0.01	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.20	0.02	0.01	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.20	0.02	0.01	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.20	0.02	0.01	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.20	0.02	0.01	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 353.2
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	2.10	0.10	0.04	0.04	2	10/01/14 06:37	10/1/14	
MW-6	K1410444-002	1.77	0.050	0.020	0.020	1	10/01/14 06:37	10/1/14	
Method Blank	K1410444-MB	ND U	0.050	0.020	0.020	1	10/01/14 06:37	10/1/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 10/01/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-4
Lab Code: K1410444-001

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1410444-001DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Nitrate+Nitrite as Nitrogen	353.2	0.10	0.04	0.04	2.10	2.10	2.10	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 10/1/14
Date Extracted: 10/1/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name: MW-4
Lab Code: K1410444-001
Analysis Method: 353.2
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike K1410444-001MS			Duplicate Matrix Spike K1410444-001DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Nitrate+Nitrite as Nitrogen	2.10	7.15	5.00	101	7.15	5.00	101	89-114	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 10/01/14
Date Extracted: 10/01/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 414117

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	3.56	3.52	101	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	414117	KQ1412202-01	10/01/14 06:37	1.00	0.979	98	90-110
CCV2	414117	KQ1412202-02	10/01/14 06:37	1.00	0.970	97	90-110
CCV3	414117	KQ1412202-03	10/01/14 06:37	1.00	0.952	95	90-110
CCV4	414117	KQ1412202-04	10/01/14 06:37	1.00	0.974	97	90-110
CCV5	414117	KQ1412202-05	10/01/14 06:37	1.00	0.980	98	90-110
CCV6	414117	KQ1412202-06	10/01/14 06:37	1.00	0.981	98	90-110
CCV7	414117	KQ1412202-07	10/01/14 06:37	1.00	0.985	99	90-110
CCV8	414117	KQ1412202-08	10/01/14 06:37	1.00	0.986	99	90-110
CCV9	414117	KQ1412202-09	10/01/14 06:37	1.00	0.991	99	90-110
CCV10	414117	KQ1412202-10	10/01/14 06:37	1.00	0.987	99	90-110
CCV11	414117	KQ1412202-11	10/01/14 06:37	1.00	0.906	91	90-110
CCV12	414117	KQ1412202-12	10/01/14 06:37	1.00	0.957	96	90-110
CCV13	414117	KQ1412202-13	10/01/14 06:37	1.00	0.970	97	90-110
CCV14	414117	KQ1412202-14	10/01/14 06:37	1.00	1.02	102	90-110
CCV15	414117	KQ1412202-15	10/01/14 06:37	1.00	1.02	102	90-110
CCV16	414117	KQ1412202-16	10/01/14 06:37	1.00	0.955	96	90-110
CCV17	414117	KQ1412202-17	10/01/14 06:37	1.00	1.01	101	90-110
CCV18	414117	KQ1412202-35	10/01/14 06:37	1.00	1.06	106	90-110
CCV19	414117	KQ1412202-36	10/01/14 06:37	1.00	1.04	104	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	414117	KQ1412202-18	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB2	414117	KQ1412202-19	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB3	414117	KQ1412202-20	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB4	414117	KQ1412202-21	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB5	414117	KQ1412202-22	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB6	414117	KQ1412202-23	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB7	414117	KQ1412202-24	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB8	414117	KQ1412202-25	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB9	414117	KQ1412202-26	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB10	414117	KQ1412202-27	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB11	414117	KQ1412202-28	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB12	414117	KQ1412202-29	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB13	414117	KQ1412202-30	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB14	414117	KQ1412202-31	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB15	414117	KQ1412202-32	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB16	414117	KQ1412202-33	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB17	414117	KQ1412202-34	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB18	414117	KQ1412202-37	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB19	414117	KQ1412202-38	10/01/14 06:37	0.050	0.020	0.020	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 9060
Prep Method: None

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-4	K1410444-001	0.58	0.50	0.20	0.07	1	09/26/14 19:53	
MW-6	K1410444-002	0.66	0.50	0.20	0.07	1	09/26/14 19:53	
Method Blank	K1410444-MB	0.18 J	0.50	0.20	0.07	1	09/26/14 19:53	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 9060
Prep Method: None

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14

Units: mg/L
Basis: NA

Replicate Sample Summary
Carbon, Total Organic

Sample Name:	Lab Code:	LOQ	LOD	MDL	Sample Duplicate		Average	RPD	RPD Limit	Date Analyzed
					Result	Result				
MW-4	K1410444-001DUP	0.50	0.20	0.07	0.58	0.48 J	0.527	19	20	09/26/14
MW-6	K1410444-002DUP	0.50	0.20	0.07	0.66	0.46 J	0.560	37 *	20	09/26/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 09/26/14
Date Extracted: NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name: MW-4
Lab Code: K1410444-001
Analysis Method: 9060
Prep Method: None

Units: mg/L
Basis: NA

Matrix Spike
K1410444-001MS

<u>Analyte Name</u>	<u>Sample Result</u>	<u>Result</u>	<u>Spike Amount</u>	<u>% Rec</u>	<u>% Rec Limits</u>
Carbon, Total Organic	0.58	26.4	25.0	103	83-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/26/14
Date Extracted: NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method: 9060
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 413468

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	17.8	18.1	98	83-117

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: 9060

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413468	KQ1412021-27	09/26/14 19:53	25.0	24.5	98	90-110
CCV2	413468	KQ1412021-28	09/26/14 19:53	25.0	24.9	100	90-110
CCV3	413468	KQ1412021-29	09/26/14 19:53	25.0	24.6	98	90-110
CCV4	413468	KQ1412021-30	09/26/14 19:53	25.0	24.7	99	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: 9060

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413468	KQ1412021-31	09/26/14 19:53	0.50	0.20	0.07	0.08	J
CCB2	413468	KQ1412021-32	09/26/14 19:53	0.50	0.20	0.07	0.14	J
CCB3	413468	KQ1412021-33	09/26/14 19:53	0.50	0.20	0.07	ND	U
CCB4	413468	KQ1412021-34	09/26/14 19:53	0.50	0.20	0.07	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: SM 2320 B
Prep Method: None

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Alkalinity, Dissolved as CaCO3

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-4	K1410444-001	151	15	6	3	1	09/30/14 19:41	
MW-6	K1410444-002	189	15	6	3	1	09/30/14 19:41	
Method Blank	K1410444-MB	6 J	15	6	3	1	09/30/14 19:41	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/30/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1412178-06

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample KQ1412178-06DUP Result	Average	RPD	RPD Limit
Alkalinity, Dissolved as CaCO3	SM 2320 B	15	6	3	74	75	74.6	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/30/14
Date Extracted: NA

Lab Control Sample Summary
Alkalinity, Dissolved as CaCO3

Analysis Method: SM 2320 B
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 413986

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	173	164	105	90-110

ALS Group USA, Corp.
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Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: SM 2540 C
Prep Method: None

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-4	K1410444-001	204	10	-	-	1	09/27/14 11:44	
MW-6	K1410444-002	232	10	-	-	1	09/27/14 11:44	
Method Blank	K1410444-MB	ND U	5.0	-	-	1	09/27/14 11:44	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 09/27/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-6
Lab Code: K1410444-002

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	Duplicate Sample K1410444- 002DUP Result	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Solids, Total Dissolved	SM 2540 C	10	-	-	232	220	226	5	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/27/14
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Dissolved

Analysis Method: SM 2540 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 413791

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	884	886	100	85-115



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Metals
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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	2500	2381	95	250	248	99	248	99	200.7
Arsenic	2500	2502	100	1000	1018	102	1018	102	200.7
Barium	5000	5000	100	10000	10050	100	10000	100	200.7
Beryllium	125	124	99	250	250	100	251	100	200.7
Cadmium	1250	1232	99	250	249	100	249	100	200.7
Calcium	5000	4911	98	500	502	100	502	100	200.7
Calcium	12500	12450	100	10000	9979	100	10000	100	200.7
Chromium	500	502	100	250	252	101	251	100	200.7
Cobalt	1250	1229	98	250	250	100	250	100	200.7
Copper	625	603	96	250	250	100	249	100	200.7
Iron	2500	2473	99	10000	10080	101	10050	100	200.7
Lead	2500	2401	96	250	250	100	250	100	200.7
Magnesium	5000	4954	99	250	254	102	254	102	200.7
Magnesium	12500	12470	100	10000	10080	101	10030	100	200.7
Manganese	1250	1236	99	250	254	102	254	102	200.7
Nickel	1250	1218	97	250	250	100	249	100	200.7
Selenium	2500	2431	97	250	256	102	257	103	200.7
Silver	625	601	96	250	255	102	254	102	200.7
Sodium	12500	12430	99	10000	10000	100	10030	100	200.7
Thallium	2500	2427	97	250	252	101	250	100	200.7
Vanadium	1250	1261	101	250	249	100	248	99	200.7
Zinc	1250	1255	100	250	253	101	251	100	200.7

Metals
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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				250	252	101			200.7
Arsenic				1000	1019	102			200.7
Barium				10000	10020	100			200.7
Beryllium				250	249	100			200.7
Cadmium				250	248	99			200.7
Calcium				10000	9950	100			200.7
Calcium				500	505	101			200.7
Chromium				250	249	100			200.7
Cobalt				250	249	100			200.7
Copper				250	248	99			200.7
Iron				10000	10030	100			200.7
Lead				250	248	99			200.7
Magnesium				10000	9953	100			200.7
Magnesium				250	256	102			200.7
Manganese				250	254	102			200.7
Nickel				250	248	99			200.7
Selenium				250	254	102			200.7
Silver				250	254	102			200.7
Sodium				10000	9970	100			200.7
Thallium				250	249	100			200.7
Vanadium				250	248	99			200.7
Zinc				250	250	100			200.7

Metals

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LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

SDG No.: K1410444

Contract: 194-8468

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV									
	Antimony	21.7	20.0	108	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Arsenic	10.5	10.0	105	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Barium	4.6	4.0	115	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Beryllium	1.14	1.0	114	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Cadmium	1.10	1.0	110	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Calcium	21.2	20.0	106	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Chromium	3.6	4.0	90	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Cobalt	2.20	2.0	110	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Lead	11.4	10.0	114	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Magnesium	5.7	5.0	114	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Manganese	1.10	1.0	110	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Nickel	4.2	4.0	105	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Silver	4.5	4.0	112	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Sodium	206.8	200.0	103	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Thallium	10.2	10.0	102	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Vanadium	3.7	4.0	92	80.0 - 120.0	P	10/08/14	08:51	100814AICP
	Zinc	4.2	4.0	105	80.0 - 120.0	P	10/08/14	08:51	100814AICP
LLICV									
	Copper	4.30	4.0	108	80.0 - 120.0	P	10/08/14	08:53	100814AICP
	Iron	21.9	20.0	110	80.0 - 120.0	P	10/08/14	08:53	100814AICP
	Selenium	21.8	20.0	109	80.0 - 120.0	P	10/08/14	08:53	100814AICP

Metals

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LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

SDG No.: K1410444

Contract: 194-8468

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV									
	Antimony	20	20	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Arsenic	11	10	110	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Barium	5	4	125	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Beryllium	1	1	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Cadmium	1	1	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Calcium	21	20	105	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Chromium	3	4	75	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Cobalt	2	2	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Copper	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Iron	24	20	120	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Lead	12	10	120	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Magnesium	6	5	120	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Manganese	1	1	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Nickel	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Selenium	21	20	105	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Silver	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Sodium	205	200	102	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Thallium	9	10	90	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Vanadium	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Zinc	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP

Metals

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LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

SDG No.: K1410444

Contract: 194-8468

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV									
	Antimony	20	20	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Arsenic	12	10	120	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Barium	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Beryllium	1	1	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Cadmium	1	1	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Calcium	21	20	105	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Chromium	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Cobalt	2	2	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Copper	5	4	125	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Iron	25	20	125	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Lead	11	10	110	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Magnesium	6	5	120	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Manganese	1	1	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Nickel	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Selenium	18	20	90	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Silver	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Sodium	204	200	102	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Thallium	10	10	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Vanadium	5	4	125	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Zinc	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP

Metals

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BLANKS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Antimony	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Arsenic	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Barium	0.6	U	0.6	U	0.6	U	0.6	U	200.7
Beryllium	0.20	U	0.20	U	0.20	U	0.20	U	200.7
Cadmium	0.5	U	0.5	U	0.5	U	0.5	U	200.7
Calcium	1.1	J	0.9	U	0.9	J	1.0	J	200.7
Chromium	0.6	U	-0.7	J	-0.6	J	0.6	U	200.7
Cobalt	0.5	U	0.5	U	0.5	U	0.5	U	200.7
Copper	0.9	U	0.9	U	1.0	J	0.9	U	200.7
Iron	3.0	U	3.0	U	3.0	U	3.0	U	200.7
Lead	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Magnesium	1.1	J	0.3	J	0.6	J	0.7	J	200.7
Manganese	0.2	J	0.1	U	0.1	U	0.1	U	200.7
Nickel	0.4	U	0.4	U	0.4	U	0.4	U	200.7
Selenium	5.1	J	4.0	U	4.0	U	4.1	J	200.7
Silver	0.6	U	0.7	J	0.6	U	0.6	U	200.7
Sodium	20.0	U	20.0	U	20.0	U	20.0	U	200.7
Thallium	3.0	U	3.0	U	3.0	U	3.0	U	200.7
Vanadium	0.5	U	0.5	J	0.5	U	0.5	U	200.7
Zinc	0.4	U	0.4	U	0.4	U	0.4	U	200.7

Metals

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ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0	1000.0	-1.3	855.5	86			
Arsenic	0.0		-0.5	-5.6				
Barium	0.0	500.0	0.9	515.7	103			
Beryllium	0.0	500.0	-0.4	463.7	93			
Cadmium	0.0	1000.0	-0.2	903.5	90			
Calcium	500000.0	500000.0	478600.0	482000.0	96			
Chromium	0.0	500.0	2.3	502.4	100			
Cobalt	0.0	500.0	-1.9	452.2	90			
Copper	0.0	500.0	-1.8	451.4	90			
Iron	200000.0	200000.0	186000.0	186700.0	93			
Lead	0.0	1000.0	3.0	873.5	87			
Magnesium	500000.0	500000.0	436900.0	434500.0	87			
Manganese	0.0	500.0	-1.4	489.9	98			
Nickel	0.0	1000.0	3.7	886.9	89			
Selenium	0.0		-17.7	-3.7				
Silver	0.0	1000.0	-1.4	915.4	92			
Sodium	0.0		24.2	14.8				
Thallium	0.0		-10.6	-12.2				
Vanadium	0.0	500.0	1.6	518.1	104			
Zinc	0.0	1000.0	2.0	907.7	91			

Metals

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LABORATORY CONTROL SAMPLE

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Antimony	2500	2370	94.8					
Arsenic	2500	2530	101.2					
Barium	5000	5040	100.8					
Beryllium	125	123	98.4					
Cadmium	1250	1230	98.4					
Calcium	12500	12400	99.2					
Chromium	500	502	100.4					
Cobalt	1250	1240	99.2					
Copper	625	609	97.4					
Iron	2500	2470	98.8					
Lead	2500	2410	96.4					
Magnesium	12500	12500	100.0					
Manganese	1250	1250	100.0					
Nickel	1250	1220	97.6					
Selenium	2500	2420	96.8					
Silver	625	612	97.9					
Sodium	12500	12600	100.8					
Thallium	2500	2440	97.6					
Vanadium	1250	1260	100.8					
Zinc	1250	1250	100.0					

Metals

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ICP SERIAL DILUTIONS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Units: UG/L

Project Name: JBLM-YTC

Sample Name: MW-4L

Lab Code: K1410444-001DISSL

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	% Difference	Q	M
Antimony	20.0 U	25.0 U			P
Arsenic	10.0 U	25.0 U			P
Barium	14.3	16.5 J	15.4		P
Beryllium	1.0 U	1.0 U			P
Cadmium	1.0 U	2.5 U			P
Calcium	27910.0	27925.0	0.0		P
Chromium	1.6 J	3.0 U	100.0		P
Cobalt	2.0 U	2.5 U			P
Copper	0.9 J	4.5 U	100.0		P
Iron	4.6 J	18.5 J	302.2		P
Lead	10.0 U	25.0 U			P
Magnesium	11010.0	10960.0	0.0		P
Manganese	9.5	9.5	0.0		P
Nickel	1.1 J	2.5 J	127.3		P
Selenium	20.0 U	20.0 U			P
Silver	4.0 U	3.0 U			P
Sodium	26990.0	26580.0	1.5		P
Thallium	10.0 U	15.0 U			P
Vanadium	22.3	22.0	1.3		P
Zinc	6.0	7.0 J	16.7		P

Metals

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DETECTION LIMITS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP/ICP-MS ID #: K-ICP-AES-04

GFAA ID #:

AA ID #:

Analyte	Wave-length (nm)	Back-ground	LOQ ug/L	LOD ug/L	MDL ug/L	M
Antimony	206.8		20	20.0	5.0	P
Arsenic	189.0		10	10.0	5.0	P
Barium	455.4		4.0	2.0	0.6	P
Beryllium	234.8		1.0	1.00	0.20	P
Cadmium	226.5		1.0	1.0	0.5	P
Calcium	393.3		20.0	2.0	0.9	P
Chromium	267.7		4.0	2.0	0.6	P
Cobalt	230.7		4.0	2.0	0.5	P
Copper	327.3		4.0	4.0	0.9	P
Iron	259.9		20.0	10.0	3.0	P
Lead	220.3		10	10.0	5.0	P
Magnesium	279.5		5.0	0.6	0.3	P
Manganese	257.6		1.0	1.0	0.1	P
Nickel	221.6		4.0	2.0	0.4	P
Selenium	196.0		20	20.0	4.0	P
Silver	328.1		4.0	4.0	0.6	P
Sodium	589.5		200.0	40.0	20.0	P
Thallium	190.8		10	10.0	3.0	P
Vanadium	292.4		4.0	2.0	0.5	P
Zinc	206.2		4.0	2.0	0.4	P

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	B
Aluminum	394.401	0.0000000	0.0001070	0.0000000	0.0000000	0.0000000
Antimony	217.581	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.042	0.0000000	0.0000000	-0.0000640	0.0000000	0.0000410
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000140	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	-0.0006690	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0001460	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000200	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000900	0.0000000	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	260.569	0.0000000	-0.0000050	0.0000100	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000260	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	-0.0001640	0.0000000	-0.0000370
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000090
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000130	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ba	Cd	Co	Cr	Cu
Aluminum	394.401	0.000000	0.000000	-0.0001860	0.0004130	0.000000
Antimony	217.581	0.000000	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	0.000000	0.000000	0.0004520	0.000000
Barium	455.403	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	234.861	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.678	0.000000	0.000000	0.0038080	0.0002890	0.000000
Cadmium	226.502	0.000000	0.000000	-0.0000280	0.0000230	0.000000
Calcium	393.366	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	-0.0001770	0.000000	0.000000	0.000000
Cobalt	228.616	0.000000	0.000000	0.000000	-0.0005250	0.000000
Copper	327.396	0.000000	0.000000	0.0002800	0.000000	0.000000
Iron	259.94	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.353	0.000000	0.000000	0.000000	0.000000	0.0044710
Lithium	670.784	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	285.213	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	260.569	0.000000	-0.0000420	0.0007060	-0.0001240	-0.0000120
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	-0.0001750	0.000000	0.000000
Phosphorus	214.914	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.491	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.0	0.000000	0.000000	0.000000	0.000000	0.000000
Silicon	251.611	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Strontium	407.771	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.856	0.000000	0.000000	0.0014230	0.0003810	0.000000
Tin	189.989	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	336.121	0.000000	0.000000	0.0000280	0.000000	0.000000
Vanadium	292.402	0.000000	0.000000	0.000000	-0.0063260	-0.0000590

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0010860
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Mn	Mo	Ni	Pb	Sb
Aluminum	394.401	0.0000000	0.0002510	0.0002820	0.0000000	0.0000000
Antimony	217.581	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.042	-0.0002570	0.0004610	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	-0.0000240	-0.0001730	-0.0000210	0.0000000	0.0000000
Boron	249.678	0.0000000	-0.0014840	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0000190	-0.0000190	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0001840	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	-0.0000370	0.0001050	0.0000000	0.0000000
Copper	327.396	0.0000000	-0.0000640	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	-0.0008520	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0005090	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	260.569	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000180
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0007360	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0101570	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0001200	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	-0.0006360	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000310	0.0001200	0.0000000	0.0000000
Vanadium	292.402	-0.0013700	-0.0000860	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	-0.0001090	0.0051730	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:		
		Si	Ti	V
Aluminum	394.401	0.0000000	0.0000000	0.0000000
Antimony	217.581	-0.0000460	0.0000000	0.0021080
Arsenic	189.042	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	-0.0004770
Cadmium	226.502	0.0000040	0.0001350	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	-0.0001070
Cobalt	228.616	-0.0000080	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000960	-0.0001120
Iron	259.94	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0013940	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000
Manganese	260.569	-0.0000030	-0.0000350	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000730
Sodium	589.592	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0003060	0.0005750
Tin	189.989	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0003820	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	-0.0003390	0.0000000		
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Comments:

Metals

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ICP LINEAR RANGES (QUARTERLY)

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	90000	200.7
Arsenic	15.000	90000	200.7
Barium	15.000	45000	200.7
Beryllium	15.000	9000	200.7
Cadmium	15.000	22500	200.7
Calcium	15.000	450000	200.7
Chromium	15.000	45000	200.7
Cobalt	15.000	22500	200.7
Copper	15.000	90000	200.7
Iron	15.000	360000	200.7
Lead	15.000	22500	200.7
Magnesium	15.000	90000	200.7
Manganese	15.000	9000	200.7
Nickel	15.000	90000	200.7
Selenium	15.000	22500	200.7
Silver	15.000	2700	200.7
Sodium	15.000	450000	200.7
Thallium	15.000	45000	200.7
Vanadium	15.000	45000	200.7
Zinc	15.000	18000	200.7

Comments:

Metals
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PREPARATION LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1410444-001DISS	10/02/14	50.0	50.0
K1410444-001DISSS	10/02/14	50.0	50.0
K1410444-001DISSSD	10/02/14	50.0	50.0
K1410444-002DISS	10/02/14	50.0	50.0
K1410444-MB	10/02/14	50.0	50.0
LCS	10/02/14	50.0	50.0

Metals
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ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated
Project No.: 194-8468
Project Name: JBLM-YTC

Service Request: K1410444
Run Number: 100814AICP04

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
BLK	1.0	08:36		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			
STD A	1.0	08:38		X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
STD B	1.0	08:41			X	X			X			X	X									X									
ICV	1.0	08:43							X				X																		
ICV	1.0	08:46		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ICB	1.0	08:48		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
LLICV	1.0	08:51		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
LLICV	1.0	08:53										X	X							X											
ZZZZZZ	1.0	08:56																													
CCV1	1.0	08:59			X	X			X				X	X								X									
CCV1	1.0	09:05		X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCB1	1.0	09:11		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ICSA	1.0	09:13		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ICSAB	1.0	09:16		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ	1.0	09:26																													
ZZZZZZ	1.0	09:28																													
ZZZZZZ	1.0	09:30																													
ZZZZZZ	5.0	09:33																													
ZZZZZZ	1.0	09:35																													
ZZZZZZ	1.0	09:38																													
ZZZZZZ	1.0	09:40																													
K1410444-MB	1.0	09:42		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
LCS	1.0	09:45		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
K1410444-001DISS	1.0	09:47		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCV2	1.0	09:50			X	X			X				X	X								X									
CCV2	1.0	09:52		X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCB2	1.0	09:54		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
LLCCV	1.0	09:57		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
K1410444-001DISSL	5.0	10:00		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
K1410444-001DISSS	1.0	10:03		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
K1410444-001DISSSD	1.0	10:05		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
K1410444-001DISSA	1.0	10:07		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analysis: 300.0
ICAL Date: 7.30.14

Instrument (Circle One)
IC3 IC5 IC6 IC7

IC INITIAL CALIBRATION CHECKLIST

1. The following documentation is in the ICAL file
 - Sequence information
 - Blank analysis information
 - Retention Time information
 - Calibration Status information
 - Response Factor information
 - Data Analysis information
 - Quantitation information for each calibration standard
 - ICV and CCV Quantitation information
2. The ICAL was performed without interruption
3. All calibration standards have been analyzed within 24 hours
4. The analytes in the blank analysis are < MRL
5. The retention times have been updated from the retention time marker standard
6. Each analyte's ICAL includes a minimum of 3 concentrations
7. For each analyte only one value is used for each calibration level
8. For each analyte the lowest standard's concentration is < or = the MRL
9. For each analyte the ICAL includes >3 concentration levels
10. For each analyte no levels are skipped
11. For the ICV analysis is percent recovery 90% to 110% for each analyte Yes No
12. All peak integrations are acceptable

Comments:

Reviewed by: MS
Supervisor Review: 614

Date: 8.13.14
Date: 8.14.14

COLUMBIA ANALYTICAL SERVICES, INC.
Ion Chromatography Calibration Data

Sequence: IC03073014

Date: 7.30.14

Anion	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Corr.Coeff	Slope
F	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.973	1.7497
Cl	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.952	1.3828
NO2	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.996	2.4386
Br	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.923	0.4856
NO3	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.816	3.4542
SO4	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.954	0.8839

All calibration standard concentrations are in mg/L unless otherwise noted.

Zero point forced through zero.

No.	Peak Name	Cal.Type	#Points	Rel.Std.Dev.	Corr.Coeff.	Offset	Slope	Curve
				%	%			
1	Fluoride	Lin	8	3.0211	99.973	0	1.7497	0
2	Chloride	Lin	7	5.0767	99.952	0	1.3828	0
3	Nitrite	Lin	6	1.6525	99.996	0	2.4386	0
4	Bromide	Lin	6	6.8526	99.923	0	0.4856	0
5	Nitrate	Lin	6	11.7458	99.816	0	3.4542	0
6	Sulfate	Lin	7	3.7801	99.954	0	0.8839	0
Average:			6.66667	5.3548	99.9355	0	1.7325	0

IC12/ICAL-60-A	100PPM	NO2, BR, NO3
IC12/ICAL-60-B	100PPM	F, CL, SO4

mL added

	IC12/ICAL-60-C	IC12/ICAL-60-D	IC12/ICAL-60-E	IC12/ICAL-60-F	IC12/ICAL-60-G	IC12/ICAL-60-H		
	STD2	STD3	STD4	STD5	STD6	STD7	STD8	STD1
F	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
CL	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
SO4	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
NO2	0.050	0.100	0.500	1.000	2.00	5.00	--	0
NO3	0.050	0.100	0.500	1.000	2.00	5.00	--	0
BR	0.050	0.100	0.500	1.000	2.00	5.00	--	0

Sequence: IC03073014(22)C
Operator: ALKLS.ALKLSXP307

Page 1 of 2
Printed: 8/14/2014 7:46:18 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 9
Created: 7/30/2014 8:48:53 AM by ALKLS.ALKLSXP307
Last Update: 8/14/2014 7:46:15 AM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time	Dil. Factor
1	STD2/LVL2	epa300	Standard	1	200.0	seth_test	Finished	7/30/2014 11:01:20 AM	1.0000
2	STD3/LVL3	epa300	Standard	2	200.0	seth_test	Finished	7/30/2014 11:17:02 AM	1.0000
3	STD4/LVL4	epa300	Standard	3	200.0	seth_test	Finished	7/30/2014 11:32:41 AM	1.0000
4	STD5/LVL5	epa300	Standard	4	200.0	seth_test	Finished	7/30/2014 11:48:20 AM	1.0000
5	STD6/LVL6	epa300	Standard	5	200.0	seth_test	Finished	7/30/2014 12:04:00 PM	1.0000
6	STD7/LVL7	epa300	Standard	6	200.0	seth_test	Finished	7/30/2014 12:19:40 PM	1.0000
7	STD8/LVL8	epa300	Standard	7	200.0	seth_test	Finished	7/30/2014 12:35:19 PM	1.0000
8	STD1/LVL1	epa300	Standard	8	200.0	seth_test	Finished	7/30/2014 12:50:58 PM	1.0000
9	LCS/ICV	epa300	Unknown	10	200.0	seth_test	Finished	7/30/2014 4:07:08 PM	1.0000

Sequence: IC03073014(22)C
Operator: ALKLS.ALKLSXP307

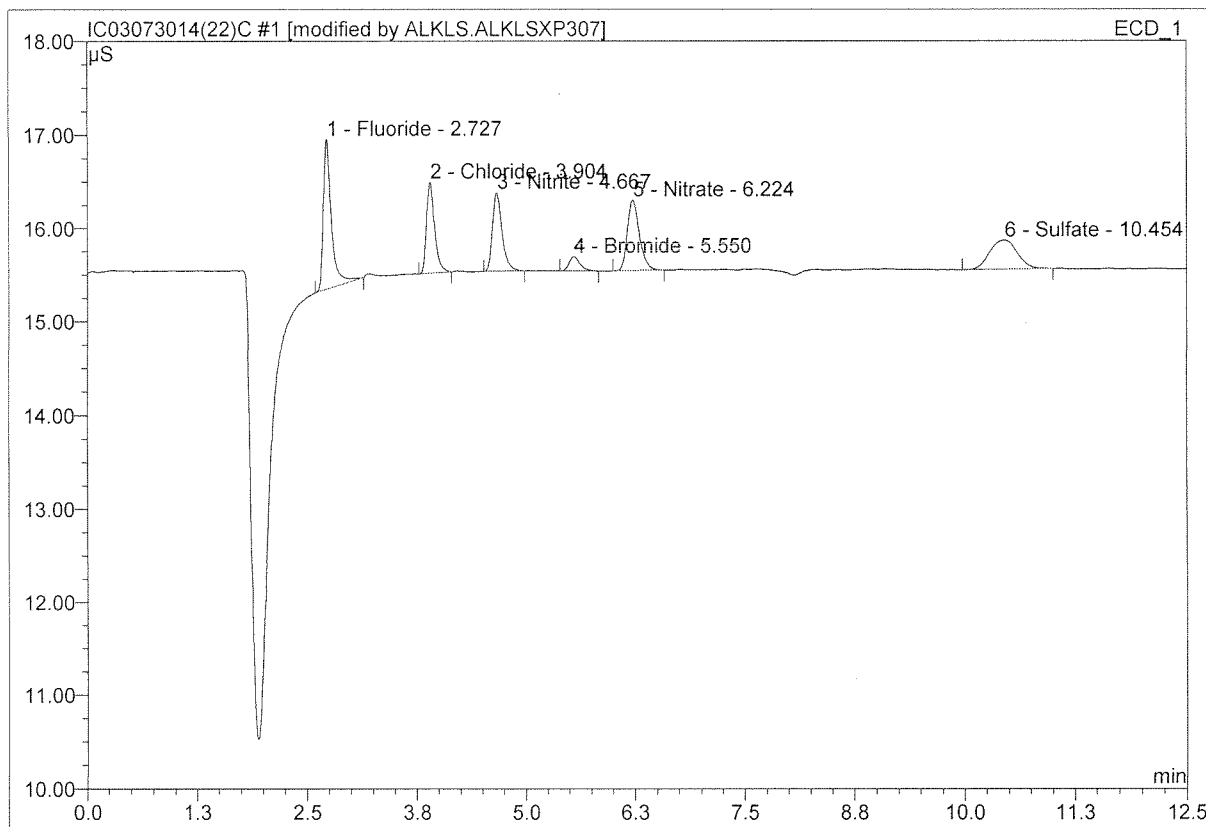
Page 2 of 2
Printed: 8/14/2014 7:46:18 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 9

Created: 7/30/2014 8:48:53 AM by ALKLS.ALKLSXP307
Last Update: 8/14/2014 7:46:15 AM by ALKLS.ALKLSXP307

No.	Name	Comment
1	STD2/LVL2	
2	STD3/LVL3	
3	STD4/LVL4	
4	STD5/LVL5	
5	STD6/LVL6	
6	STD7/LVL7	
7	STD8/LVL8	
8	STD1/LVL1	
9	LCS/ICV	

1 STD2/LVL2			
Sample Name:	STD2/LVL2	Injection Volume:	200.0
Vial Number:	1	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:01	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000

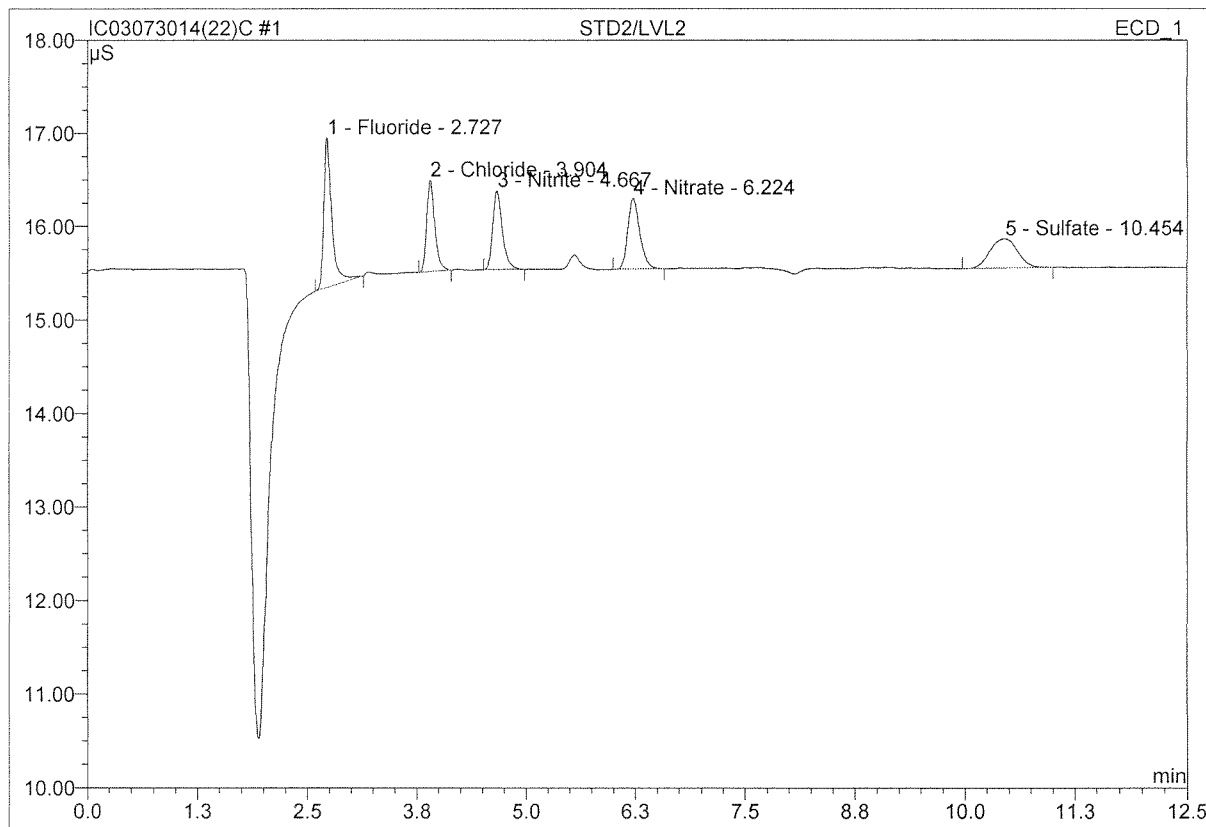


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	1.600	0.169	26.39	0.097	BMB
2	3.90	Chloride	0.976	0.105	16.45	0.076	BMB
3	4.67	Nitrite	0.844	0.108	16.84	0.044	BMB
4	5.55	Bromide	0.153	0.022	3.48	0.046	BMB*
5	6.22	Nitrate	0.756	0.122	18.99	0.035	BMB
6	10.45	Sulfate	0.313	0.114	17.85	0.130	BMB
Total:			4.641	0.641	100.00	0.428	

After Initials AL

648.04/14

1 STD2/LVL2			
Sample Name:	STD2/LVL2	Injection Volume:	200.0
Vial Number:	1	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:01	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	1.600	0.169	27.34	0.097	BMB
2	3.90	Chloride	0.976	0.105	17.04	0.076	BMB
3	4.67	Nitrite	0.844	0.108	17.45	0.044	BMB
4	6.22	Nitrate	0.756	0.122	19.67	0.035	BMB
5	10.45	Sulfate	0.313	0.114	18.50	0.130	BMB
Total:			4.489	0.619	100.00	0.382	

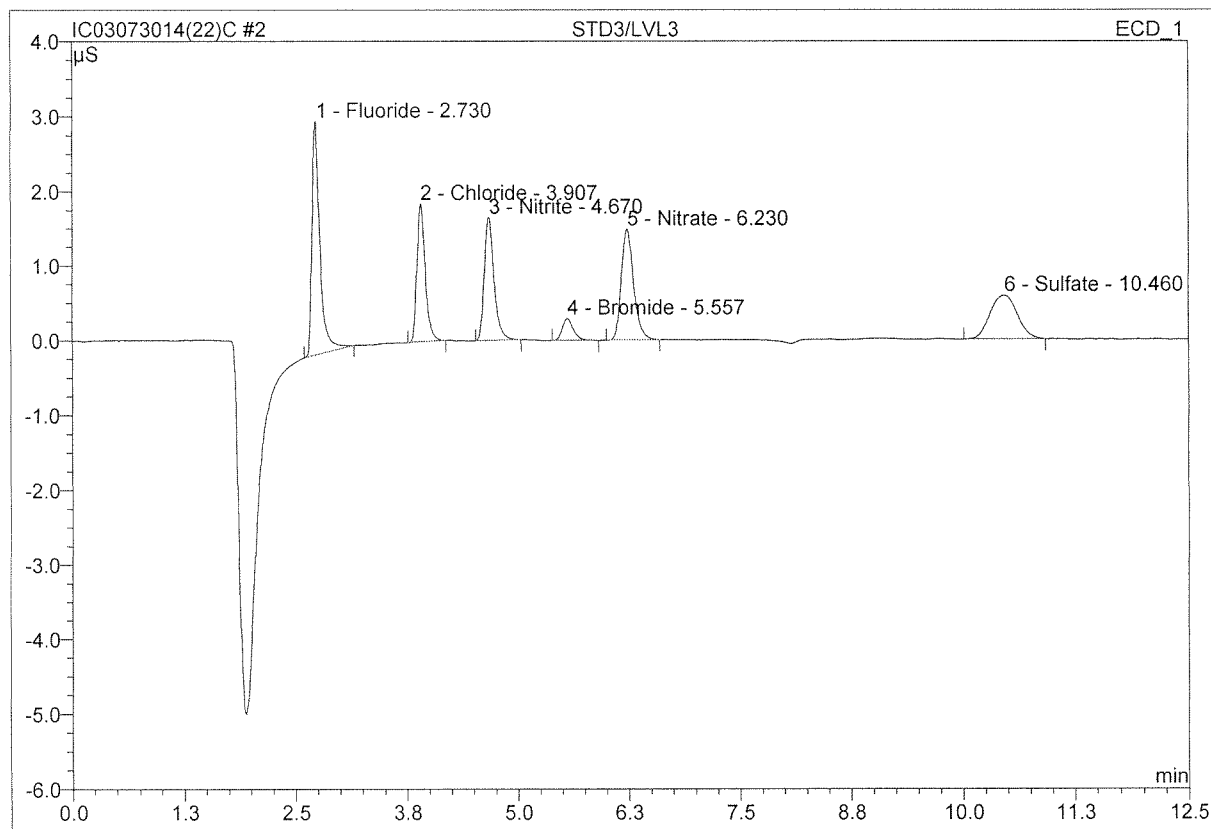
pb

Before

AUG 13 2014

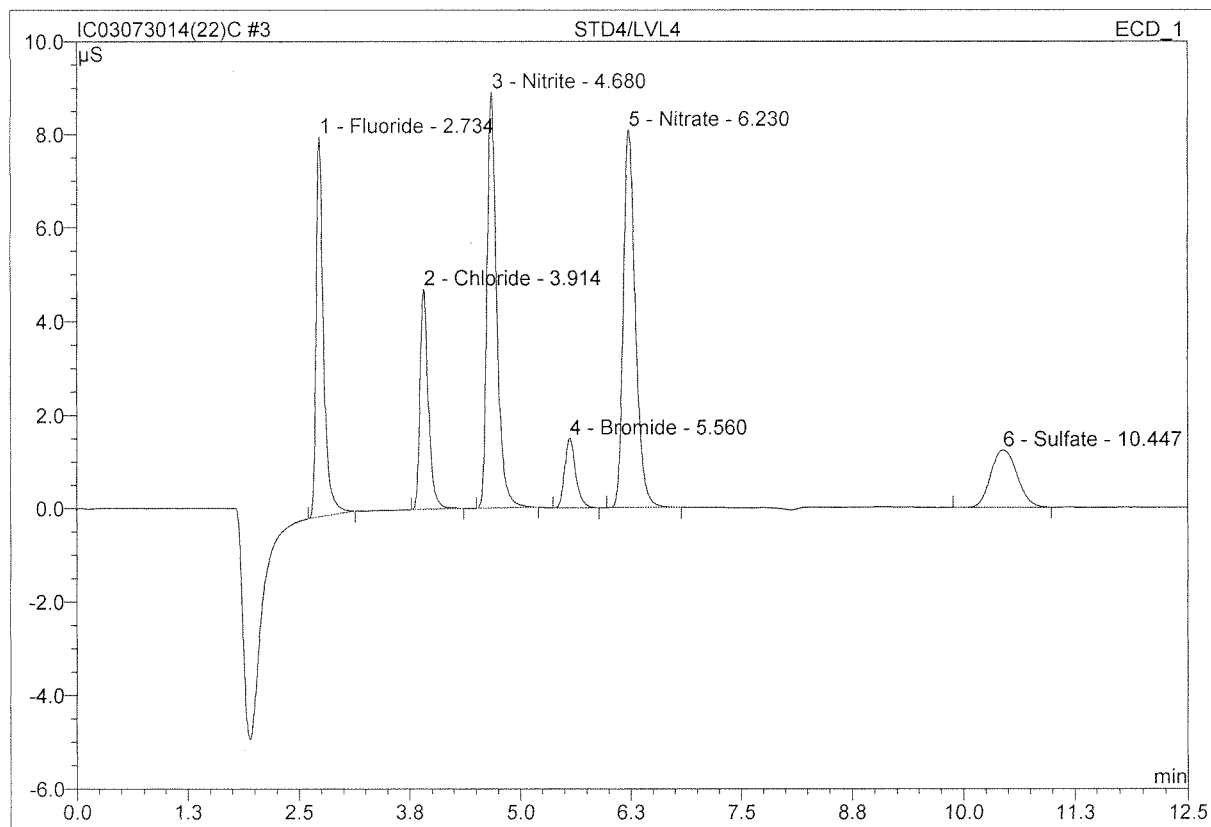
2 STD3/LVL3

Sample Name:	STD3/LVL3	Injection Volume:	200.0
Vial Number:	2	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:17	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	3.124	0.320	26.24	0.183	BMB
2	3.91	Chloride	1.850	0.199	16.32	0.144	BMB
3	4.67	Nitrite	1.648	0.212	17.36	0.087	BMB
4	5.56	Bromide	0.292	0.042	3.47	0.087	BMB
5	6.23	Nitrate	1.484	0.241	19.74	0.070	BMB
6	10.46	Sulfate	0.584	0.206	16.88	0.233	BMB
Total:			8.983	1.221	100.00	0.804	

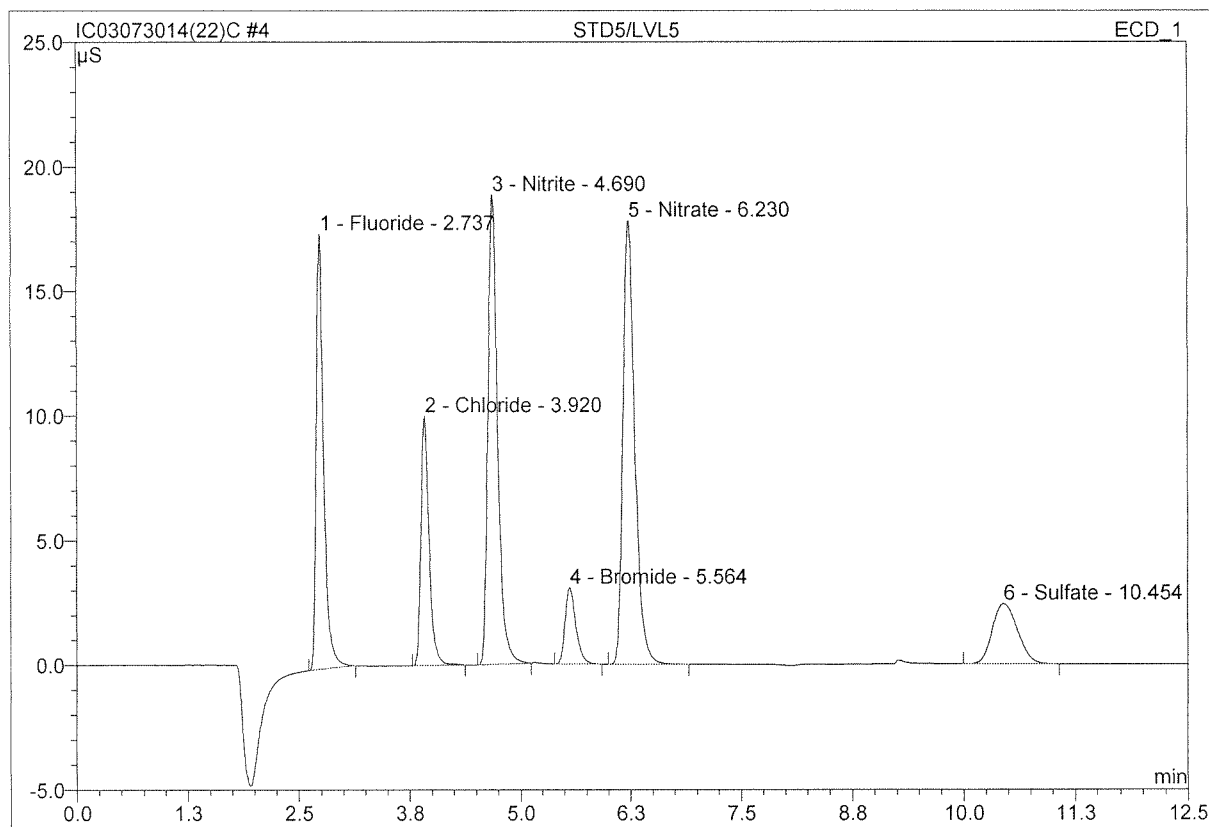
3 STD4/LVL4			
Sample Name:	STD4/LVL4	Injection Volume:	200.0
Vial Number:	3	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:32	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	8.122	0.794	18.26	0.454	BMB
2	3.91	Chloride	4.703	0.508	11.69	0.368	BMB
3	4.68	Nitrite	8.904	1.130	25.99	0.463	BMB
4	5.56	Bromide	1.493	0.213	4.91	0.439	BMB
5	6.23	Nitrate	8.077	1.283	29.51	0.371	BMB
6	10.45	Sulfate	1.230	0.419	9.64	0.474	BMB
Total:			32.529	4.347	100.00	2.569	

4 STD5/LVL5

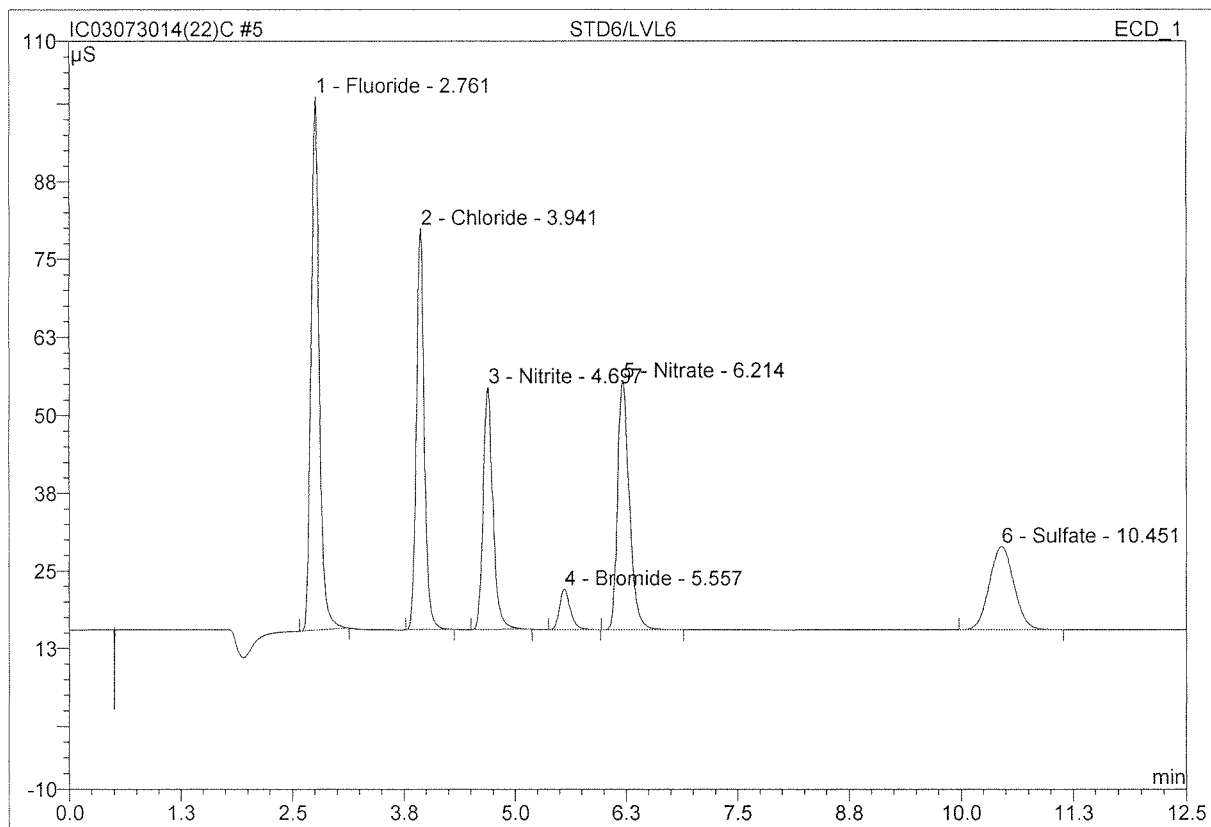
Sample Name:	STD5/LVL5	Injection Volume:	200.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:48	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.74	Fluoride	17.469	1.678	18.41	0.959	BMB
2	3.92	Chloride	9.980	1.065	11.68	0.770	BMB
3	4.69	Nitrite	18.852	2.365	25.95	0.970	BMB
4	5.56	Bromide	3.066	0.433	4.76	0.893	BMB
5	6.23	Nitrate	17.798	2.784	30.55	0.806	BMB
6	10.45	Sulfate	2.414	0.790	8.66	0.893	BMB
Total:			69.579	9.114	100.00	5.290	

5 STD6/LVL6

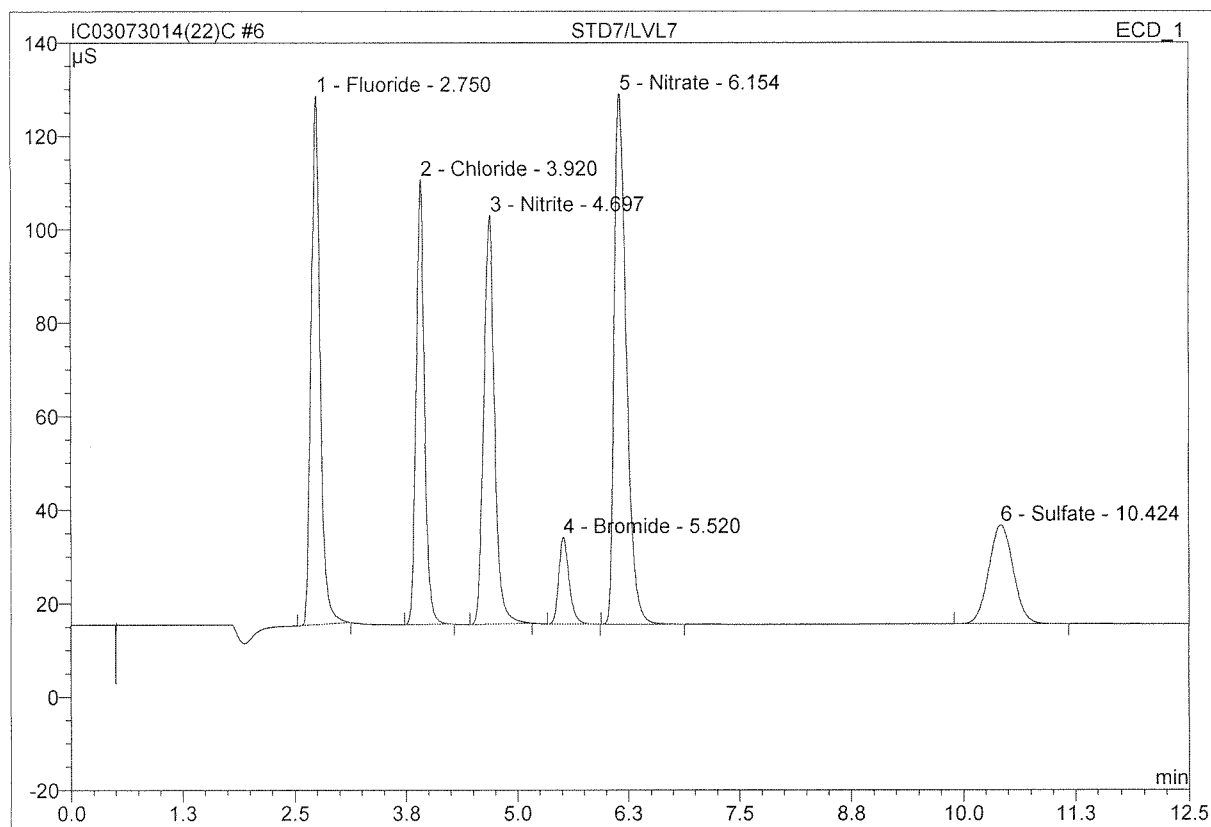
Sample Name:	STD6/LVL6	Injection Volume:	200.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:04	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.76	Fluoride	85.651	9.080	28.55	5.190	BMB
2	3.94	Chloride	64.404	6.584	20.70	4.761	BMB
3	4.70	Nitrite	38.940	4.921	15.47	2.018	BMB
4	5.56	Bromide	6.469	0.898	2.82	1.849	BMB
5	6.21	Nitrate	39.883	6.116	19.23	1.771	BMB
6	10.45	Sulfate	13.355	4.204	13.22	4.757	BMB
Total:			248.701	31.802	100.00	20.345	

6 STD7/LVL7

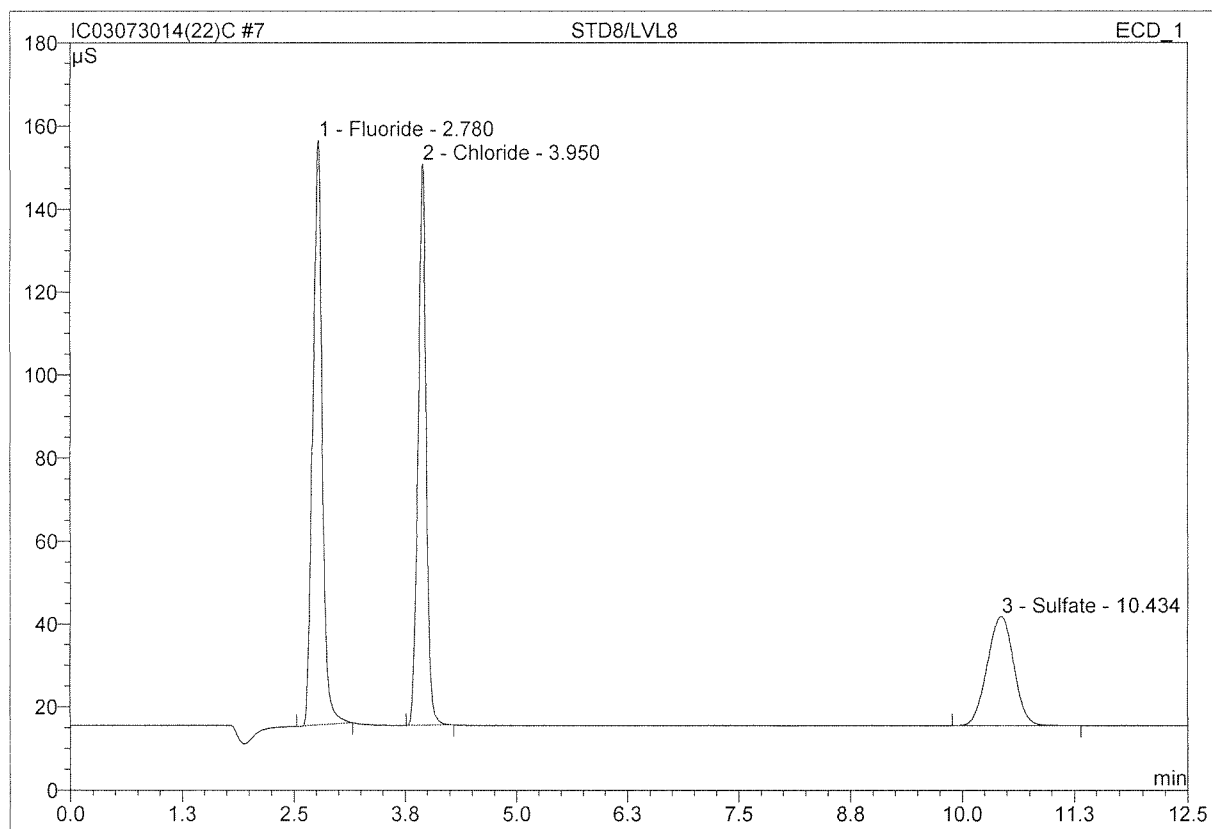
Sample Name:	STD7/LVL7	Injection Volume:	200.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:19	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S} \cdot \text{min}$	Rel.Area %	Amount	Type
1	2.75	Fluoride	113.029	13.200	21.12	7.545	BMB
2	3.92	Chloride	95.063	10.273	16.43	7.429	BMB
3	4.70	Nitrite	87.401	12.200	19.52	5.003	BMB
4	5.52	Bromide	18.499	2.471	3.95	5.088	BMB
5	6.15	Nitrate	113.428	17.769	28.43	5.144	BMB
6	10.42	Sulfate	21.033	6.592	10.55	7.458	BMB
Total:			448.454	62.505	100.00	37.667	

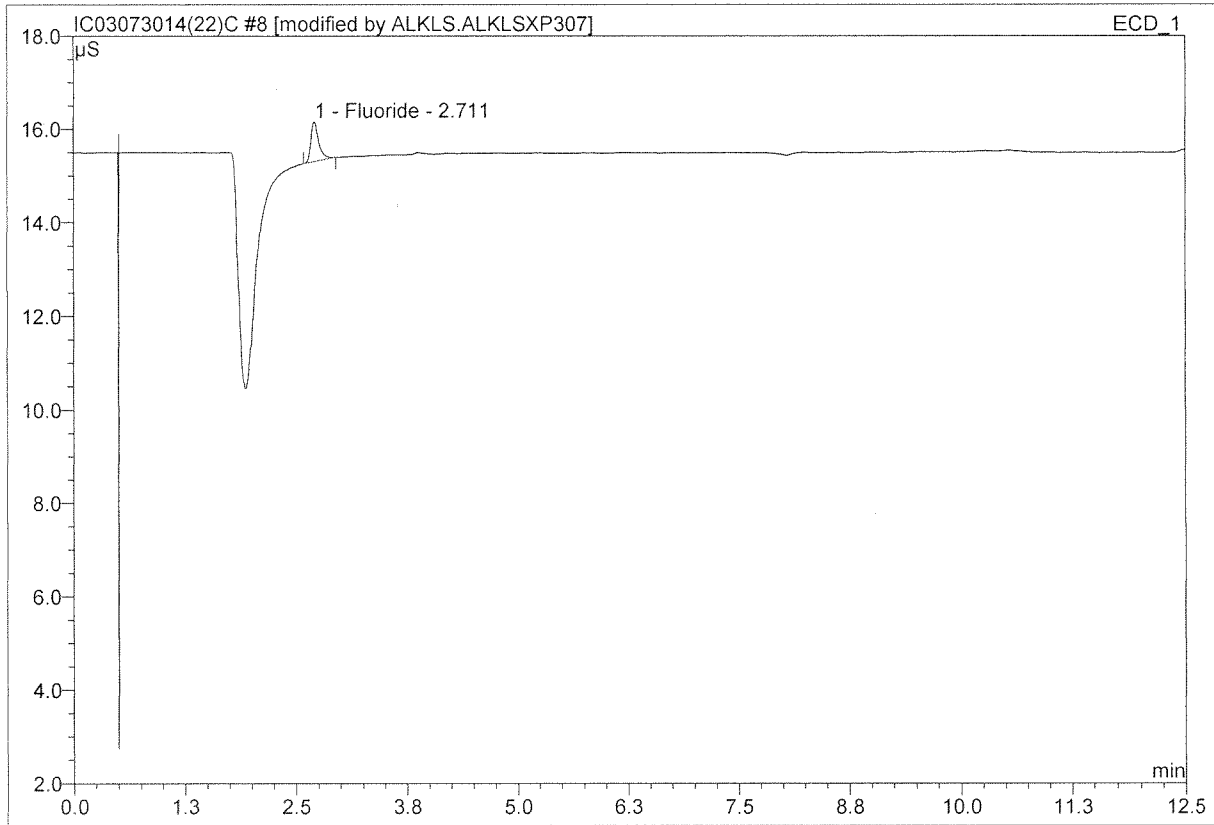
7 STD8/LVL8

Sample Name:	STD8/LVL8	Injection Volume:	200.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:35	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S} \cdot \text{min}$	Rel.Area %	Amount	Type
1	2.78	Fluoride	140.952	17.284	42.81	9.879	BMB
2	3.95	Chloride	135.301	14.110	34.95	10.204	BMB
3	10.43	Sulfate	26.240	8.983	22.25	10.164	BMB
Total:			302.493	40.378	100.00	30.247	

8 STD1/LVL1			
Sample Name:	STD1/LVL1	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:50	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.846	0.086	100.00	0.049	BMB*
Total:			0.846	0.086	100.00	0.049	

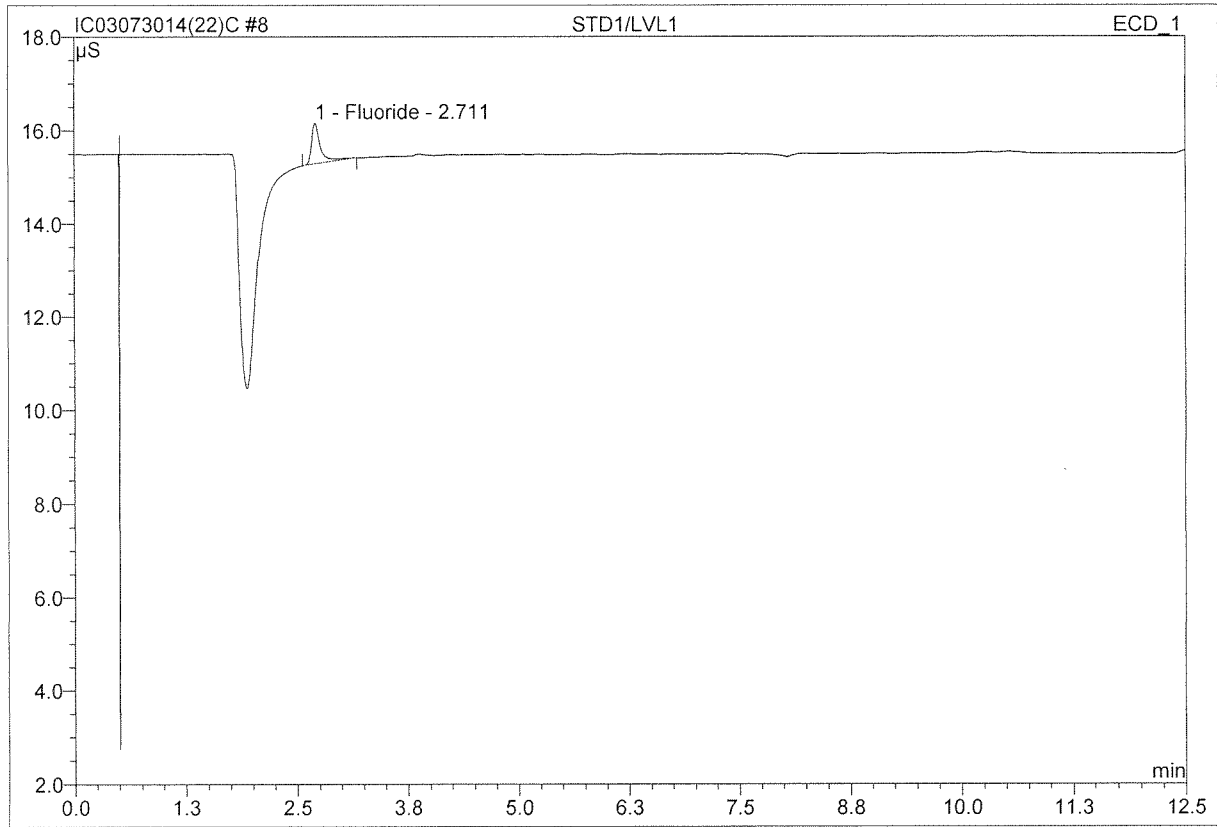
After Initials

AUG 13 2014

BHS, 11/10/14

- Wrong Peak/Peak not Found
- Baseline/shoulder Incorrect
- Other

8 STD1/LVL1			
Sample Name:	STD1/LVL1	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:50	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



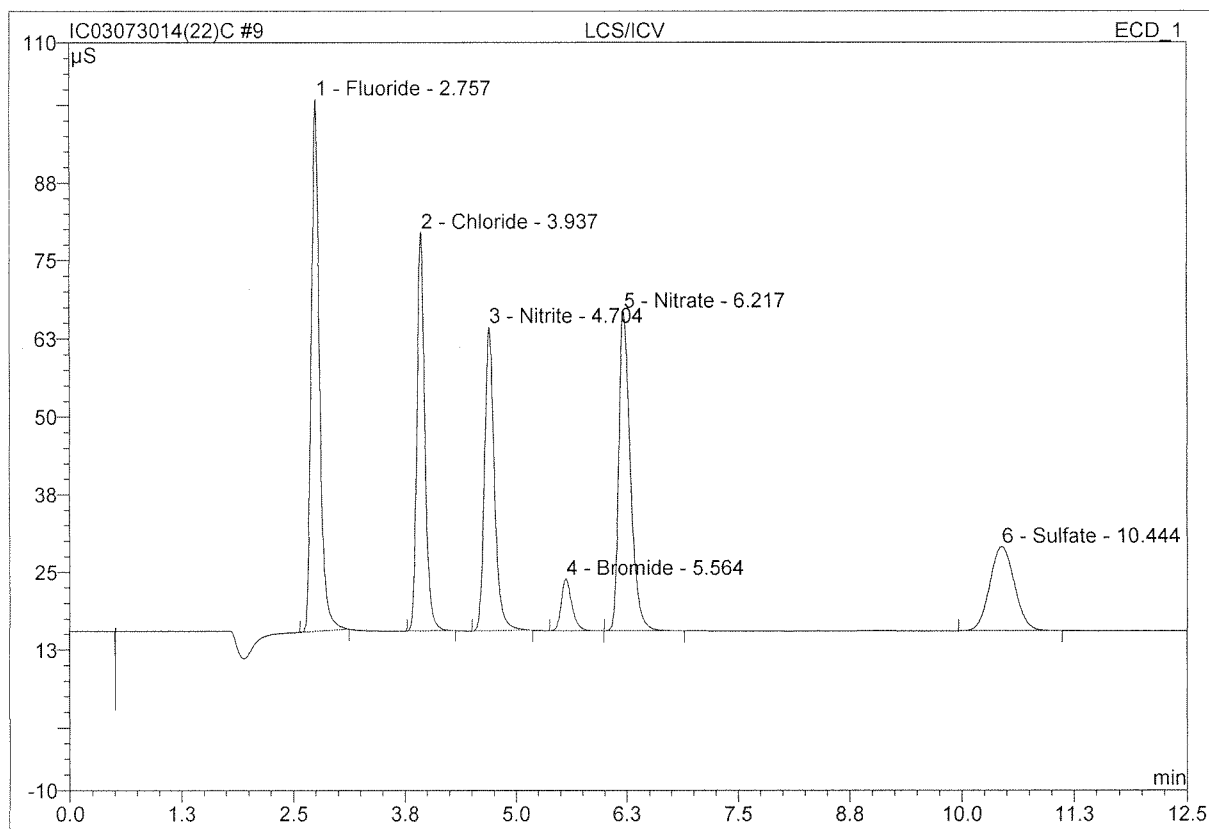
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.862	0.099	100.00	0.056	BMB
Total:			0.862	0.099	100.00	0.056	

16

Before

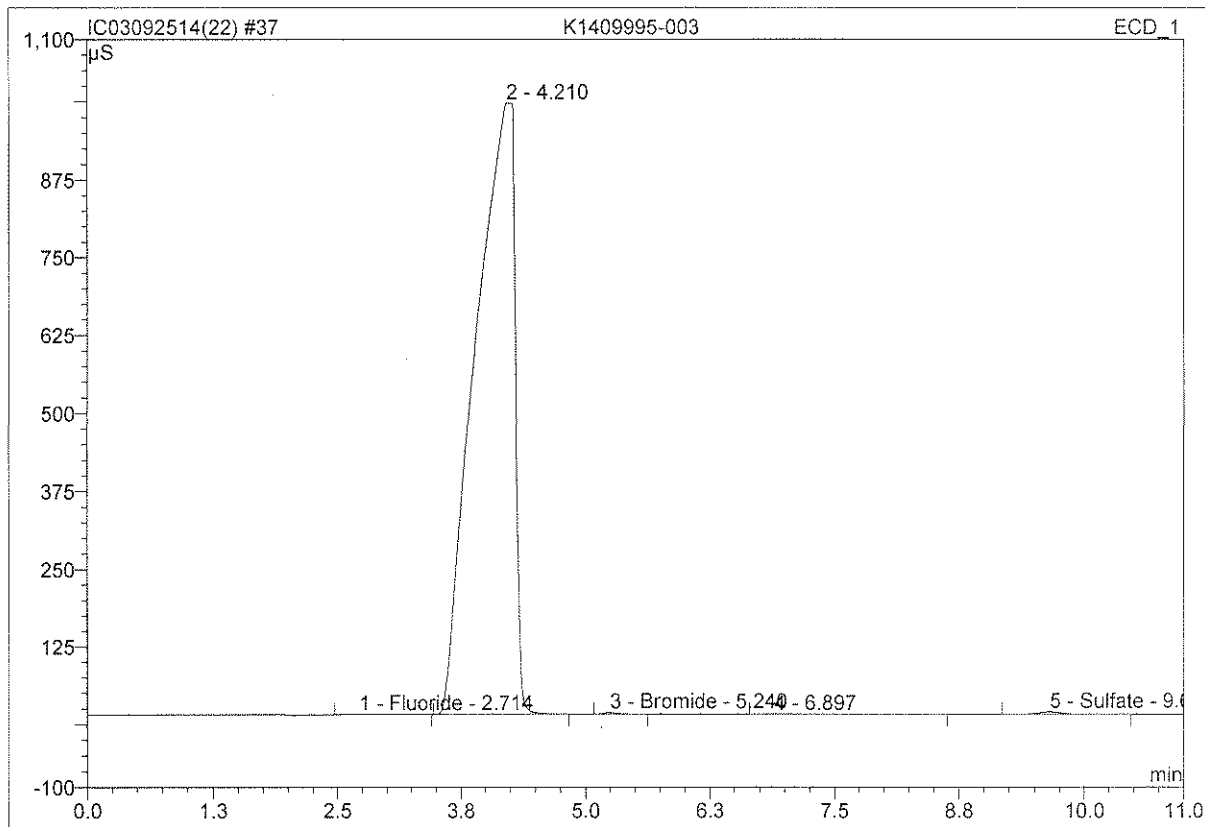
AUG 13 2014

9 LCS/ICV			
Sample Name:	LCS/ICV	Injection Volume:	200.0
Vial Number:	10	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 16:07	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



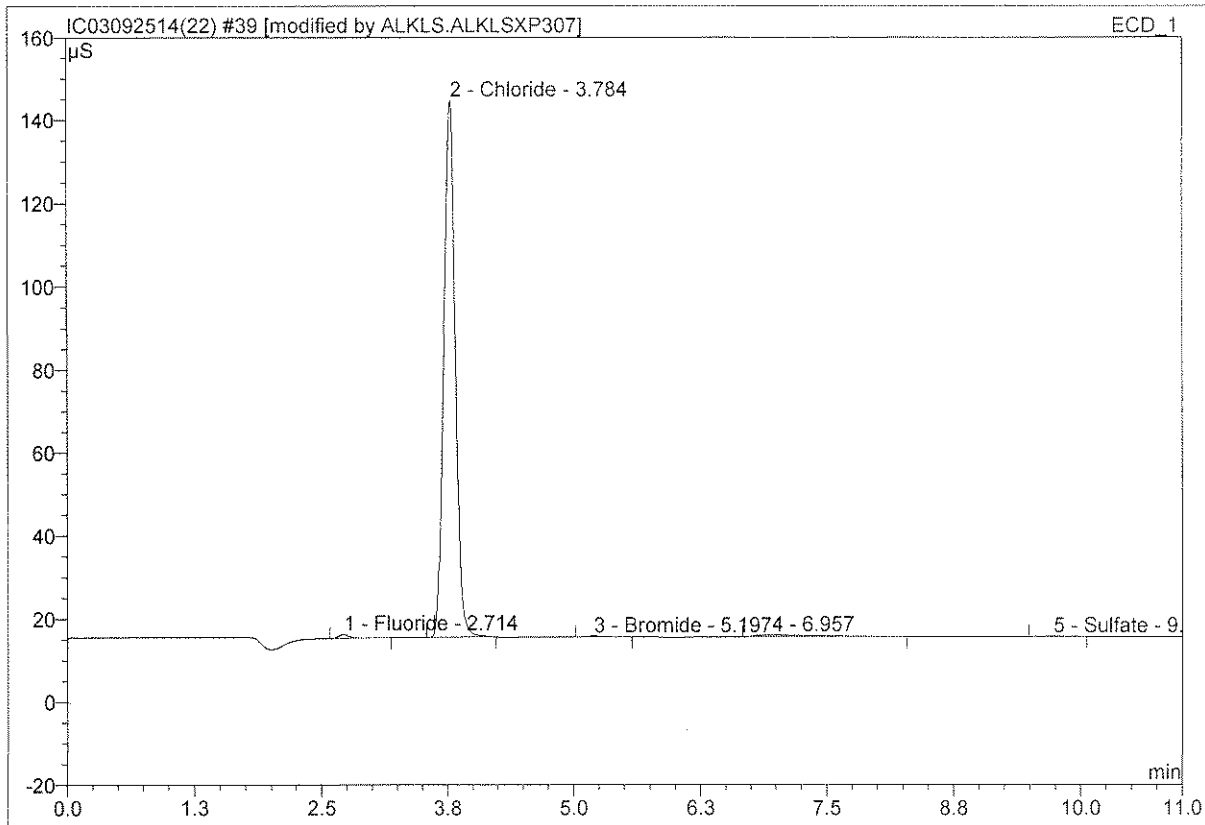
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.76	Fluoride	85.433	9.161	25.92	103 5.236	BMB
2	3.94	Chloride	63.905	6.606	18.69	96 4.777	BMB
3	4.70	Nitrite	48.775	6.290	17.79	103 2.579	BMB
4	5.56	Bromide	8.271	1.143	3.23	94 2.353	BMB
5	6.22	Nitrate	51.193	7.876	22.28	91 2.280	BMB
6	10.44	Sulfate	13.451	4.273	12.09	97 4.835	BMB
Total:			271.028	35.348	100.00	22.059	

37 K1409995-003			
Sample Name:	K1409995-003	Injection Volume:	200.0
Vial Number:	23	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 16:22	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.347	0.117	0.03	0.335	BMB
2	4.21	n.a.	981.711	450.511	99.58	n.a.	BMB
3	5.24	Bromide	2.841	0.414	0.09	4.265	BMB
4	6.90	n.a.	0.446	0.405	0.09	n.a.	BMB
5	9.65	Sulfate	3.775	0.977	0.22	5.525	BMB
Total:			989.119	452.425	100.00	10.125	

39 K1410111-001			
Sample Name:	K1410111-001	Injection Volume:	200.0
Vial Number:	25	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 16:51	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	1.003	0.135	0.76	0.155	BMB
2	3.78	Chloride	129.167	17.131	96.79	24.778	BMB
3	5.20	Bromide	0.245	0.046	0.26	0.188	BMB
4	6.96	n.a.	0.456	0.359	2.03	n.a.	BMB
5	9.73	Sulfate	0.117	0.028	0.16	0.064	BMB*
Total:			130.988	17.699	100.00	25.184	

After Initials

SEP 26 2014

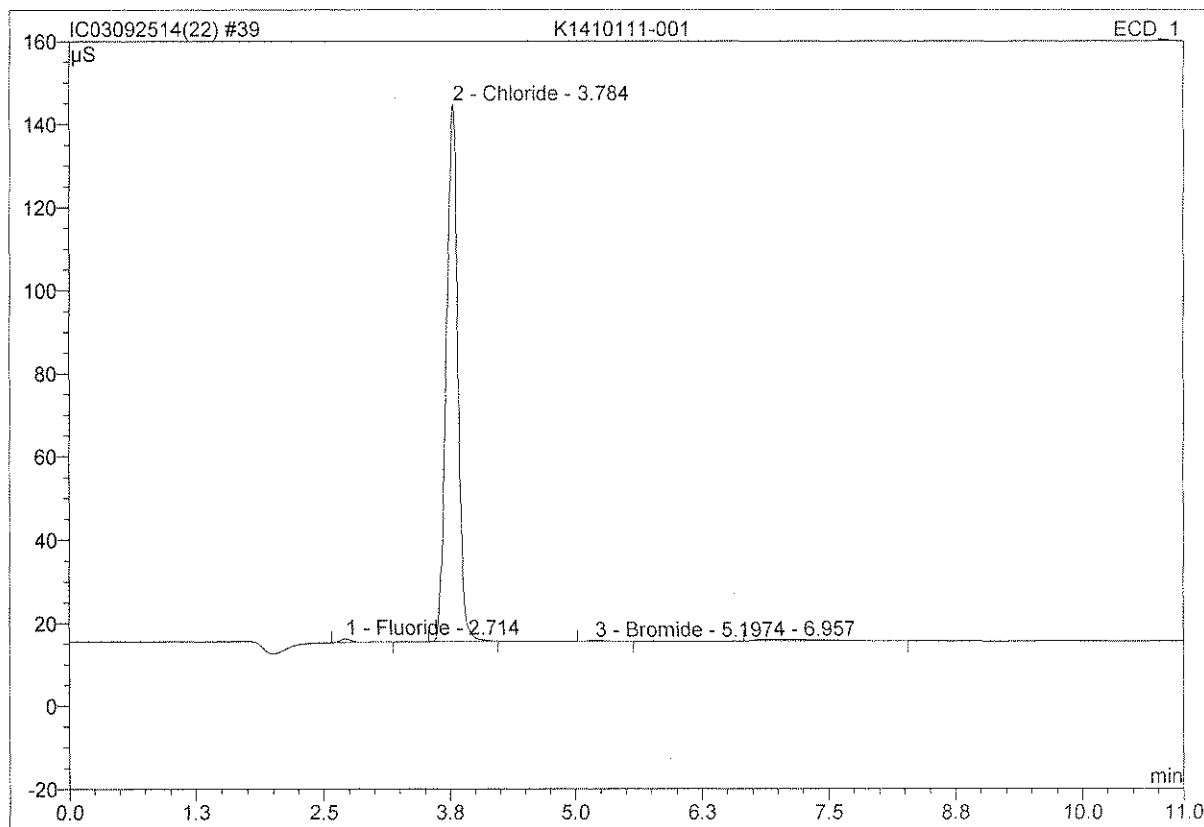
Handwritten signature

Wrong Peak/Peak not Found
 Baseline/shoulder incorrect
 Other _____

default/Integration

Chromleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

39 K1410111-001			
Sample Name:	K1410111-001	Injection Volume:	200.0
Vial Number:	25	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 16:51	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	1.003	0.135	0.77	0.155	BMB
2	3.78	Chloride	129.167	17.131	96.95	24.778	BMB
3	5.20	Bromide	0.245	0.046	0.26	0.188	BMB
4	6.96	n.a.	0.456	0.359	2.03	n.a.	BMB
Total:			130.871	17.671	100.00	25.120	

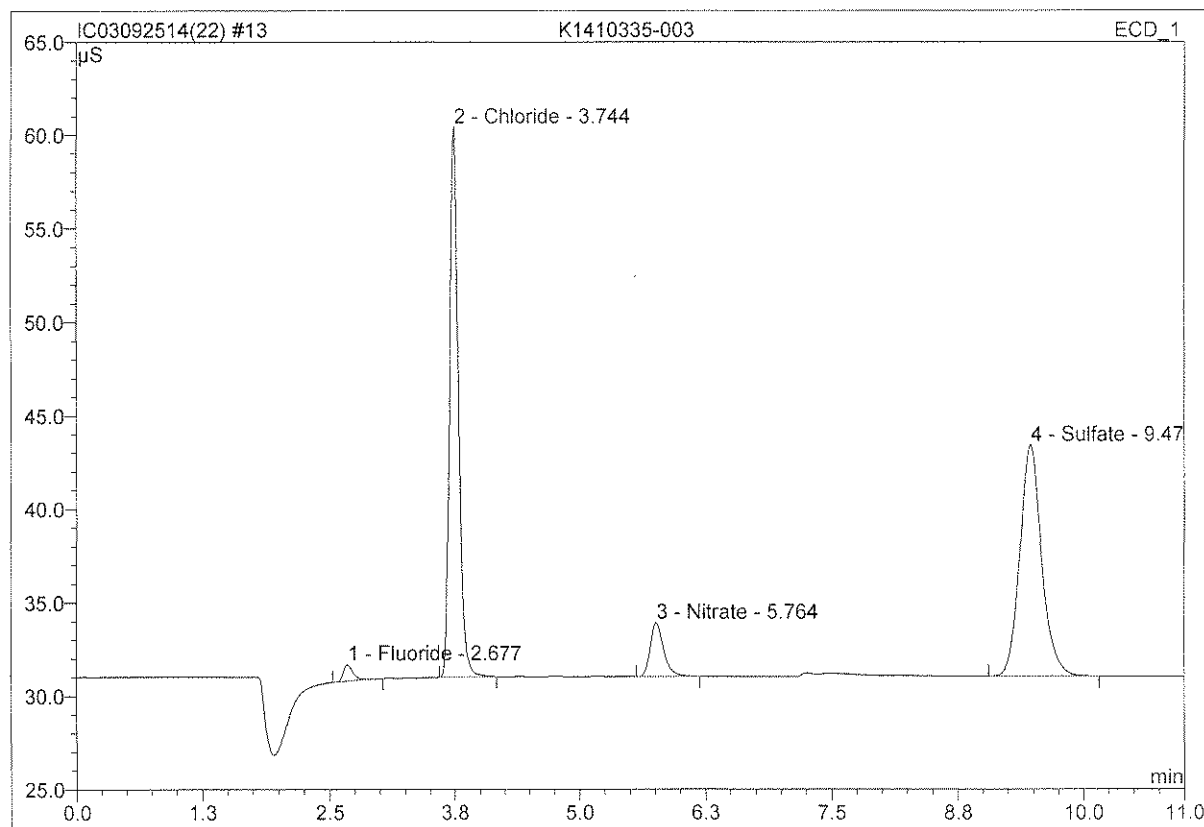
Before

6th

SEP 26 2014

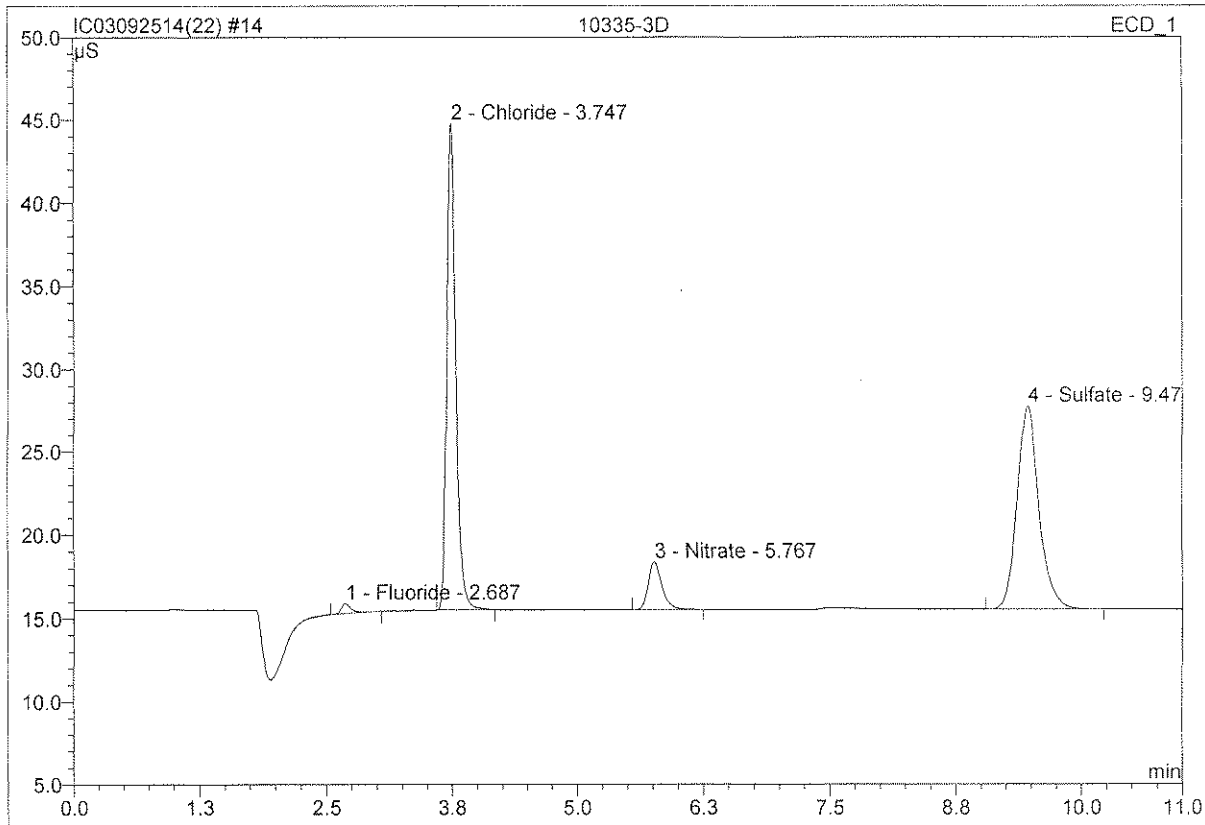
13 K1410335-003

Sample Name:	K1410335-003	Injection Volume:	200.0
Vial Number:	3	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 10:26	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



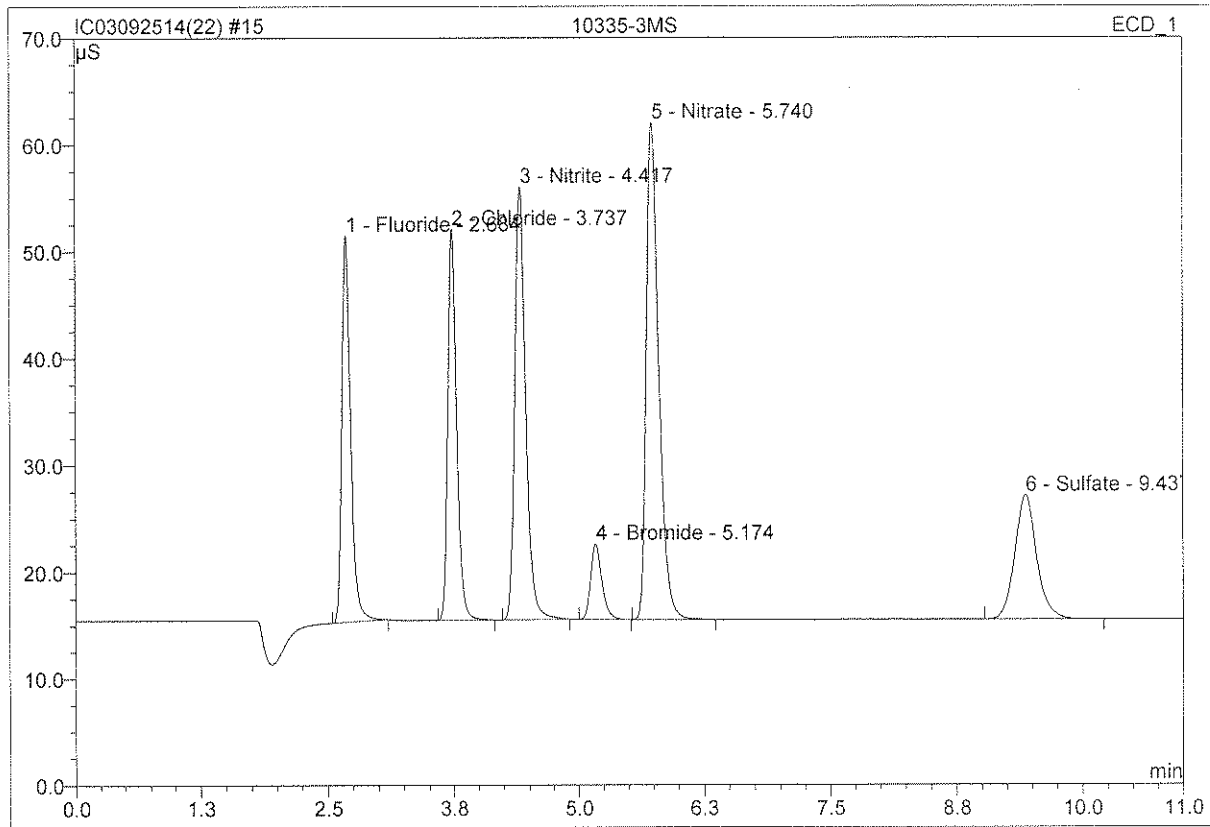
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.884	0.100	1.49	0.114	BMB
2	3.74	Chloride	29.393	3.051	45.61	4.413	BMB
3	5.76	Nitrate	2.883	0.442	6.61	0.256	BMB
4	9.48	Sulfate	12.365	3.096	46.28	7.006	BMB
Total:			45.526	6.689	100.00	11.789	

14 10335-3D			
D			
Sample Name:	10335-3D	Injection Volume:	200.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 10:41	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.588	0.066	1.00	0.076	BMB
2	3.75	Chloride	29.262	3.051	46.24	4.413	BMB
3	5.77	Nitrate	2.843	0.436	6.60	0.252	BMB
4	9.47	Sulfate	12.190	3.045	46.15	6.890	BMB
Total:			44.882	6.598	100.00	11.631	

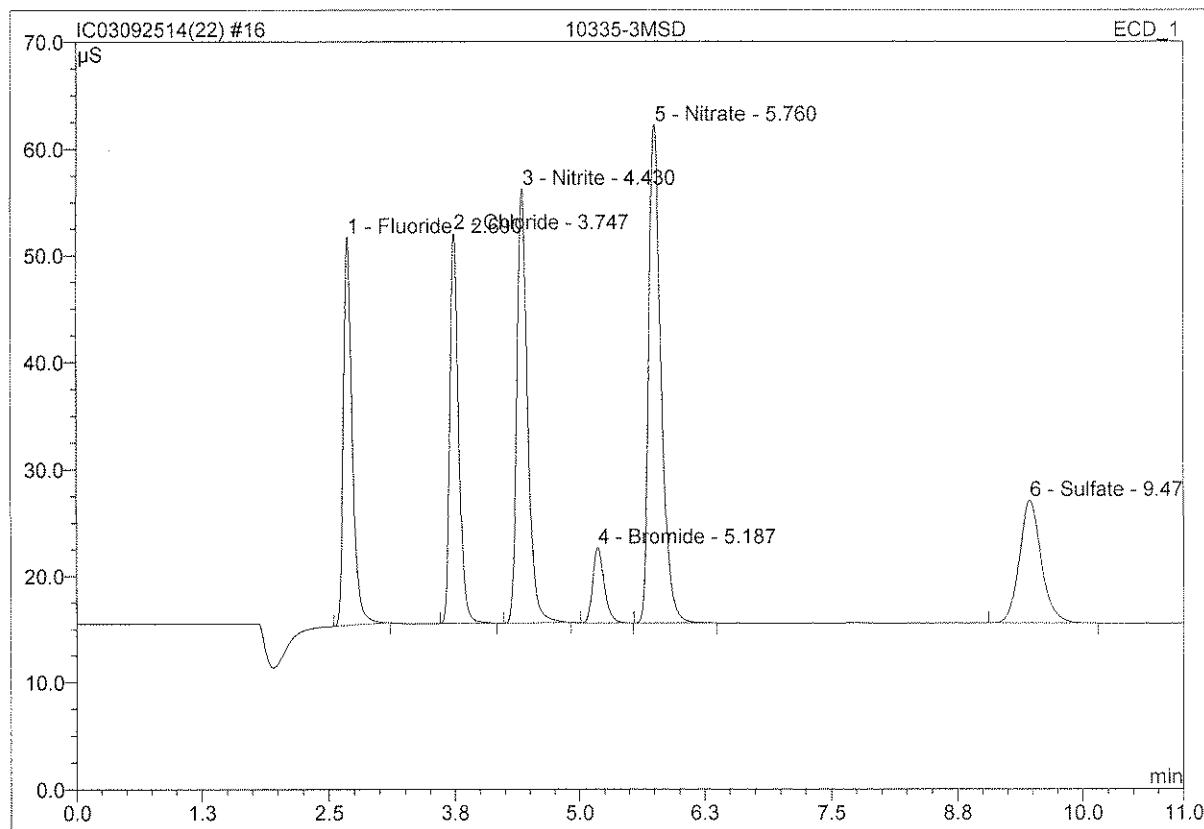
15 10335-3MS			
MS			
Sample Name:	10335-3MS	Injection Volume:	200.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 10:55	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	36.144	3.634	15.93	10.386	BMB
2	3.74	Chloride	36.548	3.760	16.48	13.597	BMB
3	4.42	Nitrite	40.473	5.041	22.10	10.336	BMB
4	5.17	Bromide	7.041	0.923	4.05	9.503	BMB
5	5.74	Nitrate	46.460	6.580	28.84	9.524	BMB
6	9.44	Sulfate	11.549	2.877	12.61	16.276	BMB
Total:			178.214	22.816	100.00	69.622	

SPL-10.0

16 10335-3MSD			
MSD			
Sample Name:	10335-3MSD	Injection Volume:	200.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 11:09	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000

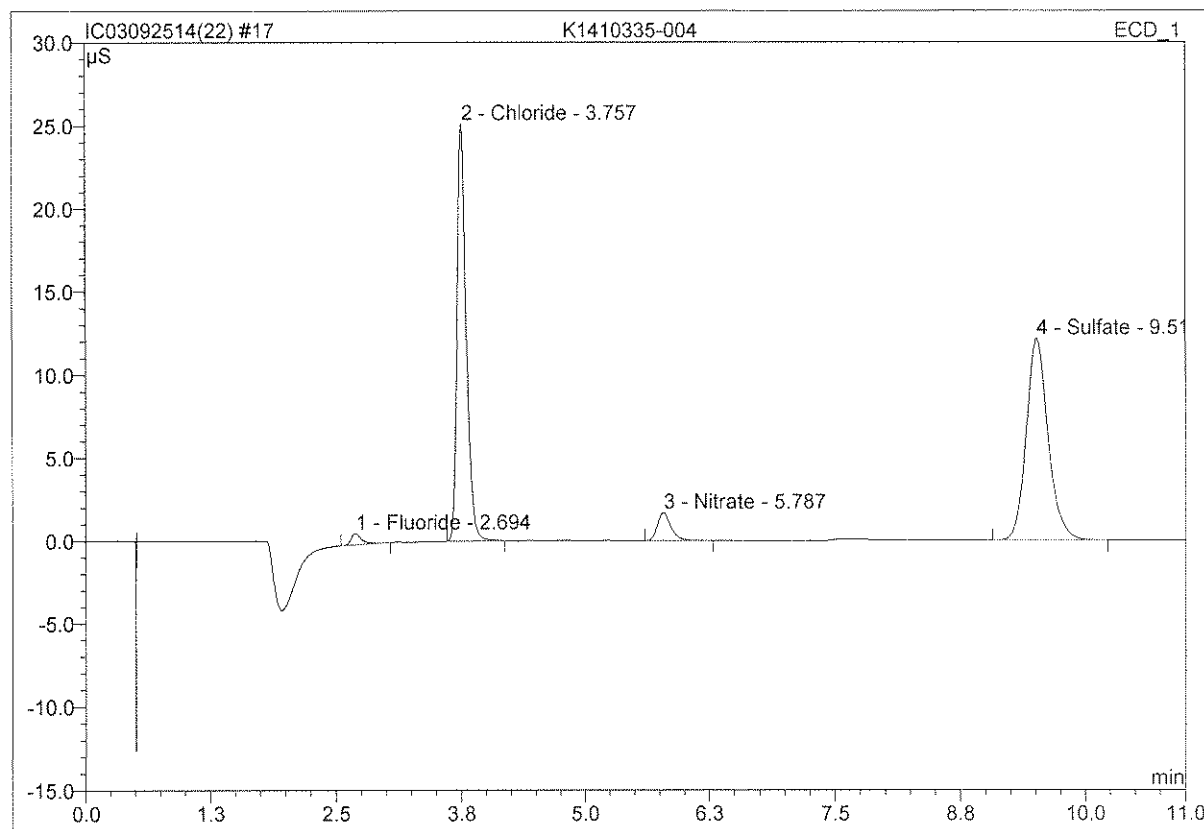


No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	36.361	3.667	15.97	10.480	BMB
2	3.75	Chloride	36.552	3.767	16.40	13.621	BMB
3	4.43	Nitrite	40.694	5.080	22.11	10.415	BMB
4	5.19	Bromide	7.076	0.931	4.05	9.586	BMB
5	5.76	Nitrate	46.665	6.639	28.90	9.611	BMB
6	9.48	Sulfate	11.554	2.886	12.56	16.325	BMB
Total:			178.902	22.970	100.00	70.038	

5/11/14

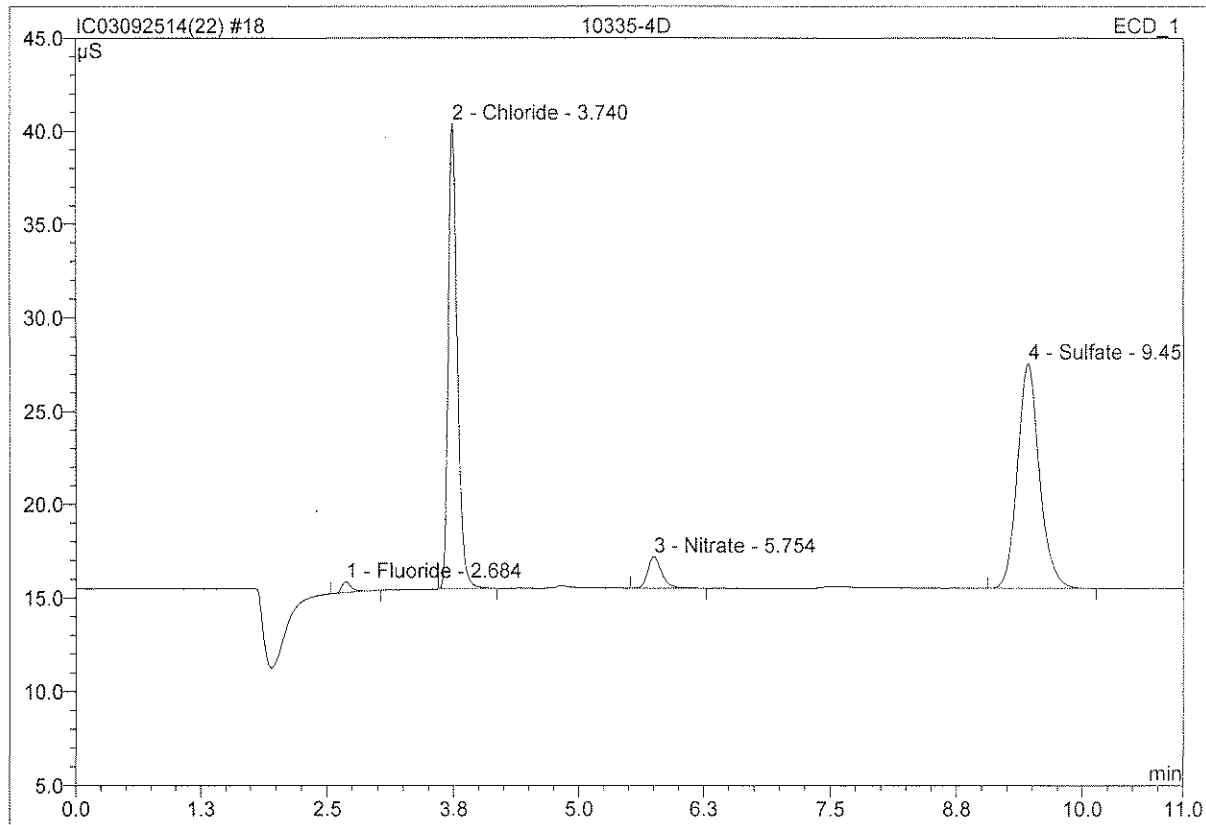
17 K1410335-004

Sample Name:	K1410335-004	Injection Volume:	200.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 11:23	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



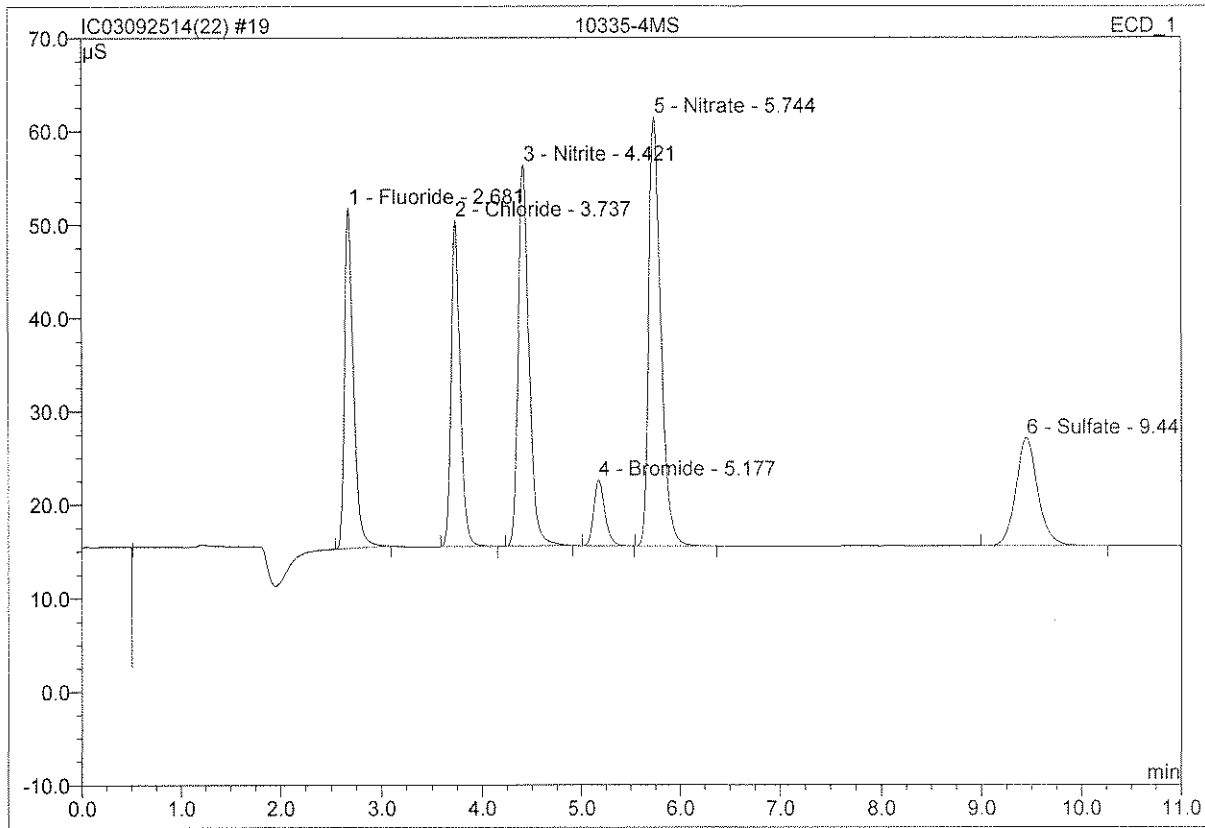
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.670	0.078	1.29	0.089	BMB
2	3.76	Chloride	25.123	2.619	43.62	3.788	BMB
3	5.79	Nitrate	1.677	0.259	4.32	0.150	BMB
4	9.51	Sulfate	12.134	3.048	50.77	6.898	BMB
Total:			39.605	6.005	100.00	10.925	

18 10335-4D			
D			
Sample Name:	10335-4D	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 11:37	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.565	0.064	1.08	0.073	BMB
2	3.74	Chloride	24.927	2.594	43.70	3.751	BMB
3	5.75	Nitrate	1.678	0.261	4.40	0.151	BMB
4	9.46	Sulfate	12.055	3.016	50.81	6.824	BMB
Total:			39.225	5.935	100.00	10.800	

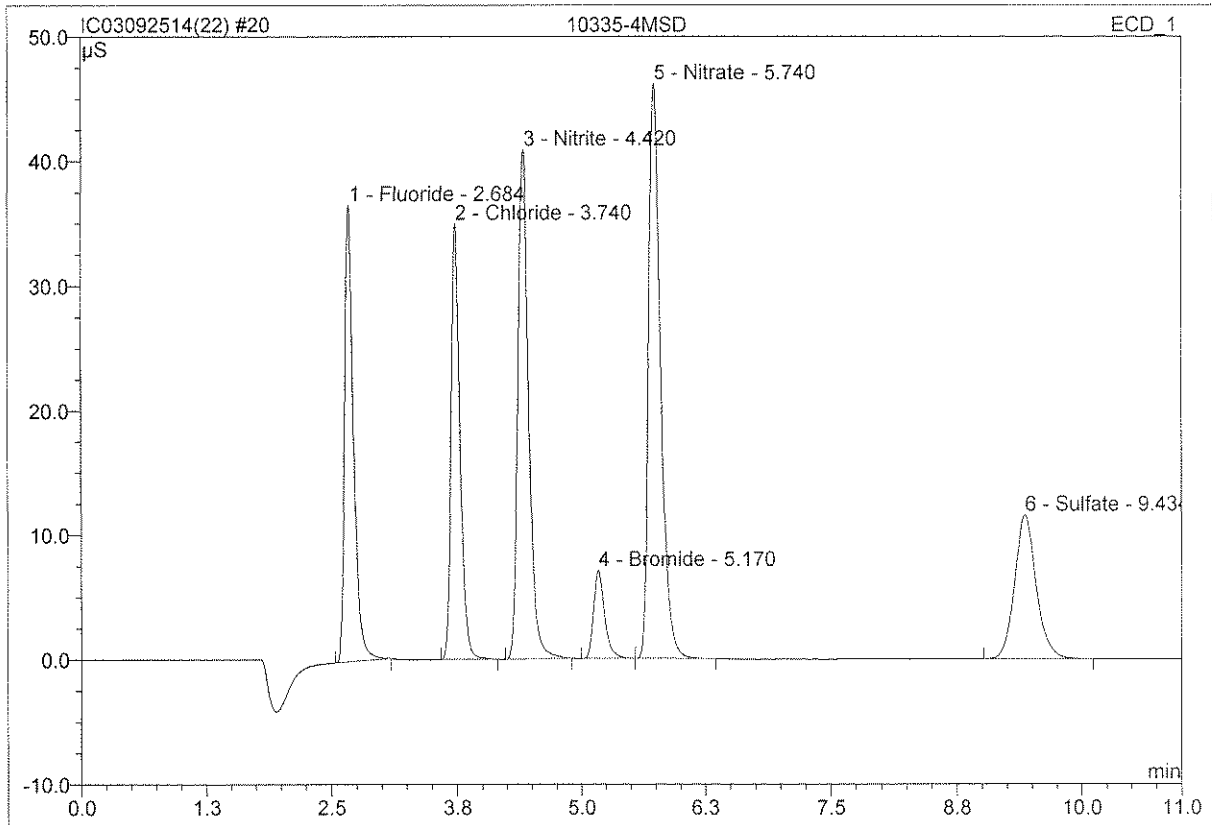
19 10335-4MS			
MS			
Sample Name:	10335-4MS	Injection Volume:	200.0
Vial Number:	9	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 11:51	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	36.462	3.652	16.12	10.437	BMB
2	3.74	Chloride	34.989	3.605	15.91	13.034	BMB
3	4.42	Nitrite	40.814	5.083	22.43	10.421	BMB
4	5.18	Bromide	7.078	0.929	4.10	9.564	BMB
5	5.74	Nitrate	45.948	6.513	28.74	9.428	BMB
6	9.45	Sulfate	11.535	2.879	12.71	16.288	BMB
Total:			176.826	22.661	100.00	69.172	

SP16-10/0

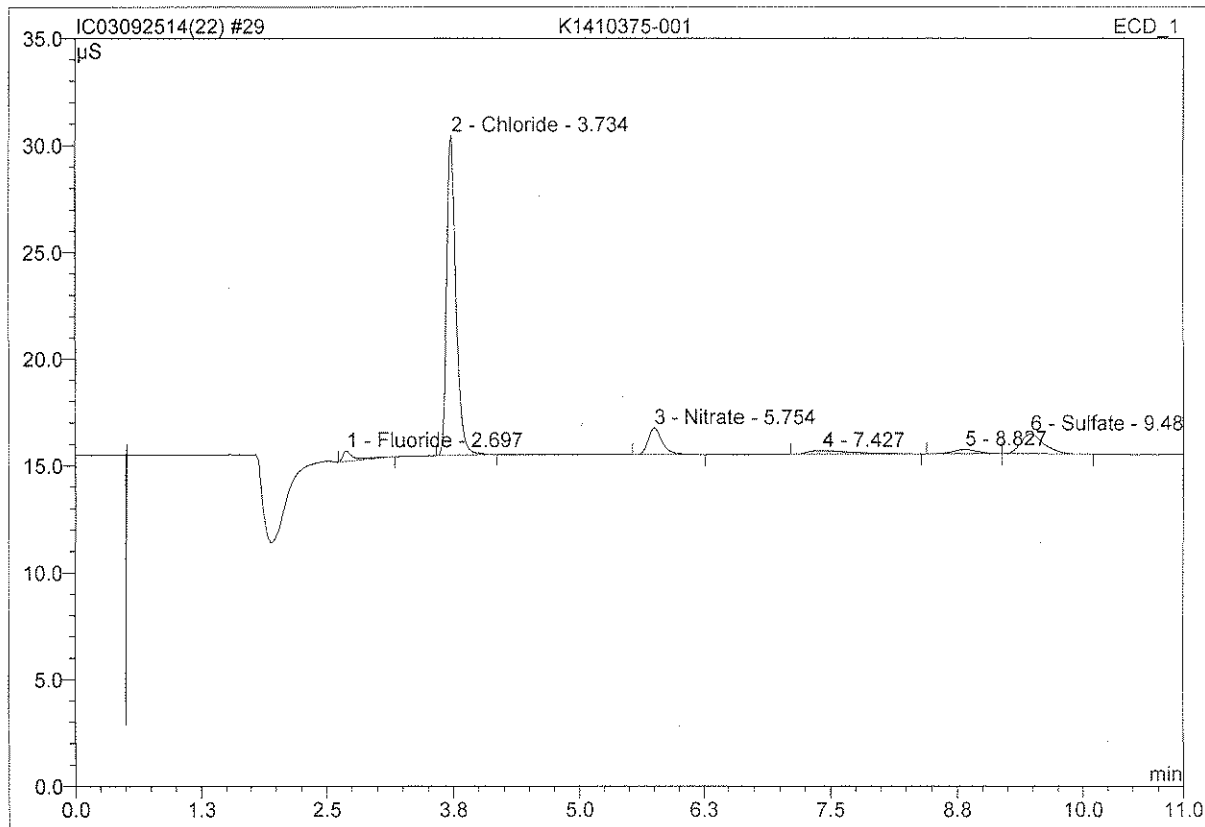
20 10335-4MSD			
MSD			
Sample Name:	10335-4MSD	Injection Volume:	200.0
Vial Number:	10	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 12:06	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	36.646	3.660	16.14	10.460	BMB
2	3.74	Chloride	34.964	3.591	15.83	12.986	BMB
3	4.42	Nitrite	40.883	5.080	22.39	10.415	BMB
4	5.17	Bromide	7.093	0.934	4.12	9.614	BMB
5	5.74	Nitrate	46.170	6.541	28.83	9.468	BMB
6	9.43	Sulfate	11.550	2.880	12.69	16.291	BMB
Total:			177.306	22.685	100.00	69.233	

5/16/10.0

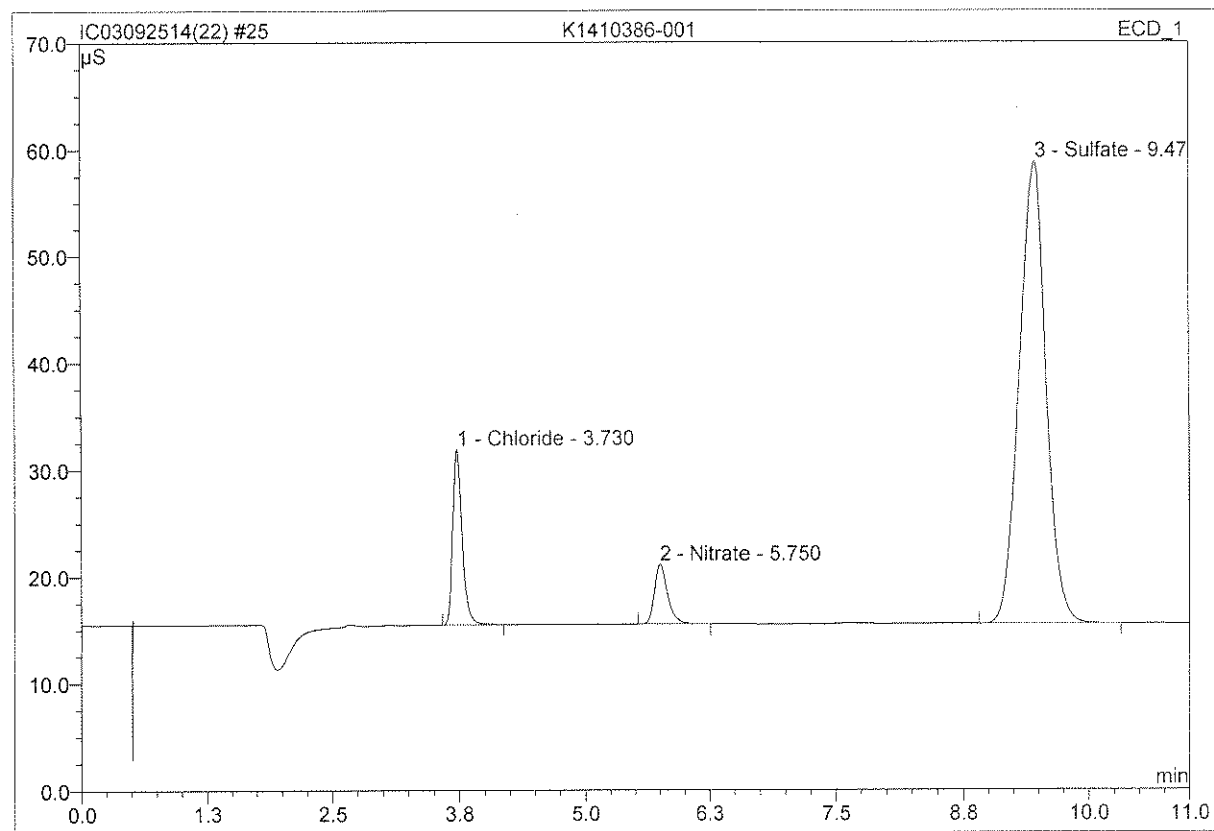
29 K1410375-001			
Sample Name:	K1410375-001	Injection Volume:	200.0
Vial Number:	17	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 14:27	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.70	Fluoride	0.481	0.063	2.80	0.072	BMB
2	3.73	Chloride	14.971	1.598	71.24	2.311	BMB
3	5.75	Nitrate	1.238	0.196	8.76	0.114	BMB
4	7.43	n.a.	0.161	0.089	3.98	n.a.	BMB
5	8.83	n.a.	0.196	0.057	2.53	n.a.	BMB
6	9.48	Sulfate	0.925	0.240	10.70	0.543	BMB
Total:			17.971	2.243	100.00	3.040	

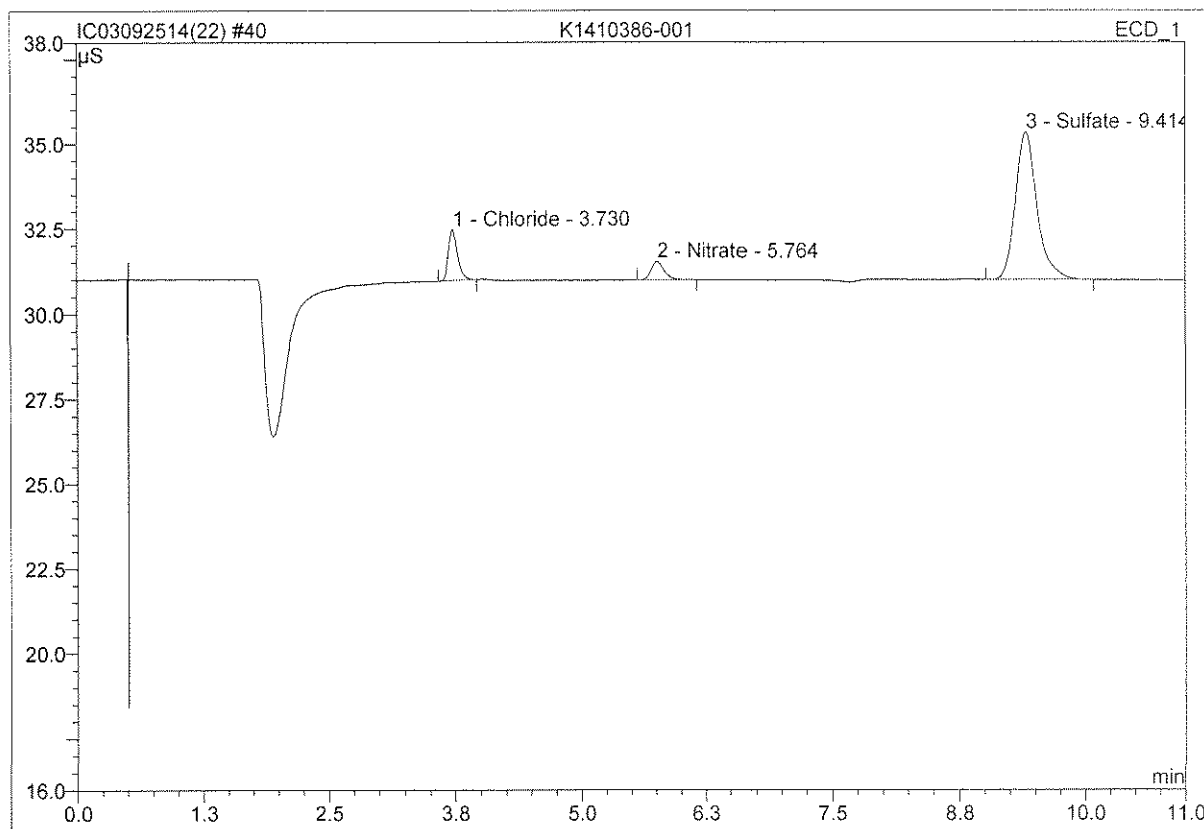
25 K1410386-001

Sample Name:	K1410386-001	Injection Volume:	200.0
Vial Number:	13	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 13:17	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



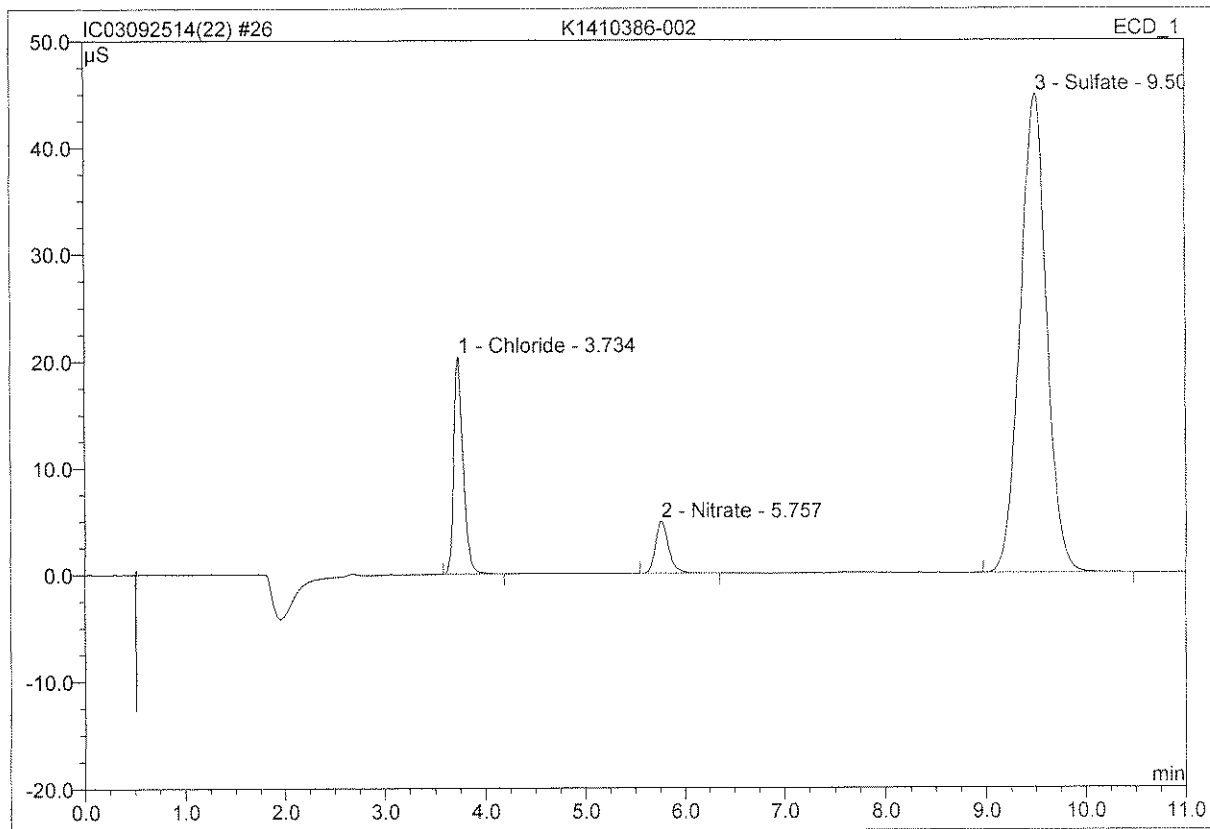
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	3.73	Chloride	16.415	1.756	11.06	2.540	BMB
2	5.75	Nitrate	5.573	0.842	5.30	0.488	BMB
3	9.47	Sulfate	43.308	13.278	83.63	30.047	BMB
Total:			65.297	15.877	100.00	33.074	

40 K1410386-001			
Sample Name:	K1410386-001	Injection Volume:	200.0
Vial Number:	26	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 17:05	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.73	Chloride	1.486	0.159	12.07	2.293	BMB
2	5.76	Nitrate	0.531	0.081	6.16	0.468	BMB
3	9.41	Sulfate	4.338	1.074	81.77	24.300	BMB
Total:			6.355	1.313	100.00	27.061	

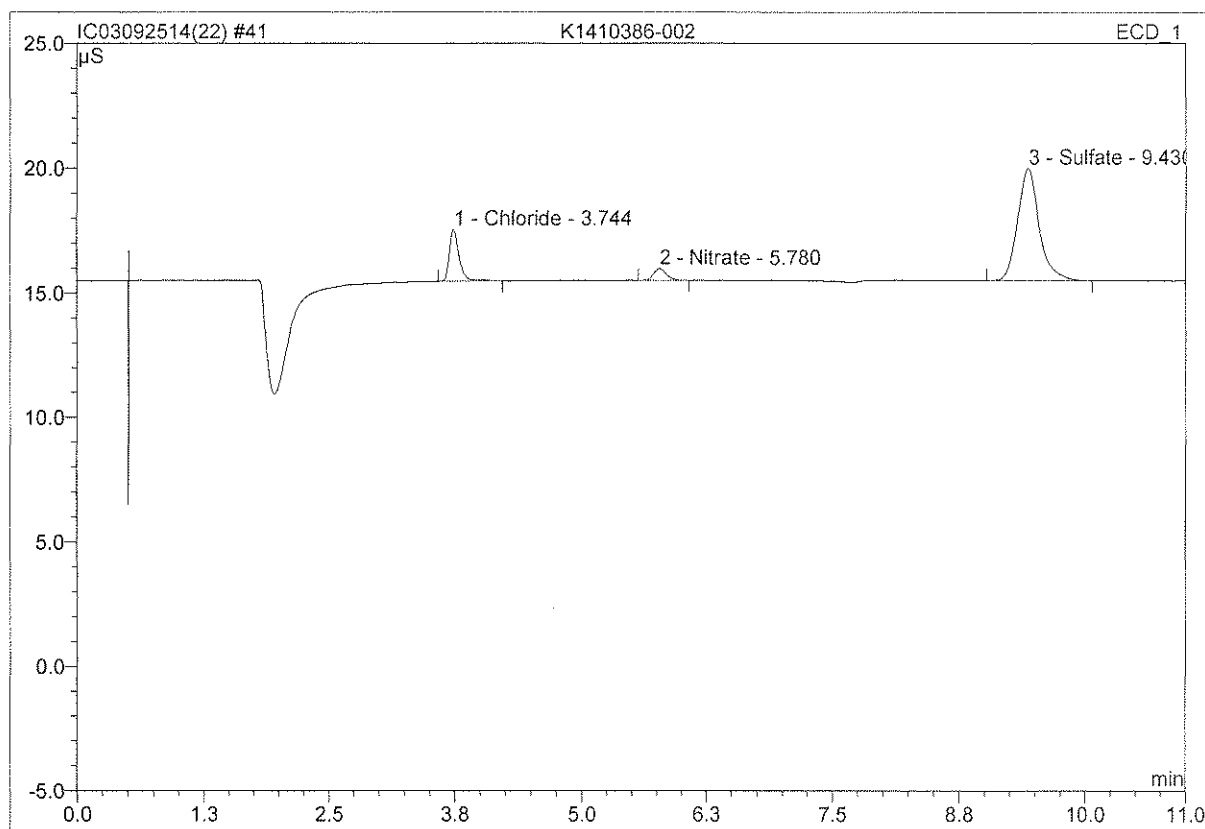
26 K1410386-002			
Sample Name:	K1410386-002	Injection Volume:	200.0
Vial Number:	14	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 13:31	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret. Time min	Peak Name	Height μS	Area μS*min	Rel. Area %	Amount	Type
1	3.73	Chloride	20.408	2.179	13.10	3.152	BMB
2	5.76	Nitrate	4.852	0.741	4.45	0.429	BMB
3	9.50	Sulfate	44.870	13.715	82.45	31.034	BMB
Total:			70.130	16.635	100.00	34.615	

41 K1410386-002

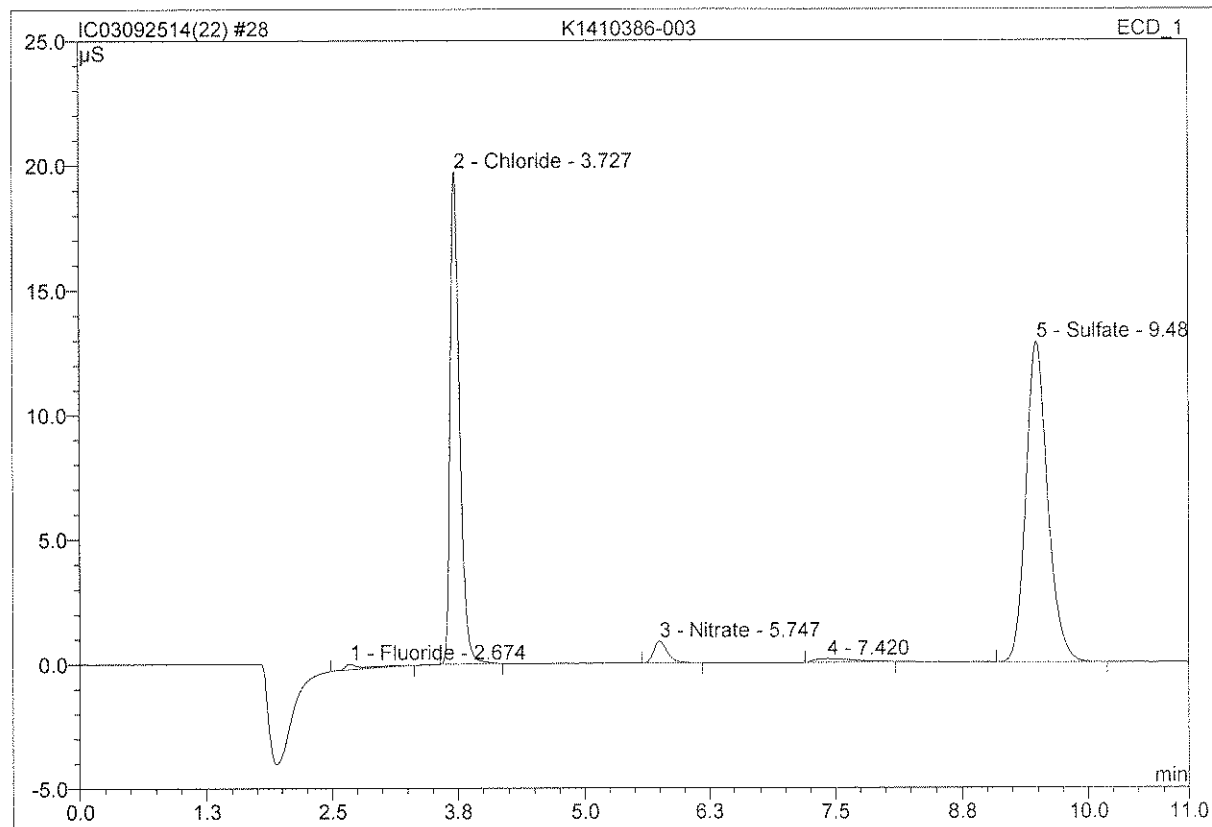
Sample Name:	K1410386-002	Injection Volume:	200.0
Vial Number:	27	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 17:19	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.74	Chloride	2.085	0.231	16.39	3.341	BMB
2	5.78	Nitrate	0.479	0.073	5.15	0.420	BMB
3	9.43	Sulfate	4.492	1.105	78.45	25.015	BMB
Total:			7.055	1.409	100.00	28.777	

28 K1410386-003

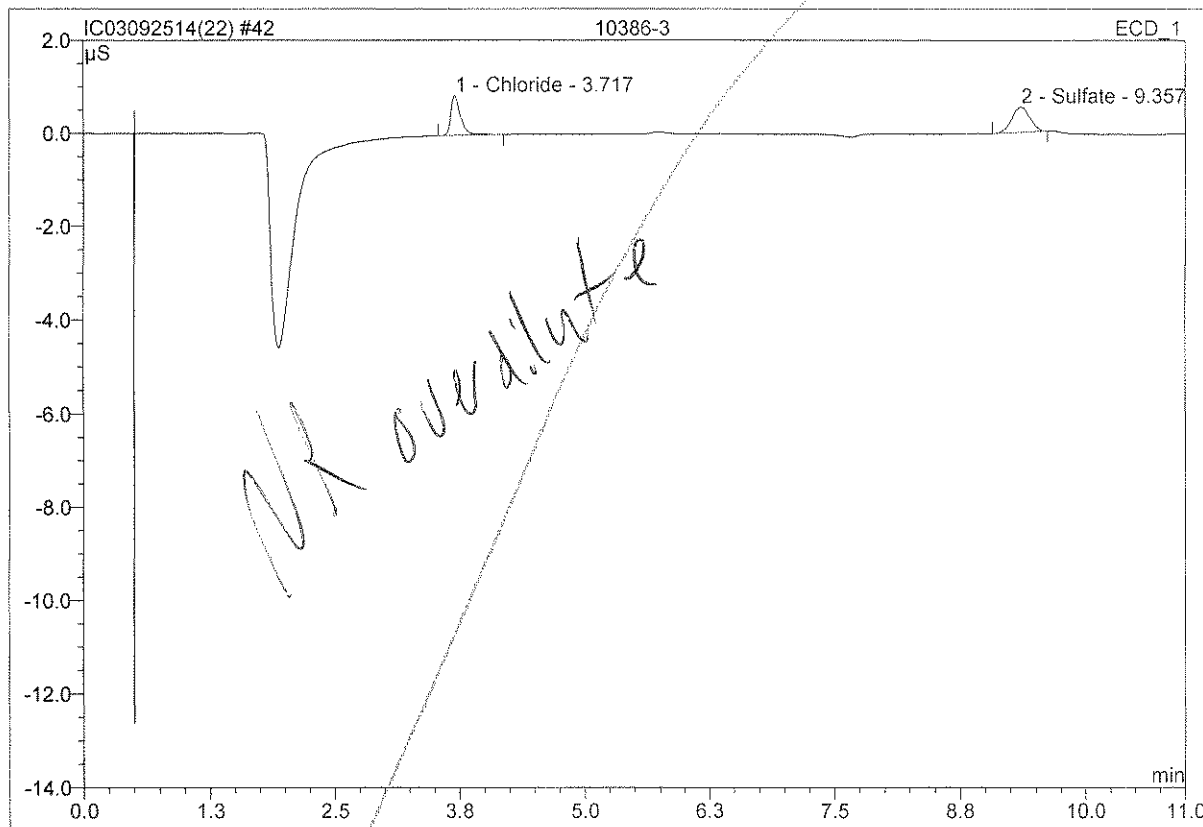
Sample Name:	K1410386-003	Injection Volume:	200.0
Vial Number:	23	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 14:13	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	0.239	0.055	0.98	0.031	BMB
2	3.73	Chloride	19.724	2.151	38.44	1.556	BMB
3	5.75	Nitrate	0.873	0.137	2.45	0.040	BMB
4	7.42	n.a.	0.152	0.068	1.22	n.a.	BMB
5	9.49	Sulfate	12.869	3.185	56.91	3.603	BMB
Total:			33.857	5.596	100.00	5.230	

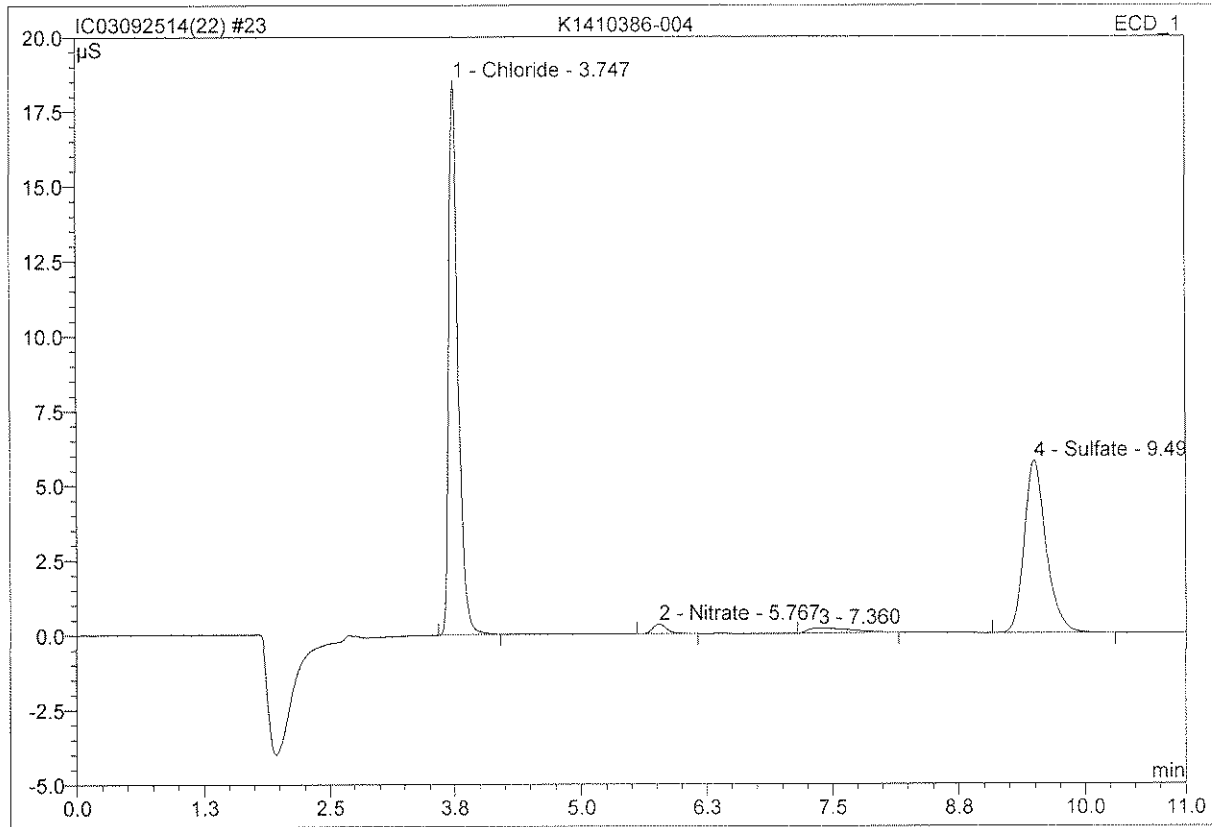
42 10386-3

Sample Name:	10386-3	Injection Volume:	200.0
Vial Number:	28	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 17:33	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



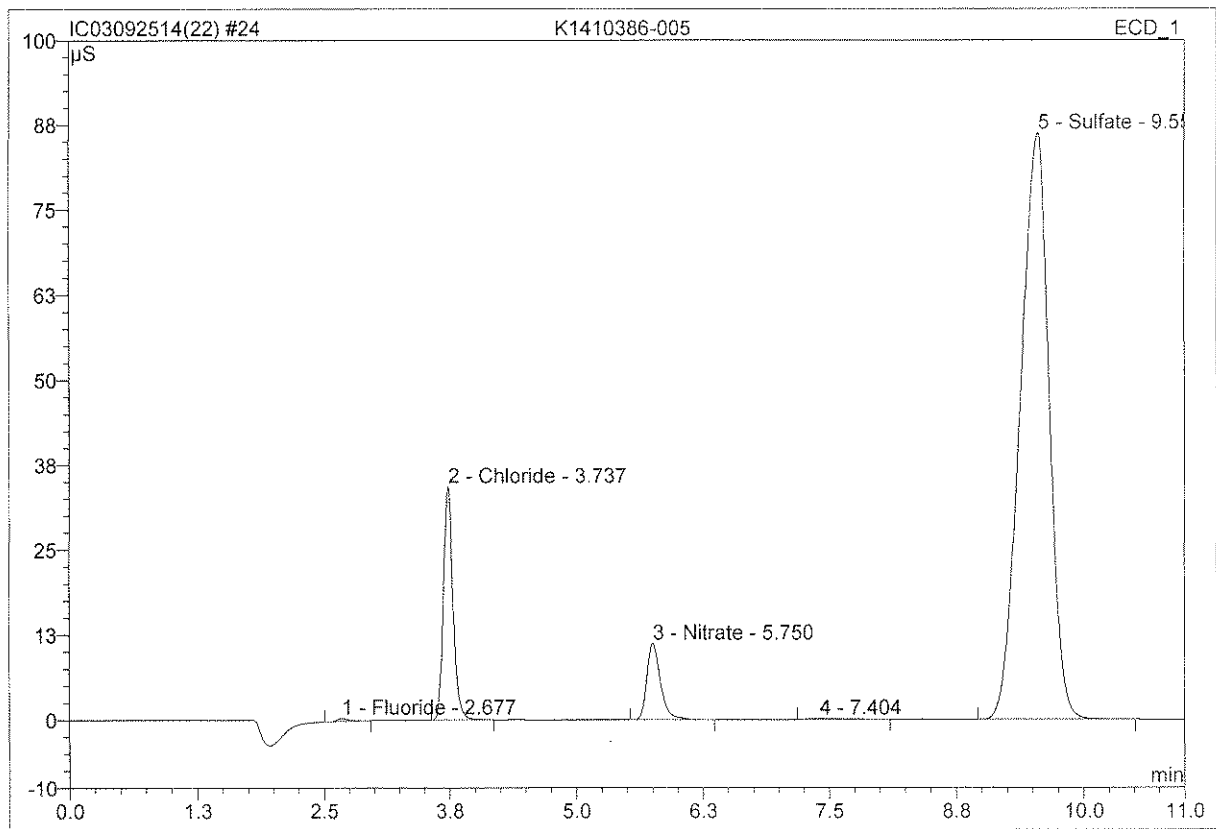
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	3.72	Chloride	0.854	0.098	46.51	1.410	BMB
2	9.36	Sulfate	0.540	0.112	53.49	2.538	BMB
Total:			1.394	0.210	100.00	3.948	

23 K1410386-004			
Sample Name:	K1410386-004	Injection Volume:	200.0
Vial Number:	11	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 12:48	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	3.75	Chloride	18.524	2.017	56.26	1.459	BMB
2	5.77	Nitrate	0.322	0.052	1.46	0.015	BMB
3	7.36	n.a.	0.172	0.086	2.39	n.a.	BMB
4	9.49	Sulfate	5.763	1.430	39.89	1.618	BMB
Total:			24.781	3.585	100.00	3.092	

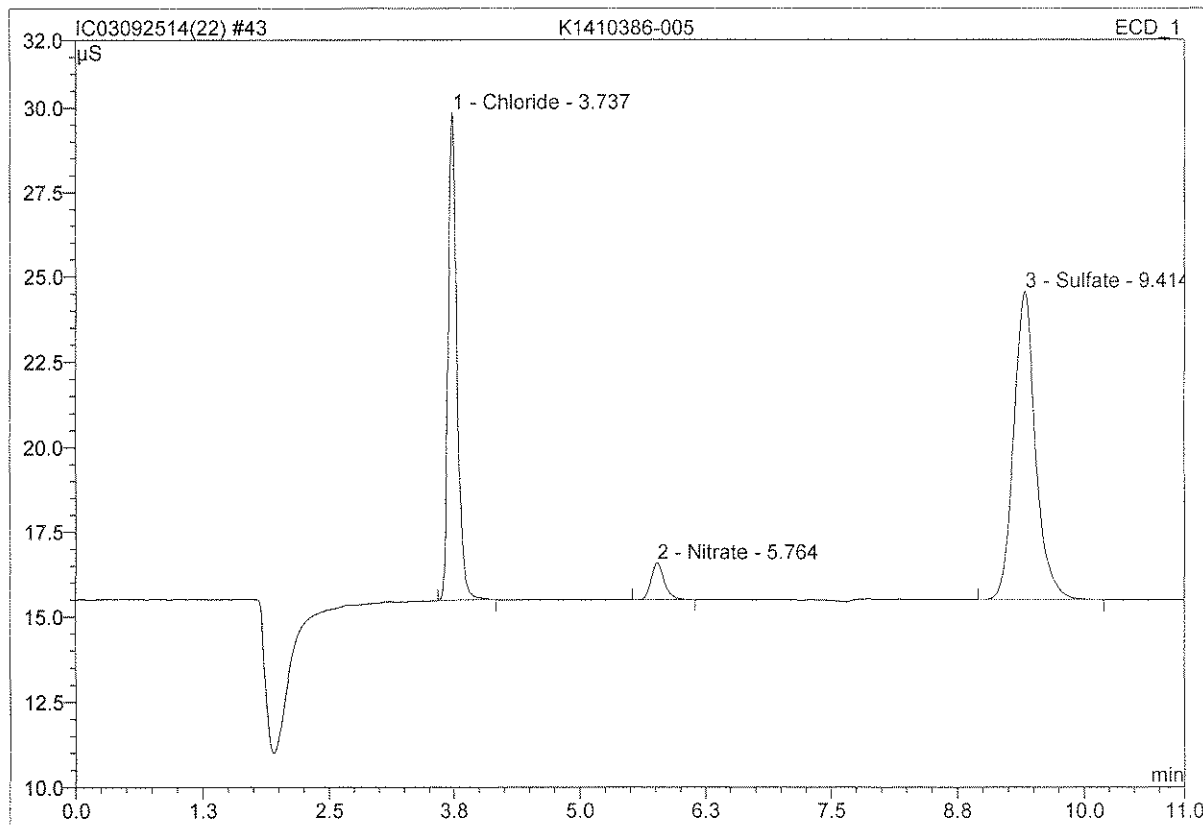
24 K1410386-005			
Sample Name:	K1410386-005	Injection Volume:	200.0
Vial Number:	12	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 13:02	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.424	0.053	0.16	0.030	BMB
2	3.74	Chloride	34.242	3.767	11.13	2.724	BMB
3	5.75	Nitrate	11.159	1.744	5.15	0.505	BMB
4	7.40	n.a.	0.146	0.066	0.19	n.a.	BMB
5	9.55	Sulfate	86.223	28.226	83.37	31.935	BMB
Total:			132.194	33.856	100.00	35.195	

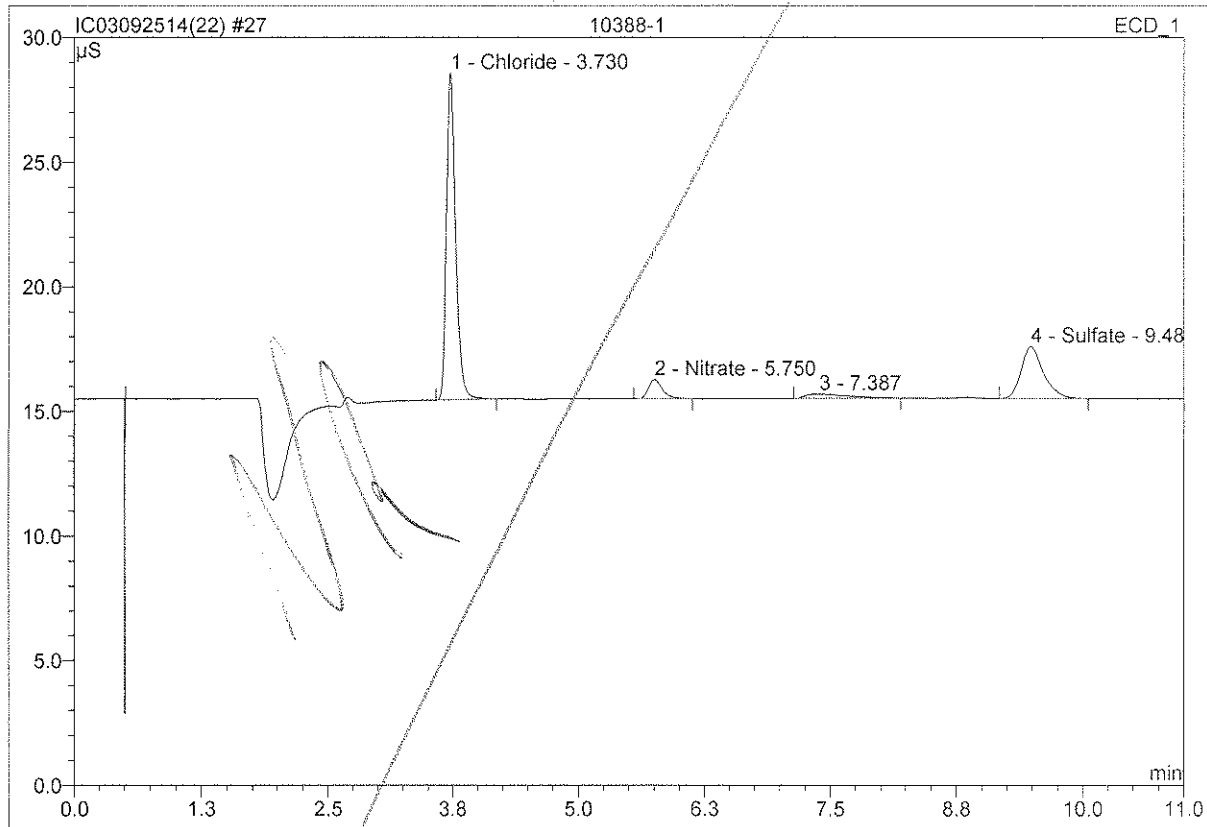
43 K1410386-005

Sample Name:	K1410386-005	Injection Volume:	200.0
Vial Number:	29	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	10.0000
Recording Time:	9/25/2014 17:47	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



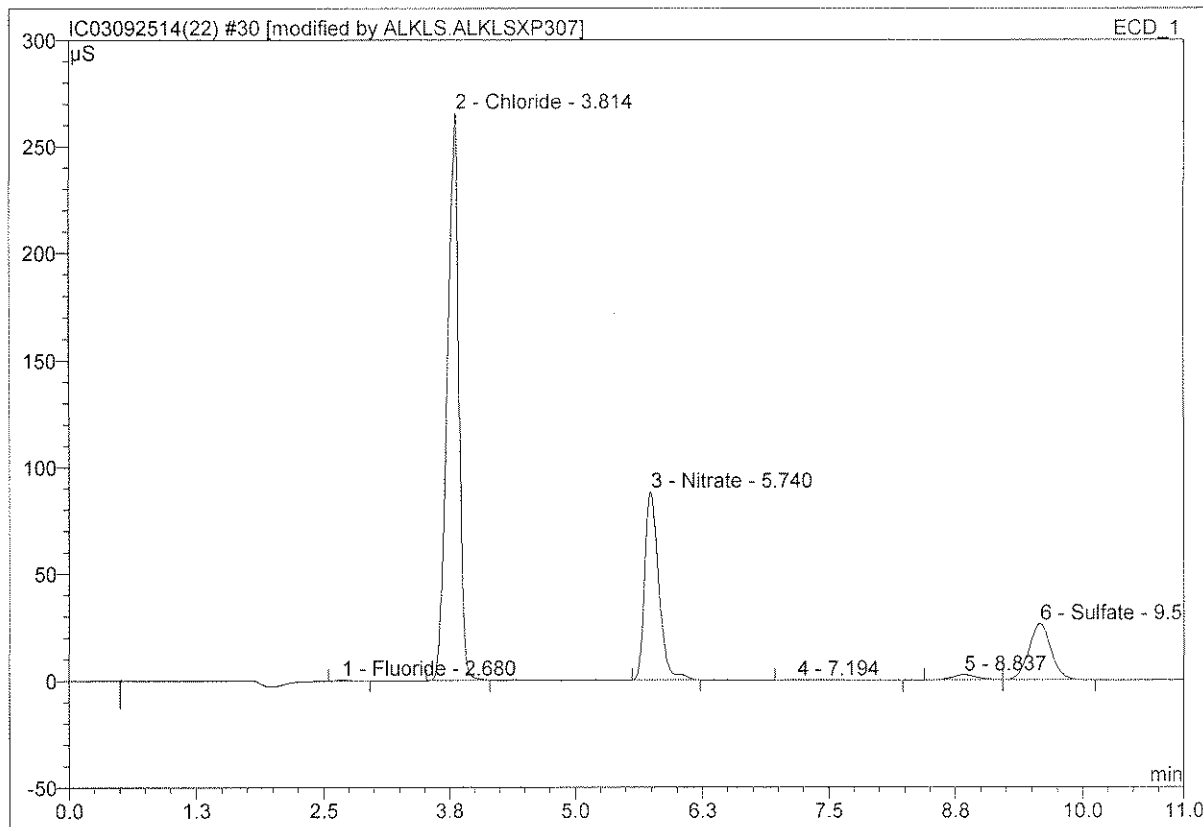
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.74	Chloride	14.365	1.482	38.07	10.719	BMB
2	5.76	Nitrate	1.080	0.162	4.16	0.469	BMB
3	9.41	Sulfate	9.049	2.249	57.77	25.450	BMB
Total:			24.493	3.894	100.00	36.637	

27 10388-1			
Sample Name:	10388-1	Injection Volume:	200.0
Vial Number:	16	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 13:59	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.73	Chloride	13.110	1.421	65.67	2.056	BMB
2	5.75	Nitrate	0.766	0.121	5.58	0.070	BMB
3	7.39	n.a.	0.173	0.088	4.05	n.a.	BMB
4	9.48	Sulfate	2.089	0.534	24.69	1.209	BMB
Total:			16.138	2.164	100.00	3.335	

30 K1410396-001			
Sample Name:	K1410396-001	Injection Volume:	200.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 14:42	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.550	0.073	0.13	0.084	BMB
2	3.81	Chloride	265.599	35.523	62.37	51.377	BMB
3	5.74	Nitrate	88.149	13.990	24.56	8.100	BMB*
4	7.19	n.a.	0.252	0.152	0.27	n.a.	BMB
5	8.84	n.a.	2.377	0.661	1.16	n.a.	BMB
6	9.58	Sulfate	26.186	6.553	11.51	14.828	bMB
Total:			383.113	56.951	100.00	74.388	

NO₃-N, 10

After Initials BH

Handwritten signature
9/26/14

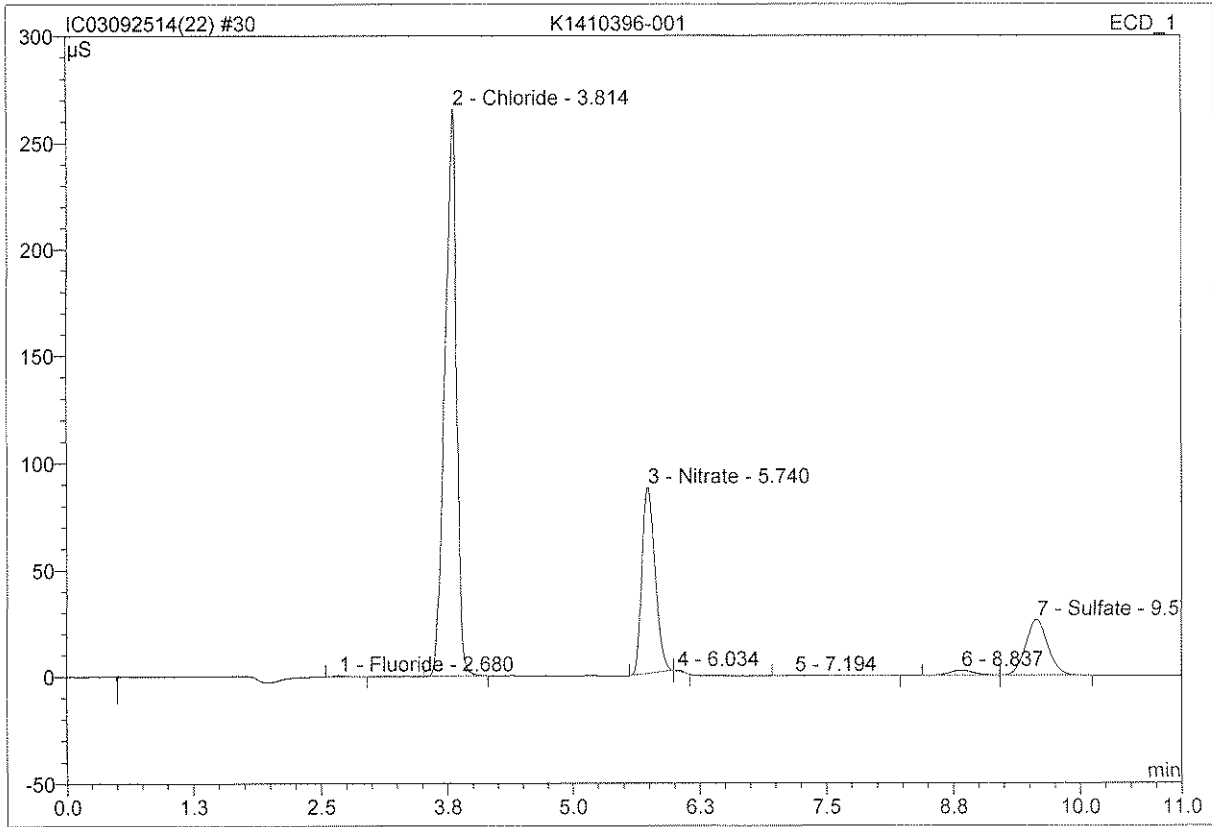
SEP 25 2014

default/Integration

Wrong Peak/Peak not Found
 Baseline/shoulder Incorrect
 Other: 125

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

30 K1410396-001			
Sample Name:	K1410396-001	Injection Volume:	200.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 14:42	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.550	0.073	0.13	0.084	BMB
2	3.81	Chloride	265.599	35.523	63.24	51.377	BMB
3	5.74	Nitrate	87.139	13.152	23.42	7.615	BMb
4	6.03	n.a.	0.549	0.057	0.10	n.a.	bMB
5	7.19	n.a.	0.252	0.152	0.27	n.a.	BMB
6	8.84	n.a.	2.377	0.661	1.18	n.a.	BMb
7	9.58	Sulfate	26.186	6.553	11.67	14.828	bMB
Total:			382.652	56.171	100.00	73.904	

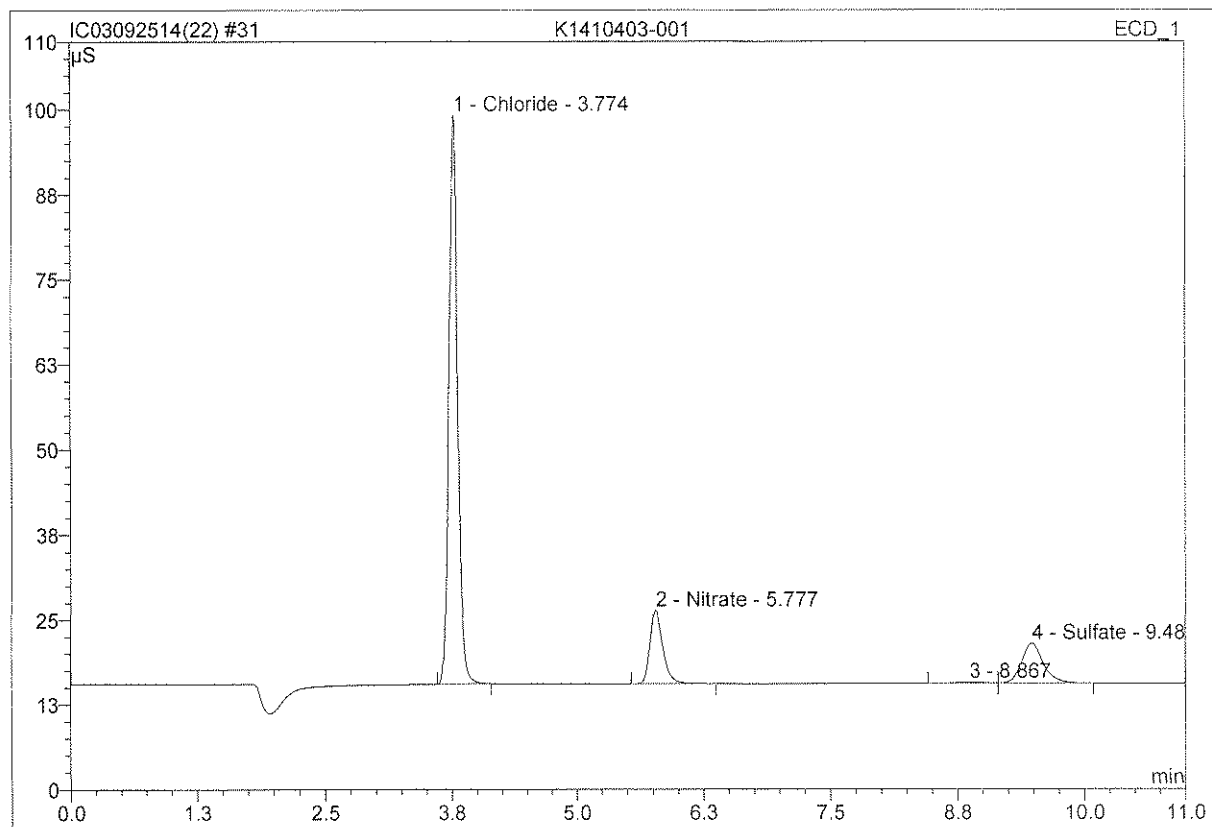
Below:

SEP 25 2014

*HT
9/25/14*

31 K1410403-001

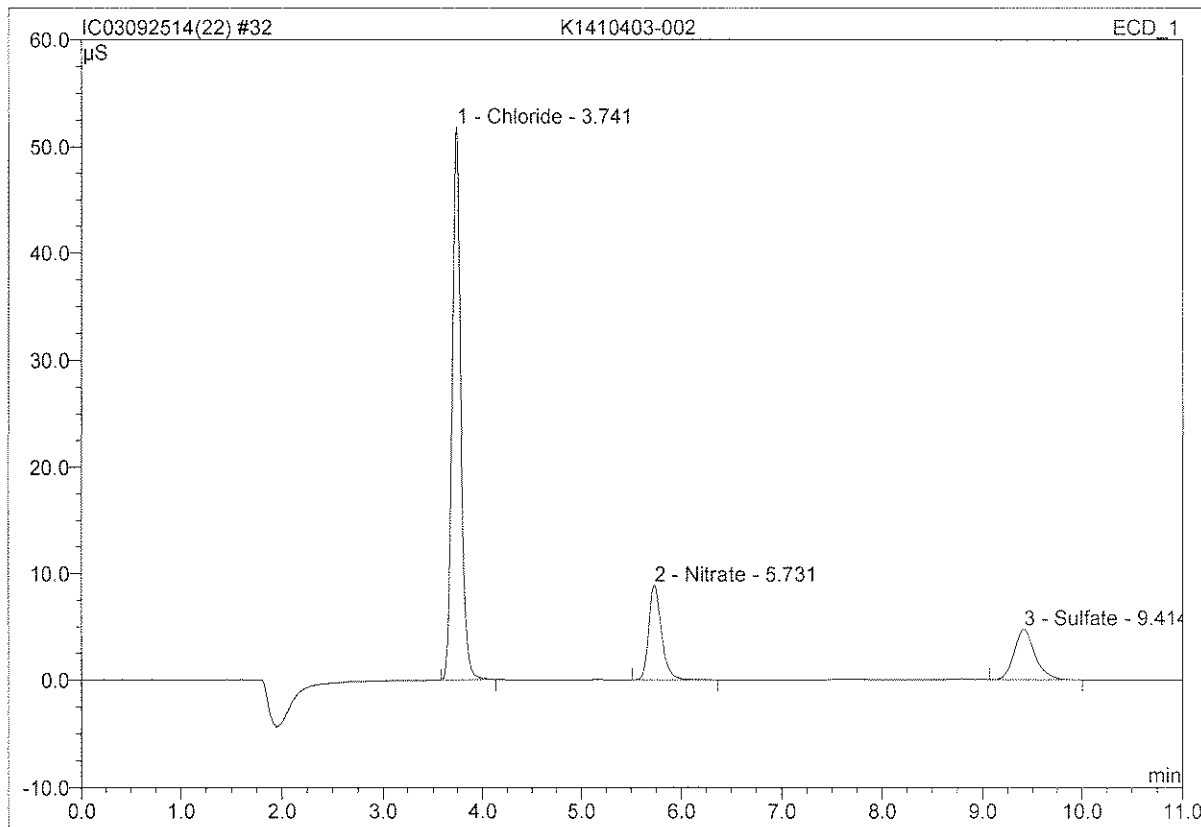
Sample Name:	K1410403-001	Injection Volume:	200.0
Vial Number:	19	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 14:56	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.77	Chloride	83.618	8.490	73.39	122.786	BMB
2	5.78	Nitrate	10.831	1.597	13.81	9.249	BMB
3	8.87	n.a.	0.156	0.042	0.36	n.a.	BMB
4	9.49	Sulfate	5.886	1.439	12.44	32.570	bMB
Total:			100.491	11.568	100.00	164.605	

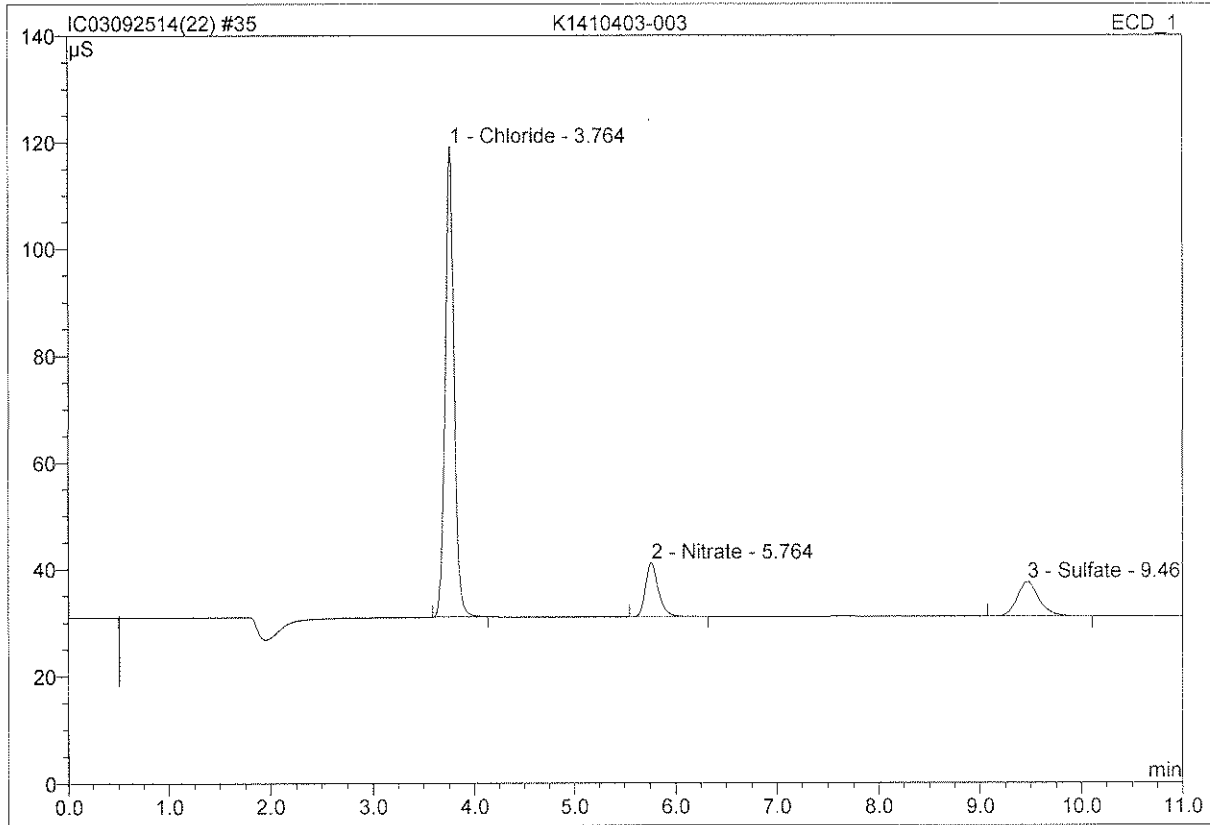
32 K1410403-002

Sample Name:	K1410403-002	Injection Volume:	200.0
Vial Number:	20	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 15:10	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



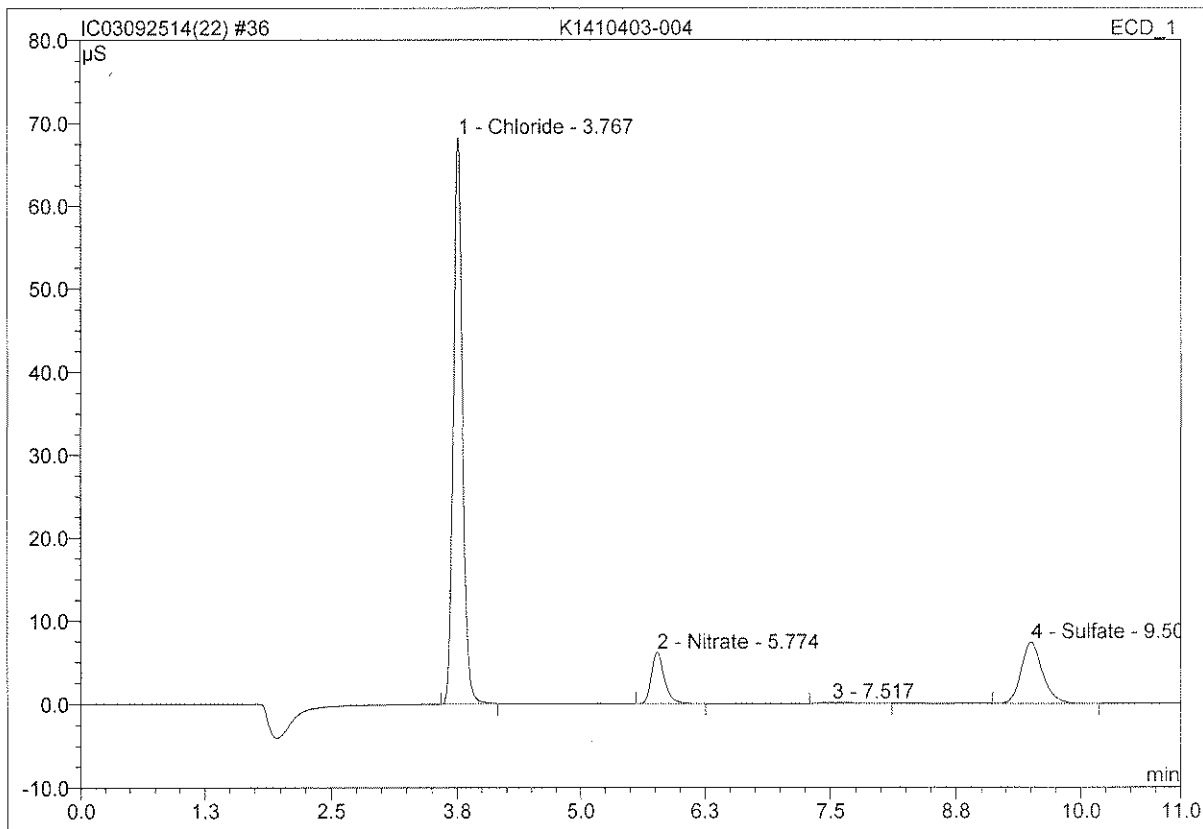
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.74	Chloride	51.827	5.233	67.97	75.682	BMB
2	5.73	Nitrate	8.877	1.309	17.00	7.578	BMB
3	9.41	Sulfate	4.731	1.157	15.03	26.181	BMB
Total:			65.434	7.698	100.00	109.441	

35 K1410403-003			
Sample Name:	K1410403-003	Injection Volume:	200.0
Vial Number:	21	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 15:53	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.76	Chloride	88.103	9.008	74.75	130.280	BMB
2	5.76	Nitrate	10.000	1.471	12.21	8.518	BMB
3	9.47	Sulfate	6.379	1.572	13.04	35.567	BMB
Total:			104.482	12.051	100.00	174.365	

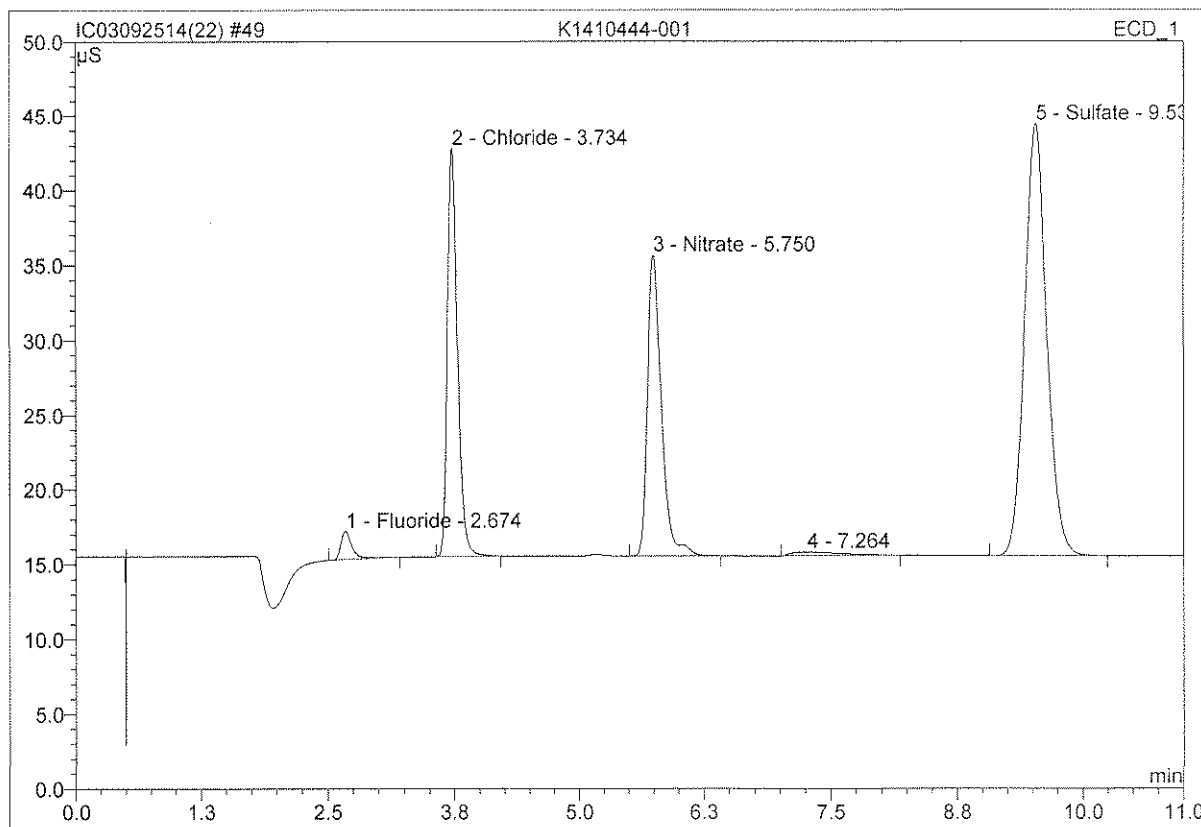
36 K1410403-004			
Sample Name:	K1410403-004	Injection Volume:	200.0
Vial Number:	22	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 16:08	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.77	Chloride	68.249	7.188	71.93	103.966	BMB
2	5.77	Nitrate	6.155	0.938	9.39	5.433	BMB
3	7.52	n.a.	0.134	0.059	0.59	n.a.	BMB
4	9.50	Sulfate	7.356	1.809	18.10	40.926	BMB
Total:			81.894	9.994	100.00	150.324	

49 K1410444-001

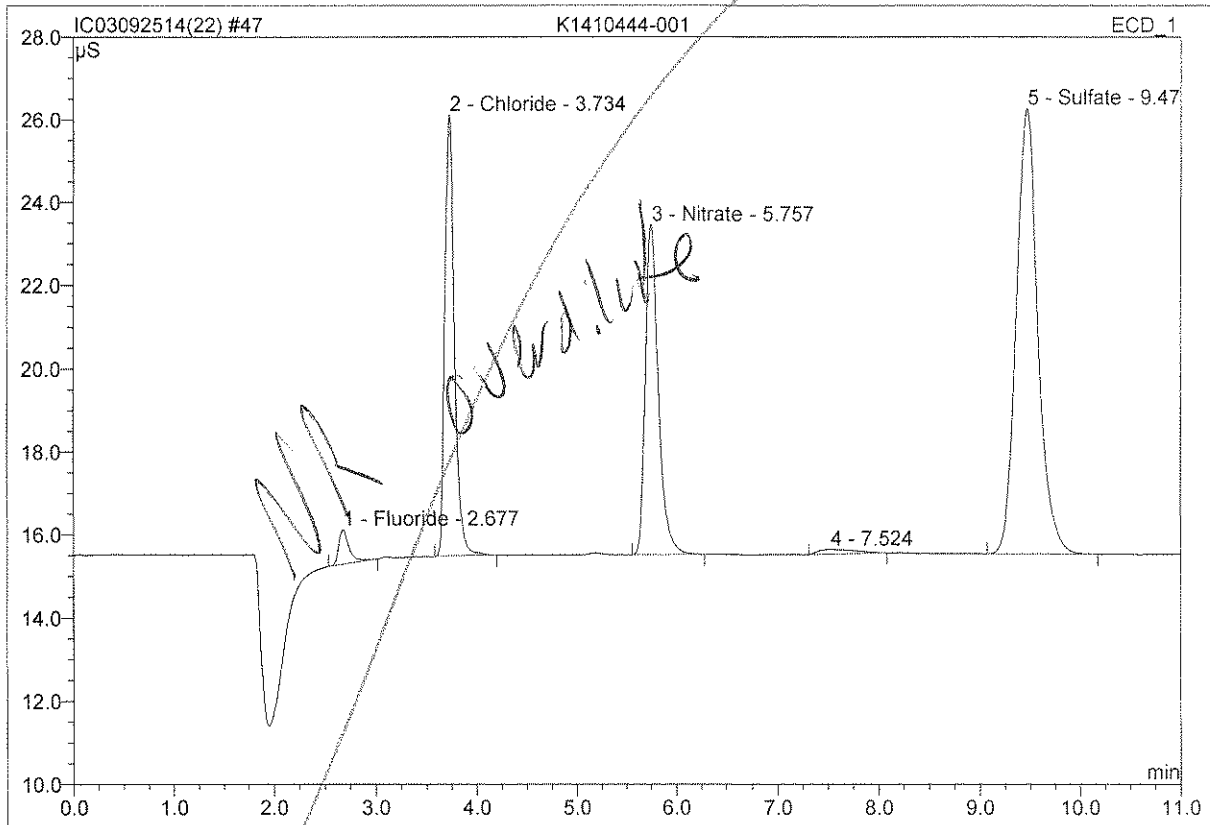
Sample Name:	K1410444-001	Injection Volume:	200.0
Vial Number:	33	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 19:15	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	1.861	0.235	1.67	0.269	BMB
2	3.73	Chloride	27.262	3.194	22.62	4.619	BMB
3	5.75	Nitrate	20.100	3.226	22.85	1.868	BMB
4	7.26	n.a.	0.250	0.149	1.05	n.a.	BMB
5	9.53	Sulfate	28.894	7.315	51.81	16.552	BMB
Total:			78.367	14.118	100.00	23.308	

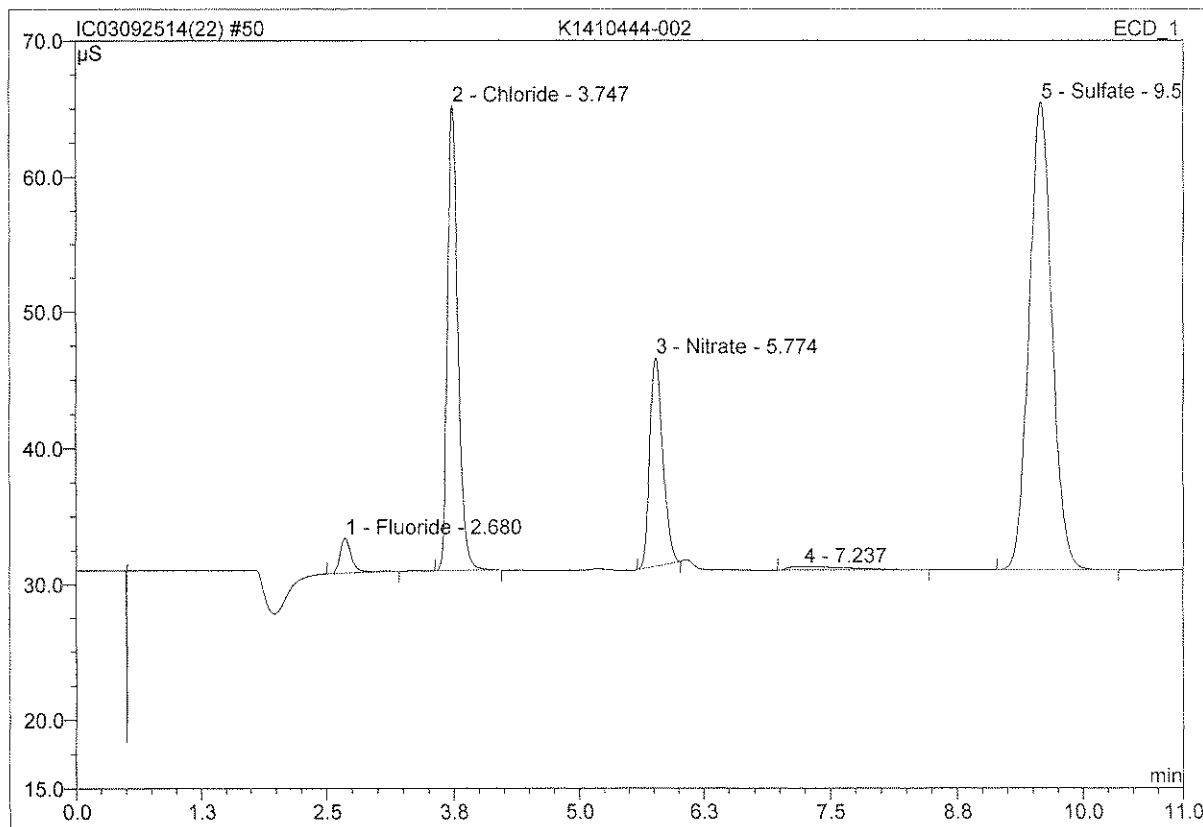
NO₃ < 0.10

47 K1410444-001			
Sample Name:	K1410444-001	Injection Volume:	200.0
Vial Number:	31	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 18:46	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.830	0.095	1.84	0.272	BMB
2	3.73	Chloride	10.635	1.168	22.58	4.222	BMB
3	5.76	Nitrate	7.938	1.194	23.10	1.729	BMB
4	7.52	n.a.	0.118	0.050	0.97	n.a.	BMB
5	9.47	Sulfate	10.737	2.663	51.51	15.068	BMB
Total:			30.258	5.171	100.00	21.291	

50 K1410444-002			
Sample Name:	K1410444-002	Injection Volume:	200.0
Vial Number:	34	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 19:29	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000

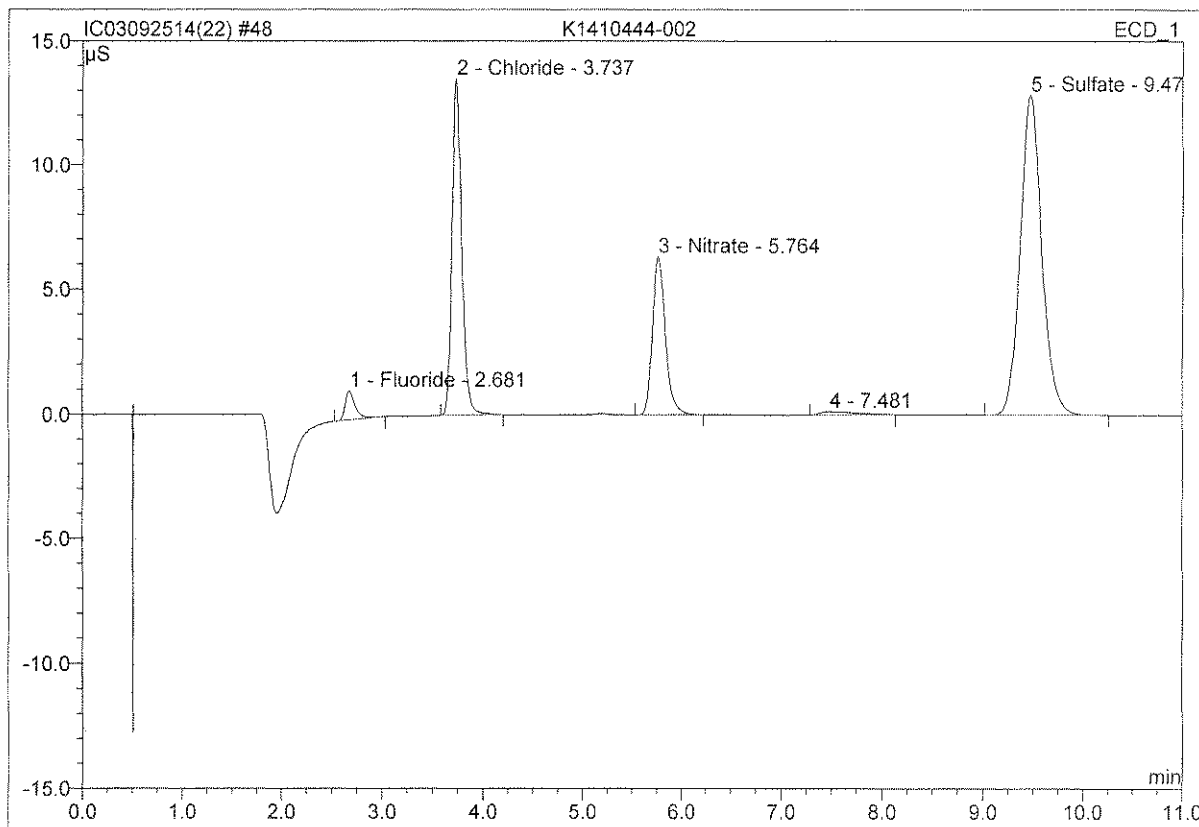


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	2.578	0.333	2.09	0.381	BMB
2	3.75	Chloride	34.192	4.134	25.97	5.979	BMB
3	5.77	Nitrate	15.279	2.340	14.70	1.355	BMB
4	7.24	n.a.	0.268	0.186	1.17	n.a.	BMB
5	9.58	Sulfate	34.413	8.923	56.06	20.192	BMB
Total:			86.730	15.916	100.00	27.906	

NO3 14.10

48 K1410444-002

Sample Name:	K1410444-002	Injection Volume:	200.0
Vial Number:	32	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 19:01	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	1.149	0.130	2.23	0.372	BMB
2	3.74	Chloride	13.521	1.491	25.55	5.390	BMB
3	5.76	Nitrate	6.309	0.962	16.49	1.393	BMB
4	7.48	n.a.	0.134	0.056	0.96	n.a.	BMB
5	9.47	Sulfate	12.841	3.195	54.76	18.072	BMB
Total:			33.954	5.833	100.00	25.226	

Sequence # IC03040514 (22)

Ion Chromatography Data Quality Report
Inorganics

Run # 413402

- 1. Holding times met for all samples analyzed? 16444-1,2 held Analyzed past hold yes/no/NA
- 2. Are dilutions within upper limits of the curve? yes/no/NA
- 3. Were peaks manually integrated? yes/no/NA
- a.) Does DOD QUAPP apply? yes/no/NA
- 4. Are detection limits reported correctly? yes/no/NA
- 5. Are all quality control criteria met?
 - a. Method Blanks, CCV's, CCB's, LCS's, Dups, and Spikes analyzed at the proper frequency? yes/no/NA
 - b. Are CCV's and CCB's all within acceptance limits? yes/no/NA
 - c. Are results for Method Blanks all ND? yes/no/NA
 - d. Are all QC samples within acceptance criteria? (LCS% rec, MS% rec, Duplicate RPD's, etc.) yes/no/NA
 - e. Are all exceptions explained? yes/no/NA 6/4/26/14
- 6. Are all samples labelled correctly? yes/no/NA

CAS Standard Identification Codes and Abbreviated Footnotes for Chromatograms

- G1 Sample was analyzed past the end of recommended holding time. See Nonconformity sheet.
- G2 Sample was reanalyzed past holding time. Initial analysis was performed within recommended holding time.
- G4 Sample was received past the end of recommended holding time.
- R1 High RPD is because the duplicate sample results are less than three times the method reporting limit.
- i MRL is elevated because of matrix interferences and the sample required diluting.
- F Sample filtered primary to analysis.

LCS	CAS ID# = <u>AN13-1-88-F</u>	Expires <u>9.25.14</u>	
Fluoride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-U</u>	Expires: <u>12.27.14</u>
Chloride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-V</u>	Expires: <u>I</u>
Nitrite	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-S</u>	Expires: <u>12.13.14</u>
Bromide	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-W</u>	Expires: <u>12.27.14</u>
Nitrate	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-X</u>	Expires: <u>I</u>
Sulfate	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-Y</u>	Expires: <u>I</u>

CCV	CAS ID # = <u>AN13-1-23-F</u>	Expires <u>9.25.14</u>	
Fluoride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-m</u>	Expires: <u>10.18.14</u>
Chloride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-Z</u>	Expires: <u>2.5.15</u>
Nitrite	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-an1-1-T</u>	Expires: <u>12.13.14</u>
Bromide	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-R</u>	Expires: <u>I</u>
Nitrate	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-Q</u>	Expires: <u>I</u>
Sulfate	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-DD</u>	Expires: <u>3.2.15</u>

Spike			
2.0ppm X dilution factor	CAS ID# = <u>AN13-1-56-F</u>	Expires <u>9.25.14</u>	
Fluoride	10K CAS ID # = <u>13-Gen-an1-1-m</u>	Expires: <u>CCV</u>	
Chloride	10K CAS ID # = <u>13-Gen-an1-1-Z</u>	Expires: <u>I</u>	
Nitrite	10K CAS ID # = <u>13-Gen-an1-1-T</u>	Expires: <u>I</u>	
Bromide	10K CAS ID # = <u>13-Gen-AN1-1-R</u>	Expires: <u>I</u>	
Nitrate	10K CAS ID # = <u>13-Gen-AN1-1-Q</u>	Expires: <u>I</u>	
Sulfate	10K CAS ID # = <u>13-Gen-an1-1-DD</u>	Expires: <u>I</u>	

Analyst: BH Date: 9.25.14

First Review: BH Date: 9.26.14

Final Review: [Signature] Date: 9/26/14
t:\wetlic\cdqs.xls

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot:

413402

Method/Testcode: 300.0/SO4

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
K1410335-003	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	0.26 mg/L	5 mL	0.26 mg/L	2	0.01	0.10			9/25/14 10:26:00	N II
K1410335-004	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	0.15 mg/L	5 mL	0.15 mg/L	2	0.01	0.10			9/25/14 11:23:00	N II
K1410375-001	Chloride	N/A	Chloride	Drinking Water	2.31 mg/L	5 mL	2.31 mg/L	2	0.06	0.40			9/25/14 14:27:00	N I
K1410375-001	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Drinking Water	0.11 mg/L	5 mL	0.11 mg/L	2	0.01	0.10			9/25/14 14:27:00	N I
K1410375-001	Sulfate	N/A	Sulfate	Drinking Water	0.54 mg/L	5 mL	0.54 mg/L	2	0.02	0.20			9/25/14 14:27:00	N I
K1410386-001	Chloride	N/A	Chloride	Water	2.54 mg/L	5 mL	2.5 mg/L	2	0.06	2.0			9/25/14 13:17:00	N V
K1410386-001	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	0.49 mg/L	5 mL	0.49 mg/L	2	0.01	0.10			9/25/14 13:17:00	N V
K1410386-001	Sulfate	N/A	Sulfate	Water	24.30 mg/L	5 mL	24.3 mg/L	20	0.2	2.0			9/25/14 17:05:00	N V
K1410386-002	Chloride	N/A	Chloride	Water	3.15 mg/L	5 mL	3.2 mg/L	2	0.06	2.0			9/25/14 13:31:00	N V
K1410386-002	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	0.43 mg/L	5 mL	0.43 mg/L	2	0.01	0.10			9/25/14 13:31:00	N V
K1410386-002	Sulfate	N/A	Sulfate	Water	25.02 mg/L	5 mL	25.0 mg/L	20	0.2	2.0			9/25/14 17:19:00	N V
K1410386-003	Chloride	N/A	Chloride	Water	1.56 mg/L	5 mL	1.6 mg/L	1	0.03	1.0			9/25/14 14:13:00	N V
K1410386-003	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	0.04 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 14:13:00	N V
K1410386-003	Sulfate	N/A	Sulfate	Water	3.60 mg/L	5 mL	3.60 mg/L	1	0.01	0.10			9/25/14 14:13:00	N V
K1410386-004	Chloride	N/A	Chloride	Water	1.46 mg/L	5 mL	1.5 mg/L	1	0.03	1.0			9/25/14 12:48:00	N V
K1410386-004	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	0.02 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 12:48:00	N V
K1410386-004	Sulfate	N/A	Sulfate	Water	1.62 mg/L	5 mL	1.62 mg/L	1	0.01	0.10			9/25/14 12:48:00	N V
K1410386-005	Chloride	N/A	Chloride	Water	2.72 mg/L	5 mL	2.7 mg/L	1	0.03	1.0			9/25/14 13:02:00	N V
K1410386-005	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	0.51 mg/L	5 mL	0.505 mg/L	1	0.005	0.050			9/25/14 13:02:00	N V
K1410386-005	Sulfate	N/A	Sulfate	Water	25.45 mg/L	5 mL	25.4 mg/L	10	0.1	1.0			9/25/14 17:47:00	N V
K1410396-001	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	8.10 mg/L	5 mL	8.10 mg/L	2	0.01	0.10			9/25/14 14:42:00	N I
K1410396-001	Nitrite as Nitrogen	N/A	Nitrite as Nitrogen	Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 14:42:00	N I
K1410403-001	Chloride	N/A	Chloride	Water	122.79 mg/L	5 mL	123 mg/L	20	0.6	4.0			9/25/14 14:56:00	N I
K1410403-001	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	9.25 mg/L	5 mL	9.2 mg/L	20	0.1	1.0			9/25/14 14:56:00	N I
K1410403-001	Sulfate	N/A	Sulfate	Water	32.57 mg/L	5 mL	32.6 mg/L	20	0.2	2.0			9/25/14 14:56:00	N I
K1410403-002	Chloride	N/A	Chloride	Water	75.68 mg/L	5 mL	75.7 mg/L	20	0.6	4.0			9/25/14 15:10:00	N I
K1410403-002	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	7.58 mg/L	5 mL	7.6 mg/L	20	0.1	1.0			9/25/14 15:10:00	N I
K1410403-002	Sulfate	N/A	Sulfate	Water	26.18 mg/L	5 mL	26.2 mg/L	20	0.2	2.0			9/25/14 15:10:00	N I
K1410403-003	Chloride	N/A	Chloride	Water	130.28 mg/L	5 mL	130 mg/L	20	0.6	4.0			9/25/14 15:53:00	N I
K1410403-003	Nitrate as Nitrogen	N/A	Nitrate as Nitrogen	Water	8.52 mg/L	5 mL	8.5 mg/L	20	0.1	1.0			9/25/14 15:53:00	N I
K1410403-003	Sulfate	N/A	Sulfate	Water	35.57 mg/L	5 mL	35.6 mg/L	20	0.2	2.0			9/25/14 15:53:00	N I

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot: 413402

Method/Testcode: 300.0/Chloride

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1410403-004	Chloride	N/A		Water	103.97 mg/L	5 mL	104 mg/L	20	0.6	4.0			9/25/14 16:08:00	N I
<Q1410403-004	Nitrate as Nitrogen	N/A		Water	5.43 mg/L	5 mL	5.4 mg/L	20	0.1	1.0			9/25/14 16:08:00	N I
<Q1410403-004	Sulfate	N/A		Water	40.93 mg/L	5 mL	40.9 mg/L	20	0.2	2.0			9/25/14 16:08:00	N I
<Q1410444-001	Chloride, Dissolved	N/A		Water	4.62 mg/L	5 mL	4.62 mg/L	2	0.06	0.40			9/25/14 19:15:00	N V
<Q1410444-001	Nitrate as Nitrogen	N/A		Water	1.87 mg/L	5 mL	1.87 mg/L	2	0.01	0.10			9/25/14 19:15:00	N V
<Q1410444-001	Nitrite as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 19:15:00	N V
<Q1410444-001	Sulfate, Dissolved	N/A		Water	16.55 mg/L	5 mL	16.6 mg/L	2	0.02	0.40			9/25/14 19:15:00	N V
<Q1410444-002	Chloride, Dissolved	N/A		Water	5.98 mg/L	5 mL	5.98 mg/L	2	0.06	0.40			9/25/14 19:29:00	N V
<Q1410444-002	Nitrate as Nitrogen	N/A		Water	1.35 mg/L	5 mL	1.35 mg/L	2	0.01	0.10			9/25/14 19:29:00	N V
<Q1410444-002	Nitrite as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 19:29:00	N V
<Q1410444-002	Sulfate, Dissolved	N/A		Water	18.07 mg/L	5 mL	18.1 mg/L	5	0.05	1.0			9/25/14 19:01:00	N V
<Q1411991-01	Nitrate as Nitrogen	MB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 09:58:00	N II
<Q1411991-01	Nitrite as Nitrogen	MB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 09:58:00	N II
<Q1411991-02	Nitrate as Nitrogen	LCS		Water	2.37 mg/L	5 mL	2.37 mg/L	1	0.005	0.050			9/25/14 10:12:00	N II
<Q1411991-02	Nitrite as Nitrogen	LCS		Water	2.42 mg/L	5 mL	2.42 mg/L	1	0.002	0.050			9/25/14 10:12:00	N II
<Q1411991-03	Nitrate as Nitrogen	N/A		Water	0.26 mg/L	5 mL	0.26 mg/L	2	0.01	0.10			9/25/14 10:26:00	N II
<Q1411991-03	Nitrite as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 10:26:00	N II
<Q1411991-04	Nitrate as Nitrogen	MS	KQ1411991-03	Water	9.52 mg/L	5 mL	9.52 mg/L	5	0.03	0.25			9/25/14 10:55:00	N II
<Q1411991-04	Nitrite as Nitrogen	MS	KQ1411991-03	Water	10.34 mg/L	5 mL	10.3 mg/L	5	0.01	0.25			9/25/14 10:55:00	N II
<Q1411991-05	Nitrate as Nitrogen	DMS	KQ1411991-03	Water	9.61 mg/L	5 mL	9.61 mg/L	5	0.03	0.25			9/25/14 11:09:00	N II
<Q1411991-05	Nitrite as Nitrogen	DMS	KQ1411991-03	Water	10.42 mg/L	5 mL	10.4 mg/L	5	0.01	0.25			9/25/14 11:09:00	N II
<Q1411991-06	Nitrate as Nitrogen	DUP	KQ1411991-03	Water	0.25 mg/L	5 mL	0.25 mg/L	2	0.01	0.10			9/25/14 10:41:00	N II
<Q1411991-06	Nitrite as Nitrogen	DUP	KQ1411991-03	Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10		NC	9/25/14 10:41:00	N II
<Q1411991-07	Nitrate as Nitrogen	MS	K1410335-003	Water	9.52 mg/L	5 mL	9.52 mg/L	5	0.03	0.25			9/25/14 10:55:00	N II
<Q1411991-08	Nitrate as Nitrogen	DMS	K1410335-003	Water	9.61 mg/L	5 mL	9.61 mg/L	5	0.03	0.25			9/25/14 11:09:00	N II
<Q1411991-09	Nitrate as Nitrogen	DUP	K1410335-003	Water	0.25 mg/L	5 mL	0.25 mg/L	2	0.01	0.10			9/25/14 10:41:00	N II
<Q1411991-10	Nitrate as Nitrogen	MS	K1410335-004	Water	9.43 mg/L	5 mL	9.43 mg/L	5	0.03	0.25			9/25/14 11:51:00	N II
<Q1411991-11	Nitrate as Nitrogen	DMS	K1410335-004	Water	9.47 mg/L	5 mL	9.47 mg/L	5	0.03	0.25			9/25/14 12:06:00	N II
<Q1411991-12	Nitrate as Nitrogen	DUP	K1410335-004	Water	0.15 mg/L	5 mL	0.15 mg/L	2	0.01	0.10			9/25/14 11:37:00	N II
<Q1411992-01	Chloride	MB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:58:00	N V
<Q1411992-01	Chloride, Dissolved	MB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:58:00	N V
<Q1411992-01	Sulfate	MB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 09:58:00	N V
<Q1411992-01	Sulfate, Dissolved	MB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 09:58:00	N V
<Q1411992-02	Chloride	LCS		Water	4.92 mg/L	5 mL	4.92 mg/L	1	0.03	0.20			9/25/14 10:12:00	N V

L indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03 Analyst: BHETLAND Analysis Lot: 413402 Method/Testcode: 300.0/CI D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1411992-02	Chloride, Dissolved	LCS		Water	4.92 mg/L	5 mL	4.92 mg/L	1	0.03	0.20	98		9/25/14 10:12:00	N V
<Q1411992-02	Sulfate	LCS		Water	4.87 mg/L	5 mL	4.87 mg/L	1	0.01	0.10	97		9/25/14 10:12:00	N V
<Q1411992-02	Sulfate, Dissolved	LCS		Water	4.87 mg/L	5 mL	4.87 mg/L	1	0.01	0.20	97		9/25/14 10:12:00	N V
<Q1411992-03	Chloride	N/A		Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:26:00	N V
<Q1411992-03	Chloride, Dissolved	N/A		Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:26:00	N V
<Q1411992-03	Sulfate	N/A		Water	7.01 mg/L	5 mL	7.01 mg/L	2	0.02	0.20			9/25/14 10:26:00	N V
<Q1411992-03	Sulfate, Dissolved	N/A		Water	7.01 mg/L	5 mL	7.01 mg/L	2	0.02	0.40			9/25/14 10:26:00	N V
<Q1411992-04	Chloride	MS	KQ1411992-03	Water	13.60 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92		9/25/14 10:55:00	N V
<Q1411992-04	Chloride, Dissolved	MS	KQ1411992-03	Water	13.60 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92		9/25/14 10:55:00	N V
<Q1411992-04	Sulfate	MS	KQ1411992-03	Water	16.28 mg/L	5 mL	16.3 mg/L	5	0.05	0.50	93		9/25/14 10:55:00	N V
<Q1411992-04	Sulfate, Dissolved	MS	KQ1411992-03	Water	16.28 mg/L	5 mL	16.3 mg/L	5	0.05	1.0	93		9/25/14 10:55:00	N V
<Q1411992-05	Chloride	DMS	KQ1411992-03	Water	13.62 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92	<1	9/25/14 11:09:00	N V
<Q1411992-05	Chloride, Dissolved	DMS	KQ1411992-03	Water	13.62 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92	<1	9/25/14 11:09:00	N V
<Q1411992-05	Sulfate	DMS	KQ1411992-03	Water	16.32 mg/L	5 mL	16.3 mg/L	5	0.05	0.50	93	<1	9/25/14 11:09:00	N V
<Q1411992-05	Sulfate, Dissolved	DMS	KQ1411992-03	Water	16.32 mg/L	5 mL	16.3 mg/L	5	0.05	1.0	93	<1	9/25/14 11:09:00	N V
<Q1411992-06	Chloride	DUP	KQ1411992-03	Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:41:00	N V
<Q1411992-06	Chloride, Dissolved	DUP	KQ1411992-03	Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:41:00	N V
<Q1411992-06	Sulfate	DUP	KQ1411992-03	Water	6.89 mg/L	5 mL	6.89 mg/L	2	0.02	0.20			9/25/14 10:41:00	N V
<Q1411992-06	Sulfate, Dissolved	DUP	KQ1411992-03	Water	6.89 mg/L	5 mL	6.89 mg/L	2	0.02	0.40			9/25/14 10:41:00	N V
<Q1411998-01	Chloride	CCV		Water	4.88 mg/L	5 mL	4.88 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Chloride, Dissolved	CCV		Water	4.88 mg/L	5 mL	4.88 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Nitrate as Nitrogen	CCV		Water	2.37 mg/L	5 mL	2.37 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Nitrate as Nitrogen	CCV		Water	2.41 mg/L	5 mL	2.41 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-02	Chloride, Dissolved	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Nitrate as Nitrogen	CCV		Water	2.36 mg/L	5 mL	2.36 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Nitrite as Nitrogen	CCV		Water	2.40 mg/L	5 mL	2.40 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Sulfate	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Sulfate, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-03	Chloride	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Chloride, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Nitrate as Nitrogen	CCV		Water	2.36 mg/L	5 mL	2.36 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Nitrite as Nitrogen	CCV		Water	2.41 mg/L	5 mL	2.41 mg/L	1					9/25/14 15:24:00	N II

/ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot: 413402

Method/Testcode: 300.0/SO4

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1411998-03	Sulfate	CCV		Water	4.83 mg/L	5 mL	4.83 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Sulfate, Dissolved	CCV		Water	4.83 mg/L	5 mL	4.83 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-04	Chloride	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Chloride, Dissolved	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Nitrate as Nitrogen	CCV		Water	2.37 mg/L	5 mL	2.37 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Nitrite as Nitrogen	CCV		Water	2.42 mg/L	5 mL	2.42 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Sulfate	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Sulfate, Dissolved	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-05	Chloride	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Chloride, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Nitrate as Nitrogen	CCV		Water	2.35 mg/L	5 mL	2.35 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Nitrite as Nitrogen	CCV		Water	2.40 mg/L	5 mL	2.40 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Sulfate	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Sulfate, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-06	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:44:00	N II
<Q1411998-06	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:44:00	N II
<Q1411998-06	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 12:34:00	N II
<Q1411998-06	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 09:44:00	N II
<Q1411998-06	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 09:44:00	N II
<Q1411998-06	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 09:44:00	N II
<Q1411998-07	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 12:34:00	N II
<Q1411998-07	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 12:34:00	N II
<Q1411998-07	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 12:34:00	N II
<Q1411998-07	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 12:34:00	N II
<Q1411998-07	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 12:34:00	N II
<Q1411998-07	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 12:34:00	N II
<Q1411998-08	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 15:39:00	N II
<Q1411998-08	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 15:39:00	N II
<Q1411998-08	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 15:39:00	N II
<Q1411998-08	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 15:39:00	N II
<Q1411998-08	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 15:39:00	N II
<Q1411998-08	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 15:39:00	N II
<Q1411998-09	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 18:31:00	N II
<Q1411998-09	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 18:31:00	N II
<Q1411998-09	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 18:31:00	N II

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot: 413402

Method/Testcode: 300.0/NO2

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1411998-09	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.002	0.050			9/25/14 18:31:00	N II
<Q1411998-09	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			9/25/14 18:31:00	N II
<Q1411998-09	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			9/25/14 18:31:00	N II
<Q1411998-10	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			9/25/14 20:12:00	N II
<Q1411998-10	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			9/25/14 20:12:00	N II
<Q1411998-10	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.005	0.050			9/25/14 20:12:00	N II
<Q1411998-10	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.002	0.050			9/25/14 20:12:00	N II
<Q1411998-10	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			9/25/14 20:12:00	N II
<Q1411998-10	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			9/25/14 20:12:00	N II

* indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Title:
 Datasource: ACQWET10_local
 Location: DX120A
 Timebase: DX120
 #Samples: 54

Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
 Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time	Dil. Factor
1	STD2/LVL2	epa300	Standard	1	200.0	seth_test	Finished	7/30/2014 11:01:20 AM	1.0000
2	STD3/LVL3	epa300	Standard	2	200.0	seth_test	Finished	7/30/2014 11:17:02 AM	1.0000
3	STD4/LVL4	epa300	Standard	3	200.0	seth_test	Finished	7/30/2014 11:32:41 AM	1.0000
4	STD5/LVL5	epa300	Standard	4	200.0	seth_test	Finished	7/30/2014 11:48:20 AM	1.0000
5	STD6/LVL6	epa300	Standard	5	200.0	seth_test	Finished	7/30/2014 12:04:00 PM	1.0000
6	STD7/LVL7	epa300	Standard	6	200.0	seth_test	Finished	7/30/2014 12:19:40 PM	1.0000
7	STD8/LVL8	epa300	Standard	7	200.0	seth_test	Finished	7/30/2014 12:35:19 PM	1.0000
8	STD1/LVL1	epa300	Standard	8	200.0	seth_test	Finished	7/30/2014 12:50:58 PM	1.0000
9	CCV1	epa300	Unknown	48	200.0	seth_test	Finished	9/25/2014 9:30:22 AM	1.0000
10	CCB1	epa300	Unknown	49	200.0	seth_test	Finished	9/25/2014 9:44:45 AM	1.0000
11	MB	epa300	Unknown	1	200.0	seth_test	Finished	9/25/2014 9:58:37 AM	1.0000
12	LCS	epa300	Unknown	2	200.0	seth_test	Finished	9/25/2014 10:12:46 AM	1.0000
13	K1410335-003	epa300	Unknown	3	200.0	seth_test	Finished	9/25/2014 10:26:56 AM	2.0000
14	10335-3D	epa300	Unknown	4	200.0	seth_test	Finished	9/25/2014 10:41:06 AM	2.0000
15	10335-3MS	epa300	Unknown	5	200.0	seth_test	Finished	9/25/2014 10:55:16 AM	5.0000
16	10335-3MSD	epa300	Unknown	6	200.0	seth_test	Finished	9/25/2014 11:09:26 AM	5.0000
17	K1410335-004	epa300	Unknown	7	200.0	seth_test	Finished	9/25/2014 11:23:35 AM	2.0000
18	10335-4D	epa300	Unknown	8	200.0	seth_test	Finished	9/25/2014 11:37:44 AM	2.0000
19	10335-4MS	epa300	Unknown	9	200.0	seth_test	Finished	9/25/2014 11:51:55 AM	5.0000
20	10335-4MSD	epa300	Unknown	10	200.0	seth_test	Finished	9/25/2014 12:06:05 PM	5.0000
21	CCV2	epa300	Unknown	46	200.0	seth_test	Finished	9/25/2014 12:20:15 PM	1.0000
22	CCB2	epa300	Unknown	47	200.0	seth_test	Finished	9/25/2014 12:34:30 PM	1.0000
23	K1410386-004	epa300	Unknown	11	200.0	seth_test	Finished	9/25/2014 12:48:39 PM	1.0000
24	K1410386-005	epa300	Unknown	12	200.0	seth_test	Finished	9/25/2014 1:02:54 PM	1.0000
25	K1410386-001	epa300	Unknown	13	200.0	seth_test	Finished	9/25/2014 1:17:04 PM	2.0000
26	K1410386-002	epa300	Unknown	14	200.0	seth_test	Finished	9/25/2014 1:31:14 PM	2.0000
27	10388-1	epa300	Unknown	16	200.0	seth_test	Finished	9/25/2014 1:59:33 PM	2.0000
28	K1410386-003	epa300	Unknown	23	200.0	seth_test	Finished	9/25/2014 2:13:43 PM	1.0000
29	K1410375-001	epa300	Unknown	17	200.0	seth_test	Finished	9/25/2014 2:27:55 PM	2.0000
30	K1410396-001	epa300	Unknown	18	200.0	seth_test	Finished	9/25/2014 2:42:06 PM	2.0000
31	K1410403-001	epa300	Unknown	19	200.0	seth_test	Finished	9/25/2014 2:56:15 PM	20.0000
32	K1410403-002	epa300	Unknown	20	200.0	seth_test	Finished	9/25/2014 3:10:25 PM	20.0000
33	CCV3	epa300	Unknown	48	200.0	seth_test	Finished	9/25/2014 3:24:34 PM	1.0000
34	CCB3	epa300	Unknown	49	200.0	seth_test	Finished	9/25/2014 3:39:15 PM	1.0000
35	K1410403-003	epa300	Unknown	21	200.0	seth_test	Finished	9/25/2014 3:53:55 PM	20.0000
36	K1410403-004	epa300	Unknown	22	200.0	seth_test	Finished	9/25/2014 4:08:19 PM	20.0000
37	K1409995-003	epa300	Unknown	23	200.0	seth_test	Finished	9/25/2014 4:22:28 PM	5.0000
38	K1409995-006	epa300	Unknown	24	200.0	seth_test	Finished	9/25/2014 4:37:01 PM	5.0000
39	K1410111-001	epa300	Unknown	25	200.0	seth_test	Finished	9/25/2014 4:51:18 PM	2.0000
40	K1410386-001	epa300	Unknown	26	200.0	seth_test	Finished	9/25/2014 5:05:29 PM	20.0000
41	K1410386-002	epa300	Unknown	27	200.0	seth_test	Finished	9/25/2014 5:19:39 PM	20.0000
42	10386-3	epa300	Unknown	28	200.0	seth_test	Finished	9/25/2014 5:33:48 PM	20.0000

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 54
Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

No.	Name	Comment
1	STD2/LVL2	
2	STD3/LVL3	
3	STD4/LVL4	
4	STD5/LVL5	
5	STD6/LVL6	
6	STD7/LVL7	
7	STD8/LVL8	
8	STD1/LVL1	
9	CCV1	
10	CCB1	
11	MB	
12	LCS	
13	K1410335-003	
14	10335-3D	D
15	10335-3MS	MS
16	10335-3MSD	MSD
17	K1410335-004	
18	10335-4D	D
19	10335-4MS	MS
20	10335-4MSD	MSD
21	CCV2	CCV2
22	CCB2	CCB2
23	K1410386-004	
24	K1410386-005	
25	K1410386-001	
26	K1410386-002	
27	10388-1	
28	K1410386-003	
29	K1410375-001	
30	K1410396-001	
31	K1410403-001	
32	K1410403-002	
33	CCV3	CCV3
34	CCB3	CCB3
35	K1410403-003	
36	K1410403-004	
37	K1409995-003	
38	K1409995-006	
39	K1410111-001	
40	K1410386-001	
41	K1410386-002	
42	10386-3	

Sequence: IC03092514(22)
Operator: ALKLS.ALKLSXP307

Page 3 of 4
Printed: 9/26/2014 11:50:31 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 54
Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time	Dil. Factor
43	K1410386-005	epa300	Unknown	29	200.0	seth_test	Finished	9/25/2014 5:47:57 PM	10.0000
44	RB	epa300	Unknown	30	200.0	seth_test	Finished	9/25/2014 6:02:06 PM	1.0000
45	CCV4	epa300	Unknown	48	200.0	seth_test	Finished	9/25/2014 6:16:17 PM	1.0000
46	CCB4	epa300	Unknown	49	200.0	seth_test	Finished	9/25/2014 6:31:21 PM	1.0000
47	K1410444-001	epa300	Unknown	31	200.0	seth_test	Finished	9/25/2014 6:46:32 PM	5.0000
48	K1410444-002	epa300	Unknown	32	200.0	seth_test	Finished	9/25/2014 7:01:01 PM	5.0000
49	K1410444-001	epa300	Unknown	33	200.0	seth_test	Finished	9/25/2014 7:15:11 PM	2.0000
50	K1410444-002	epa300	Unknown	34	200.0	seth_test	Finished	9/25/2014 7:29:21 PM	2.0000
51	RB	epa300	Unknown	30	200.0	seth_test	Finished	9/25/2014 7:43:31 PM	1.0000
52	CCV5	epa300	Unknown	46	200.0	seth_test	Finished	9/25/2014 7:58:05 PM	1.0000
53	CCB5	epa300	Unknown	47	200.0	seth_test	Finished	9/25/2014 8:12:50 PM	1.0000
54	STOP	epa300	Unknown	50	200.0	stop	Finished	9/25/2014 8:27:30 PM	1.0000

Sequence: IC03092514(22)
Operator: ALKLS.ALKLSXP307

Page 4 of 4
Printed: 9/26/2014 11:50:31 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 54

Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

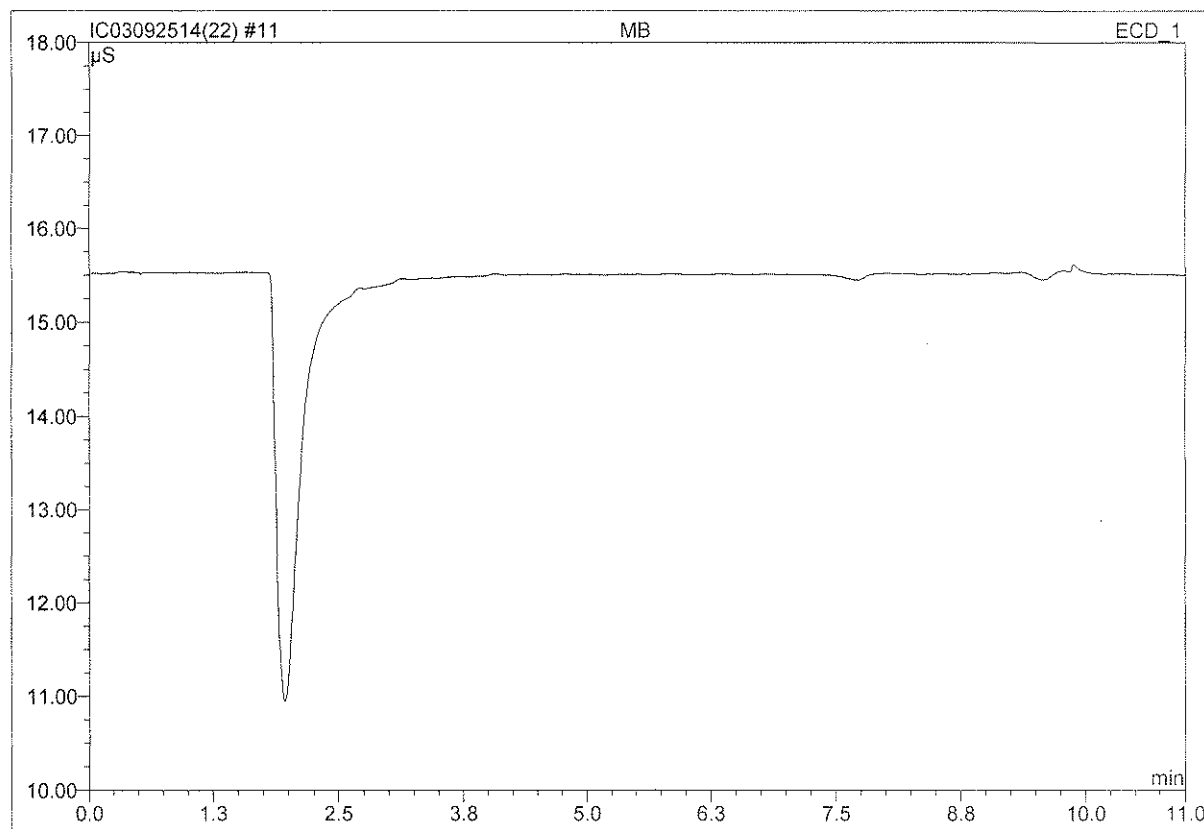
No.	Name	Comment
43	K1410386-005	
44	RB	
45	CCV4	CCV4
46	CCB4	CCB4
47	K1410444-001	
48	K1410444-002	
49	K1410444-001	
50	K1410444-002	
51	RB	
52	CCV5	CCV5
53	CCB5	CCB5
54	STOP	

Service Request	Her	QC	Hold Time	Due Date	Anions	Initial	Final	Done?
10335-3	X	X	9.26	10.10	F			
					Cl			
					NO2			
					Br			
					NO3	2x		✓
					SO4			
					F			
					Cl			
					NO2			
					Br			
					NO3	2x		✓
					SO4			
10386-1	I		9.26	10.6	F			
					Cl	2x		✓
					NO2			
					Br			
					NO3	2x		✓
					SO4	2x	20x	✓
					F			
					Cl			✓
					NO2			
					Br			
					NO3			✓
					SO4		20x	✓
					F			
					Cl			✓
					NO2			
					Br			
					NO3			✓
					SO4			✓
					F			
					Cl	1x		✓
					NO2			
					Br			
					NO3	1x		✓
					SO4	1x		✓
					F			
					Cl			✓
					NO2			
					Br			
					NO3			✓
					SO4		10x	✓
* 10388-1 *	I		9.27	10.16	F			
					Cl			
					NO2			
					Br			
					NO3	2x		
					SO4			
10375-1	I		9.26	10.3	F			
					Cl	2x		✓
					NO2			
					Br			
					NO3	2x		✓
					SO4	2x		✓
10346-1	I		9.26	10.6	F			
					Cl			
					NO2	2x		✓
					Br			
					NO3	2x		✓
					SO4			

PN# 219019
 PO# 219036

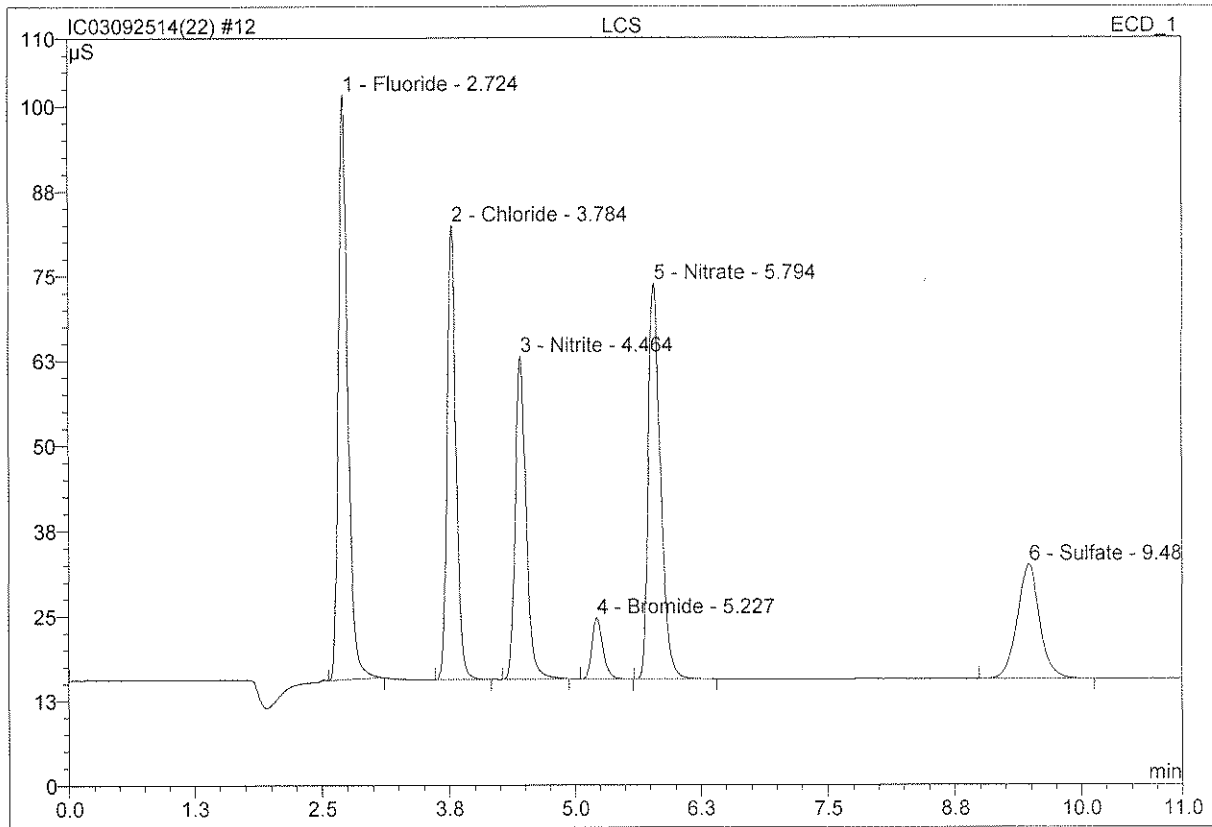
Service Request	Tier	QC	Hold Time	Due Date	Anions	Initial	Final	Done?
10403-1	I		9.26	10.10	F Cl NO2 Br NO3 SO4	Det		✓
-2					F Cl NO2 Br NO3 SO4	Det		✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
-3					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
-4					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
10444-1	III		9.25	10.10	F Cl NO2 Br NO3 SO4	Det		✓
-2					F Cl NO2 Br NO3 SO4	Det		✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
-2					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
-2					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓
					F Cl NO2 Br NO3 SO4			✓

11 MB			
Sample Name:	MB	Injection Volume:	200.0
Vial Number:	1	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:58	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



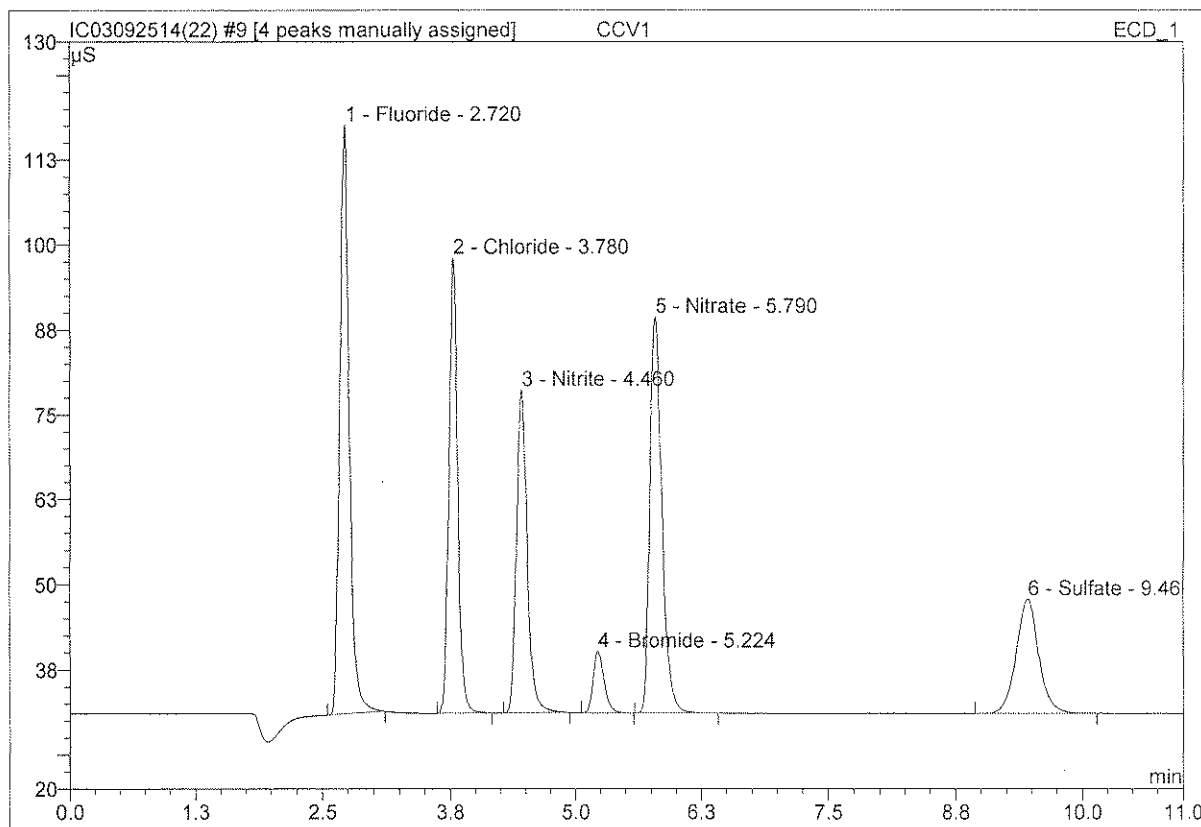
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

12 LCS			
Sample Name:	LCS	Injection Volume:	200.0
Vial Number:	2	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 10:12	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.72	Fluoride	85.988	9.193	25.86	5.254	BMB
2	3.78	Chloride	66.825	6.802	19.13	4.919	BMB
3	4.46	Nitrite	47.448	5.896	16.59	2.418	BMB
4	5.23	Bromide	9.036	1.166	3.28	2.401	BMB
5	5.79	Nitrate	58.223	8.183	23.02	2.369	BMB
6	9.48	Sulfate	16.816	4.306	12.12	4.872	BMB
Total:			284.335	35.546	100.00	22.233	

9 CCV1			
Sample Name:	CCV1	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:30	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.72	Fluoride	86.628	9.208	25.92	10.5 5.263	BMB
2	3.78	Chloride	66.957	6.751	19.00	4.8 4.882	BMB
3	4.46	Nitrite	47.501	5.888	16.57	2.4 2.415	BMB^
4	5.22	Bromide	9.046	1.163	3.27	1.6 2.396	BMB^
5	5.79	Nitrate	58.274	8.203	23.09	2.3 2.375	BMB^
6	9.46	Sulfate	16.771	4.316	12.15	1.8 4.883	BMB^
Total:			285.177	35.529	100.00	22.213	

After Initials br

9/25/14

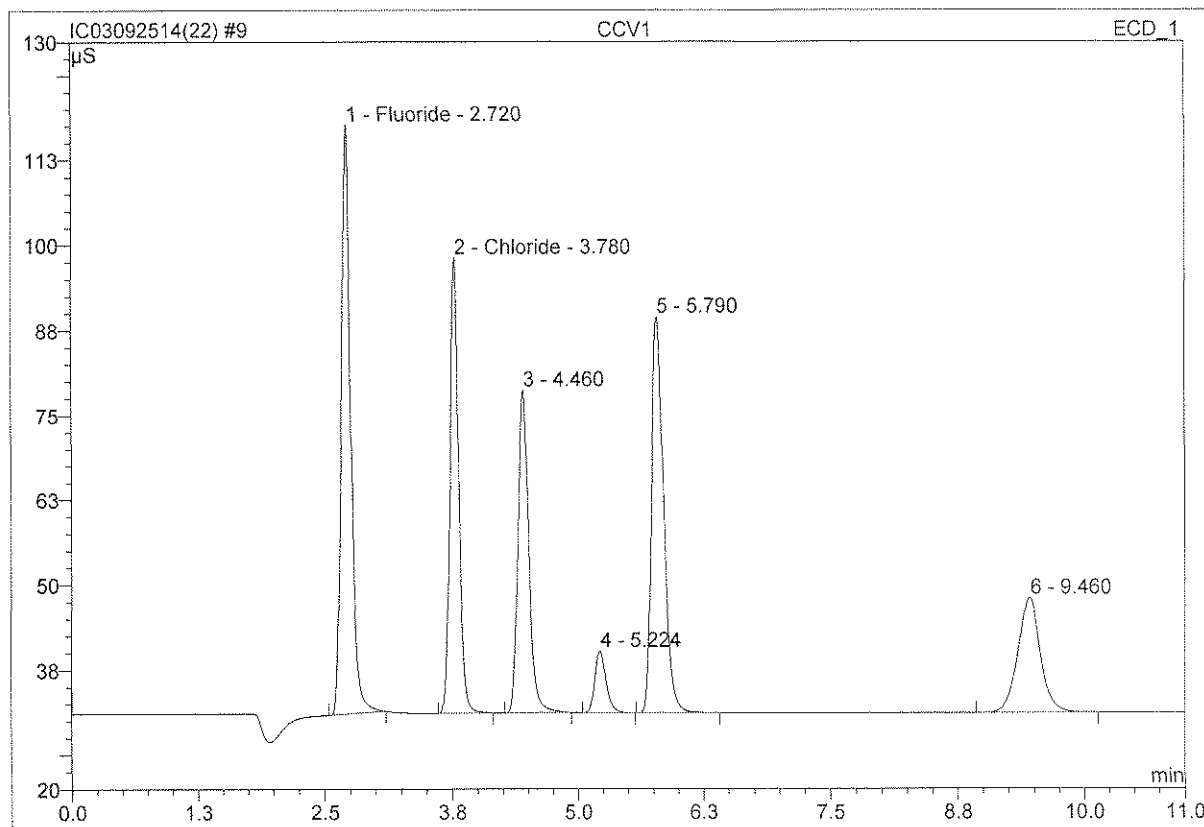
default/Integration

SEP 25 2014

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

Wrong Peak/Peak not Found
 Baseline/shoulder Inc 149
 Other

9 CCV1			
Sample Name:	CCV1	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:30	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.72	Fluoride	86.628	9.208	25.92	5.263	BMB
2	3.78	Chloride	66.957	6.751	19.00	4.882	BMB
3	4.46	n.a.	47.501	5.888	16.57	n.a.	BMB
4	5.22	n.a.	9.046	1.163	3.27	n.a.	BMB
5	5.79	n.a.	58.274	8.203	23.09	n.a.	BMB
6	9.46	n.a.	16.771	4.316	12.15	n.a.	BMB
Total:			285.177	35.529	100.00	10.144	

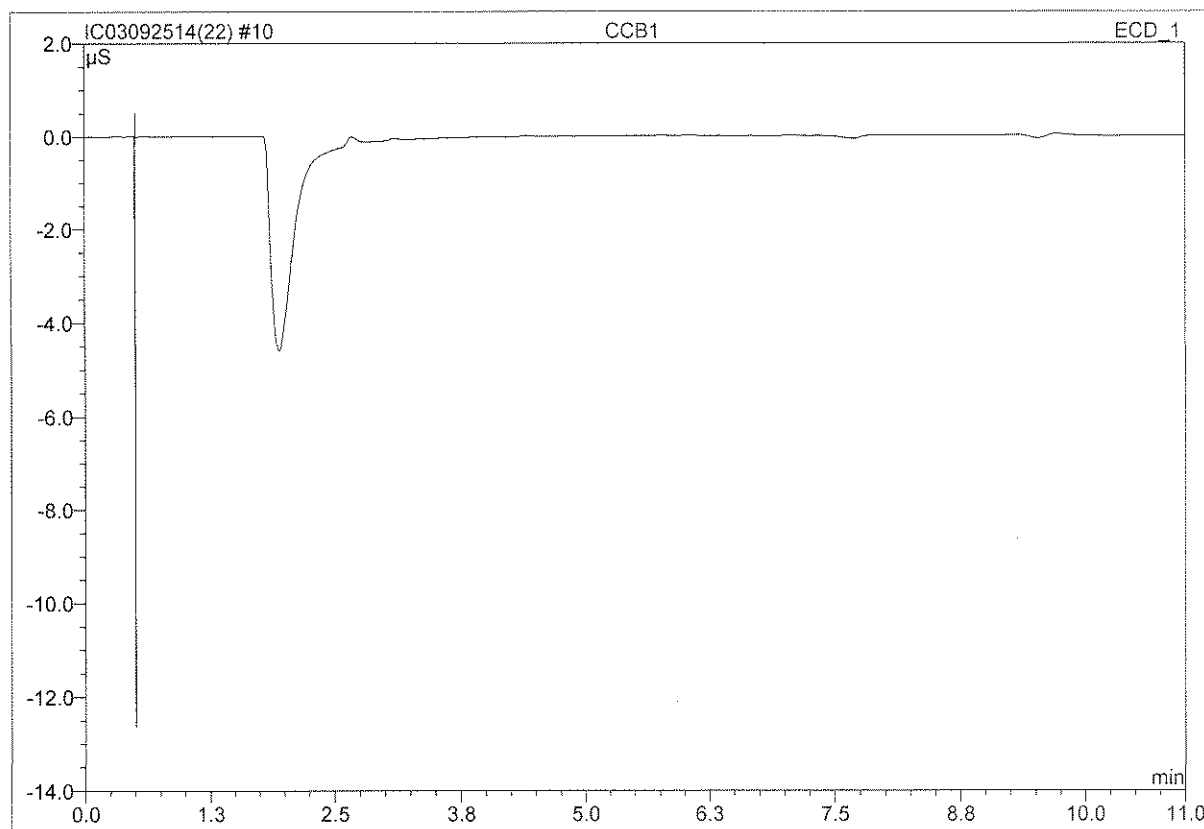
Before

OK

SEP 25 2014

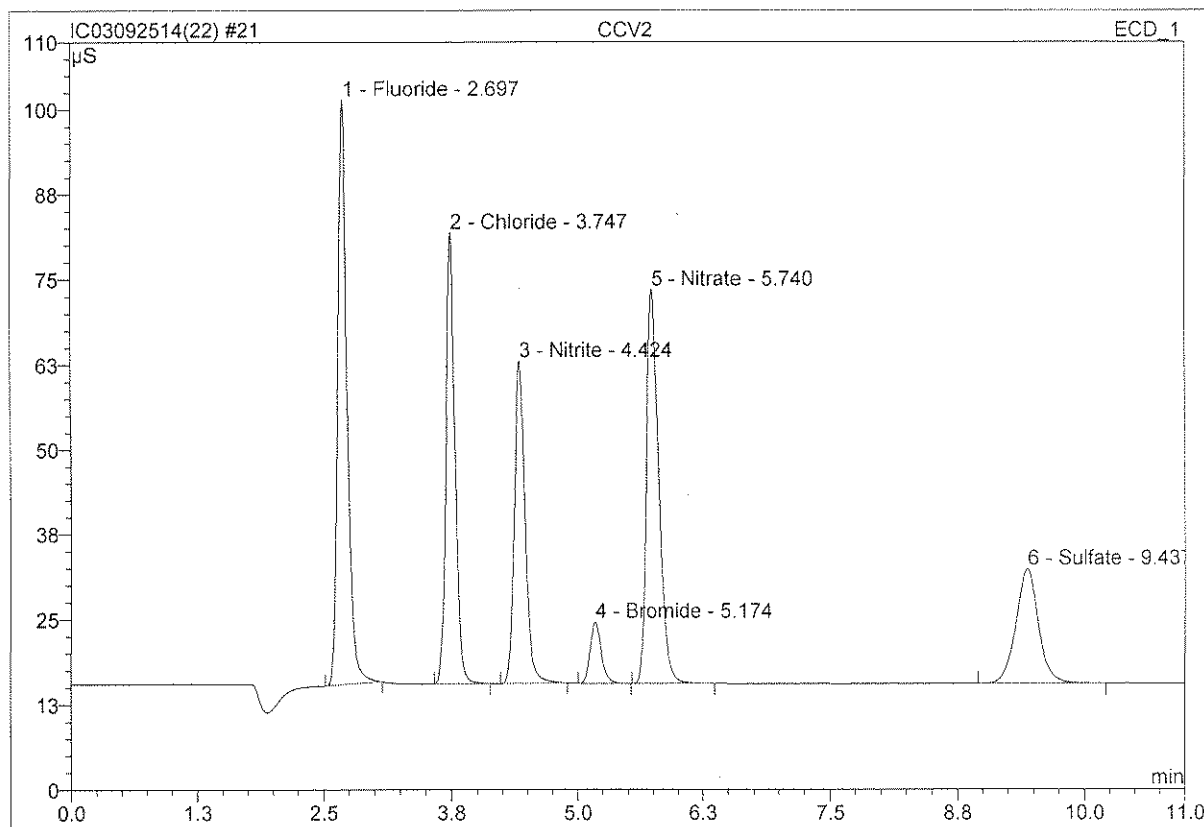
Handwritten signature

10 CCB1			
Sample Name:	CCB1	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:44	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



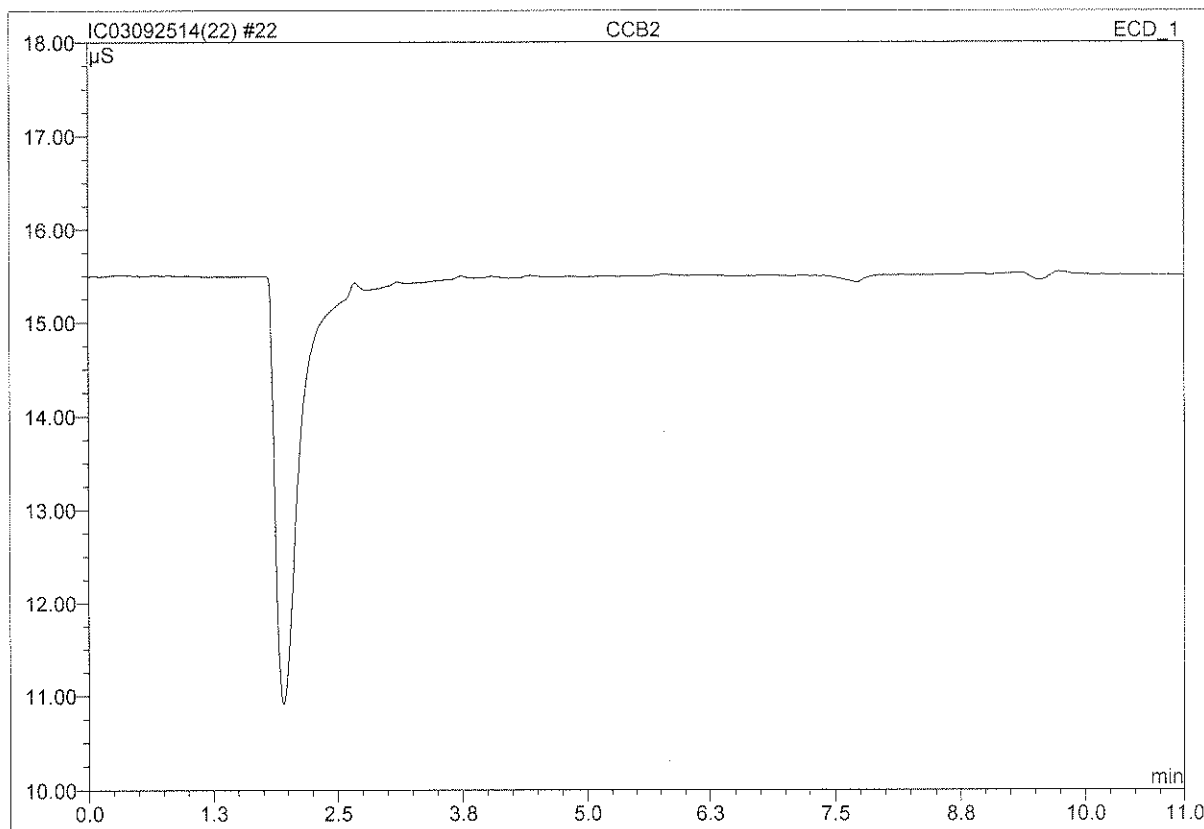
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

21 CCV2			
CCV2			
Sample Name:	CCV2	Injection Volume:	200.0
Vial Number:	46	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 12:20	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



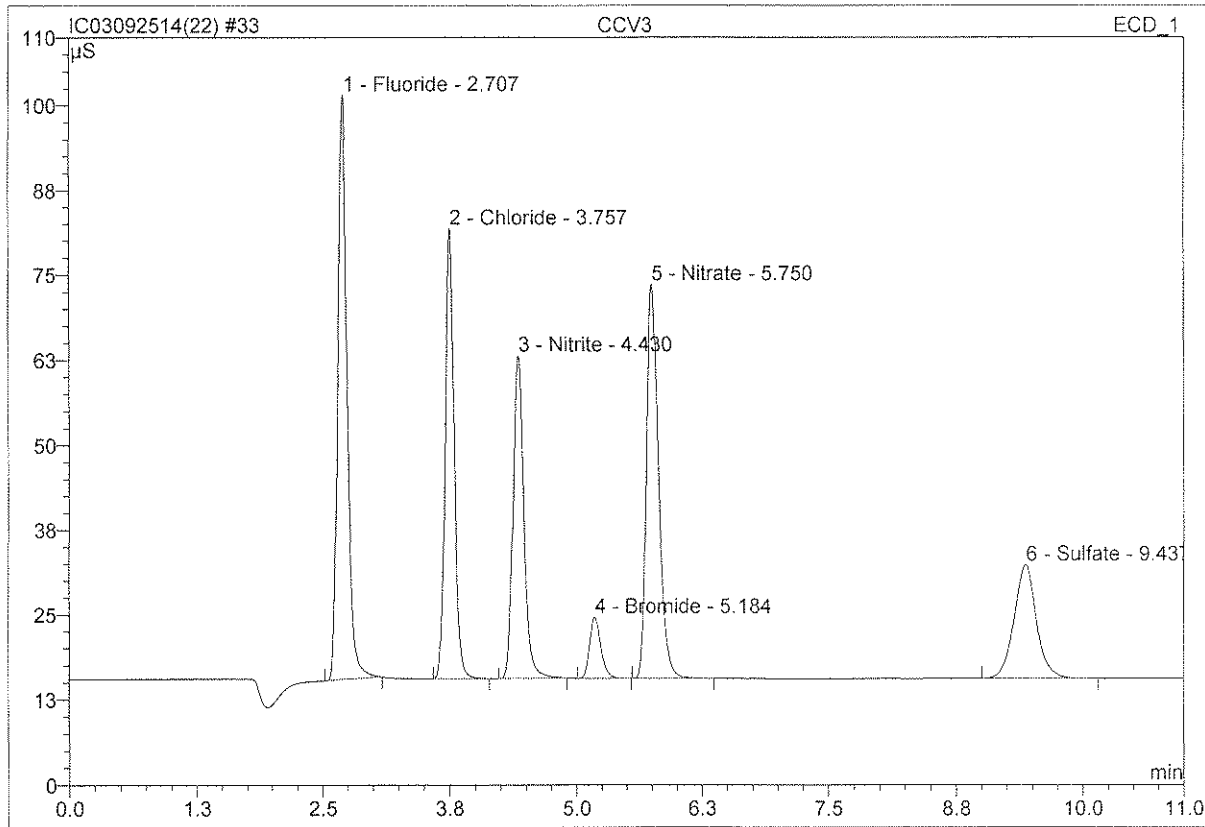
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.70	Fluoride	86.023	9.147	25.89	16.5 5.228	BMB
2	3.75	Chloride	66.300	6.734	19.06	17 4.869	BMB
3	4.42	Nitrite	47.461	5.857	16.57	16 2.402	BMB
4	5.17	Bromide	8.987	1.155	3.27	15 2.379	BMB
5	5.74	Nitrate	57.897	8.161	23.09	14 2.363	BMB
6	9.44	Sulfate	16.749	4.283	12.12	11 4.846	BMB
Total:			283.417	35.335	100.00	22.086	

22 CCB2			
CCB2			
Sample Name:	CCB2	Injection Volume:	200.0
Vial Number:	47	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 12:34	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

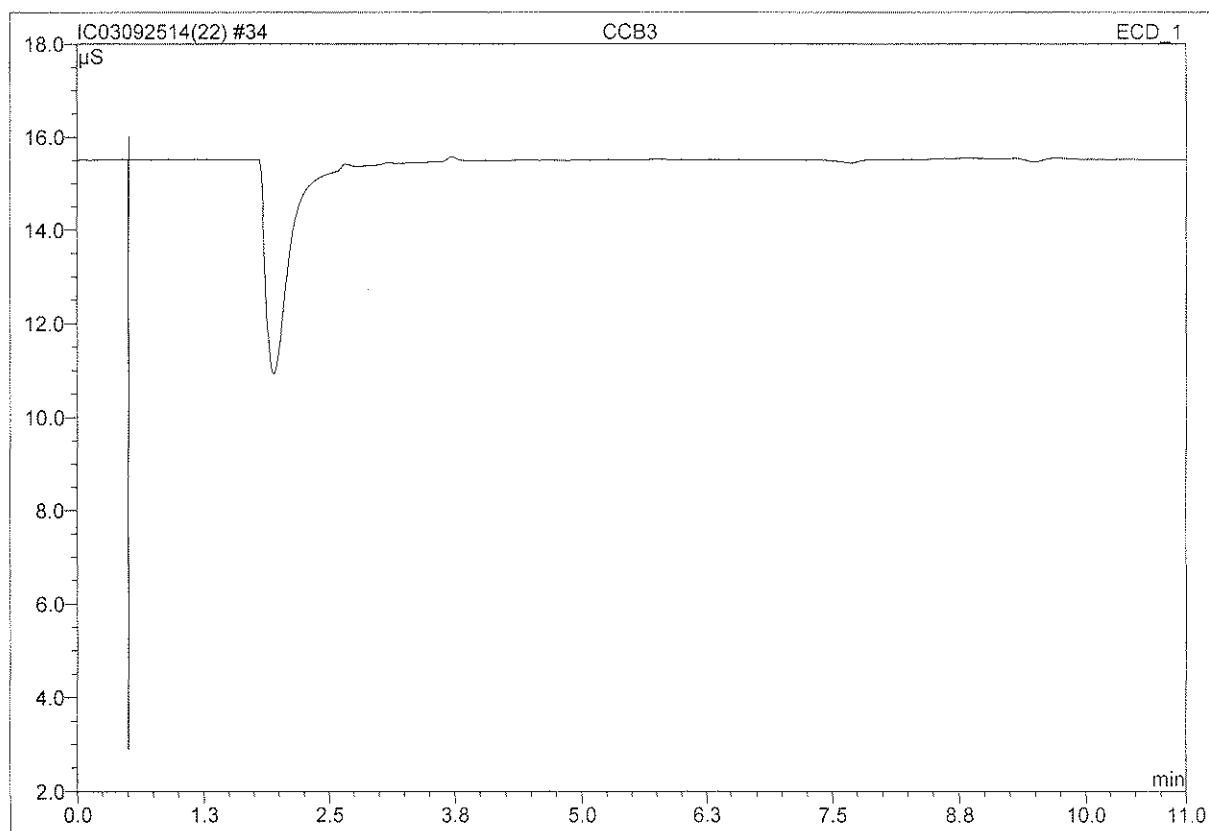
33 CCV3			
CCV3			
Sample Name:	CCV3	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 15:24	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	86.054	9.185	25.99	10.5: 5.249	BMB
2	3.76	Chloride	66.273	6.708	18.98	9.7: 4.851	BMB
3	4.43	Nitrite	47.572	5.874	16.62	9.6: 2.409	BMB
4	5.18	Bromide	9.001	1.163	3.29	9.6: 2.395	BMB
5	5.75	Nitrate	58.038	8.143	23.04	9.7: 2.358	BMB
6	9.44	Sulfate	16.723	4.272	12.09	9.7: 4.833	BMB
Total:			283.661	35.344	100.00	22.094	

34 CCB3**CCB3**

Sample Name:	CCB3	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 15:39	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000

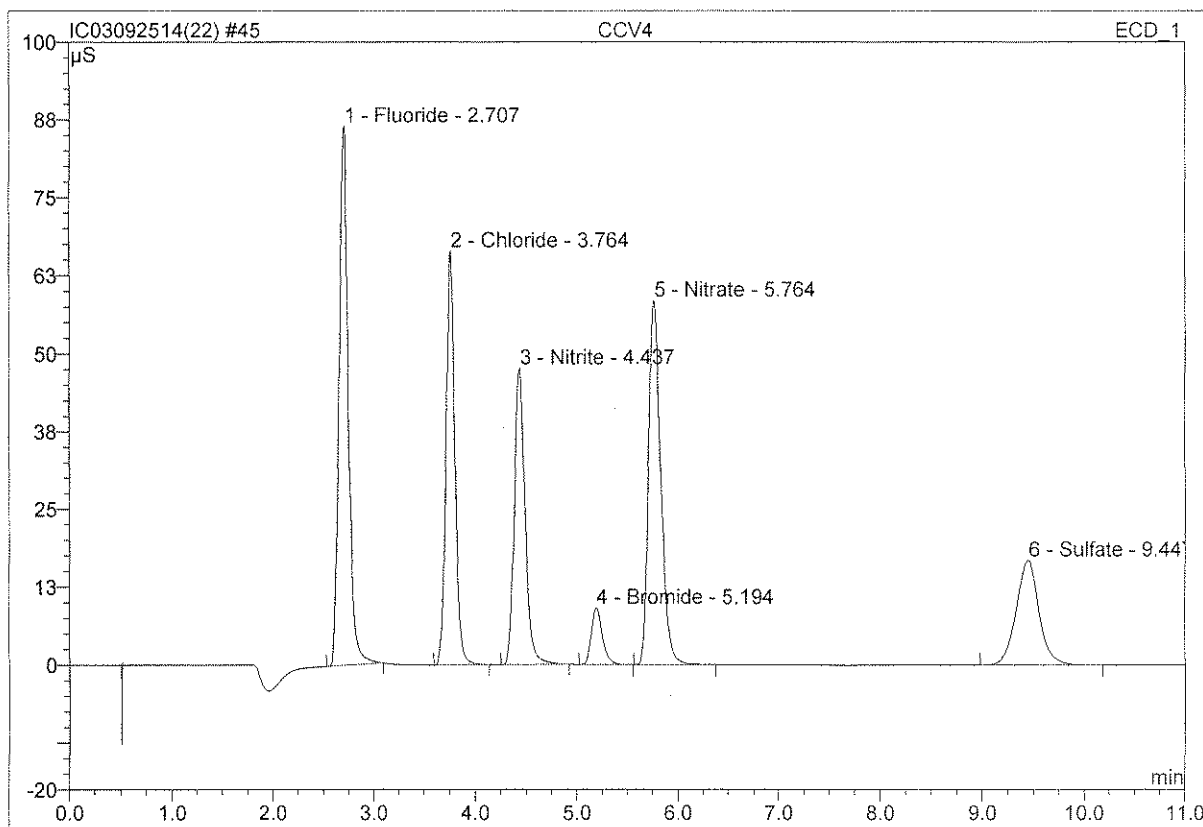


No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

45 CCV4

CCV4

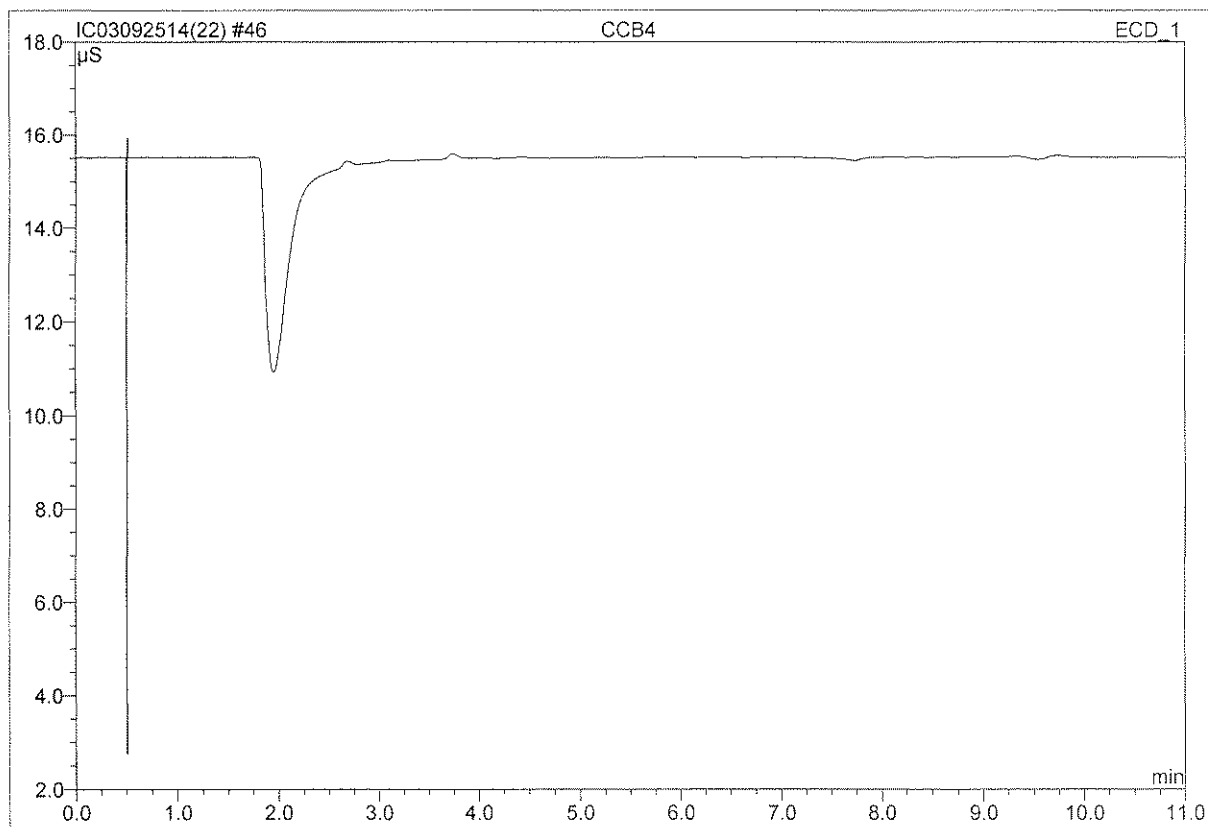
Sample Name:	CCV4	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 18:16	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	86.524	9.218	25.96	105, 5.269	BMB
2	3.76	Chloride	66.365	6.728	18.95	97, 4.865	BMB
3	4.44	Nitrite	47.591	5.890	16.59	97, 2.415	BMB
4	5.19	Bromide	9.039	1.163	3.27	96, 2.394	BMB
5	5.76	Nitrate	58.444	8.200	23.09	95, 2.374	BMB
6	9.45	Sulfate	16.724	4.307	12.13	97, 4.873	BMB
Total:			284.687	35.505	100.00	22.190	

46 CCB4**CCB4**

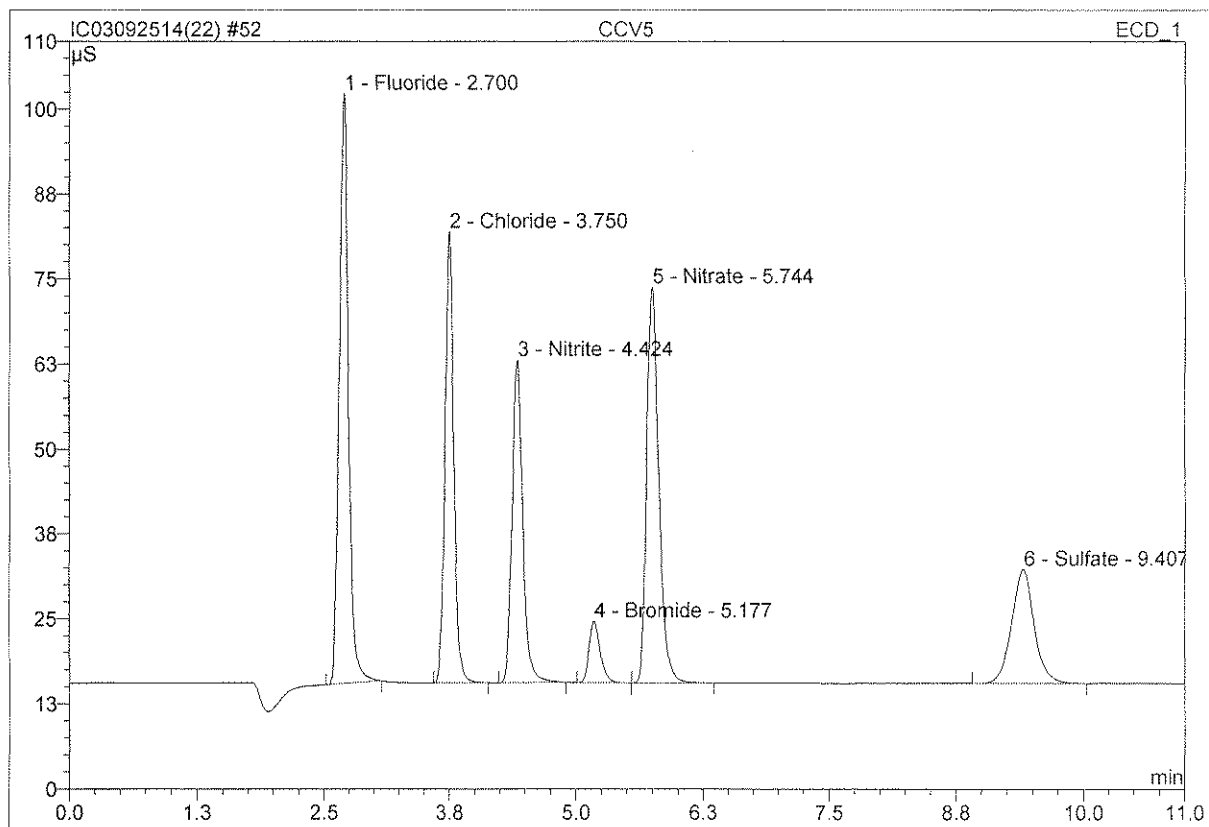
Sample Name:	CCB4	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 18:31	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

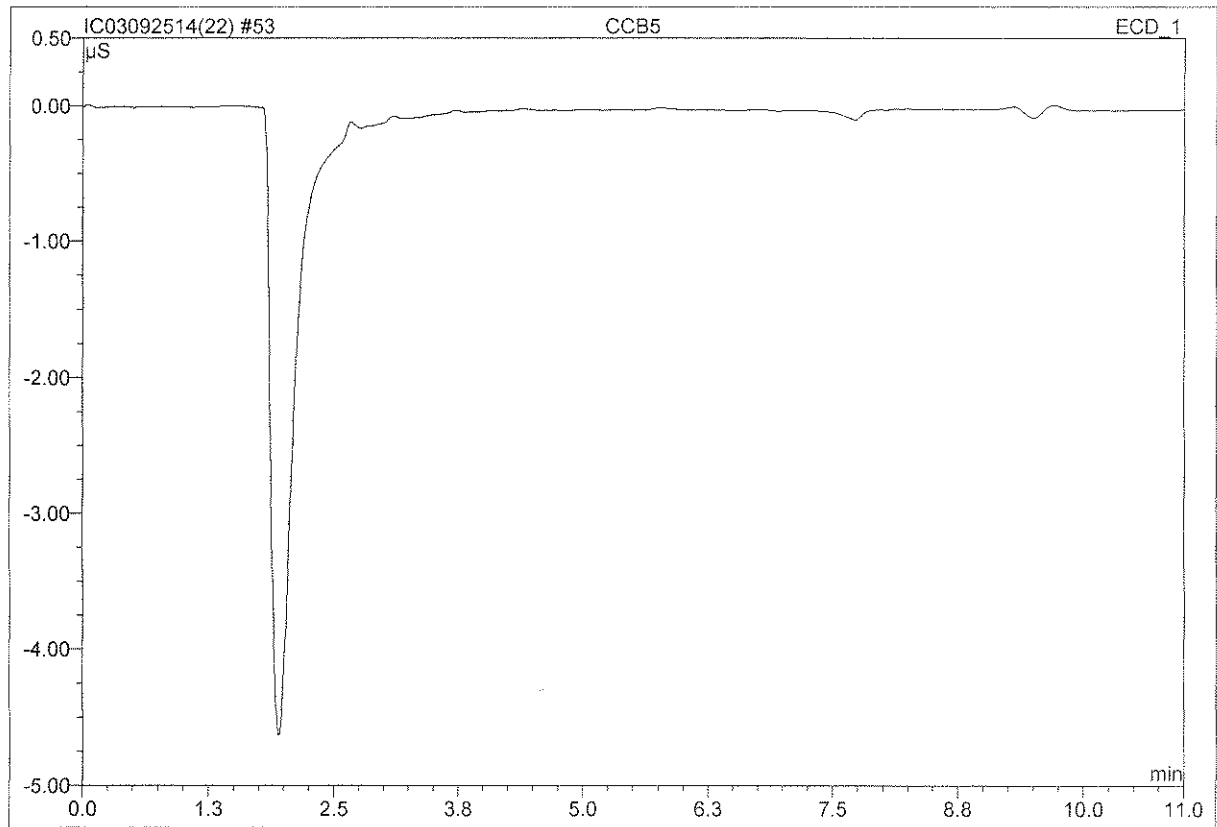
52 CCV5**CCV5**

Sample Name:	CCV5	Injection Volume:	200.0
Vial Number:	46	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 19:58	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S} \cdot \text{min}$	Rel.Area %	Amount	Type
1	2.70	Fluoride	86.791	9.198	26.04	105.5.257	BMB
2	3.75	Chloride	66.346	6.706	18.99	97.4.849	BMB
3	4.42	Nitrite	47.529	5.843	16.54	96.2.396	BMB
4	5.18	Bromide	9.012	1.152	3.26	95.2.372	BMB
5	5.74	Nitrate	58.196	8.133	23.03	94.2.355	BMB
6	9.41	Sulfate	16.704	4.286	12.14	97.4.849	BMB
Total:			284.578	35.319	100.00	22.079	

53 CCB5			
CCB5			
Sample Name:	CCB5	Injection Volume:	200.0
Vial Number:	47	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 20:12	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run: 219668 **Prep Workflow:** MetDigAqICP **Status:** Prepped **Prep Date:** 10/02/2014
Team: Metals **Prep Method:** METALS **Current Step:** Digestion **Due Date:** 10/12/2014
Analyst: Anna Cheatley **Rush/NPDES:** N/A **Hold Date:** 03/22/2015

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1412263-01	Method Blank		50 mL	50 mL			Metals D	1%HNO3,5%HCl
KQ1412263-02	Lab Control Sample		50 mL	50 mL	0.25 mL 0.25 mL 0.125 mL 0.5 mL	66705 66708 74038 74138	Metals D	1%HNO3,5%HCl
K1410444-001	MW-4	.01	50 mL	50 mL			Metals D	1%HNO3,5%HCl
K1410444-001: KQ1412263-03	Matrix Spike	.01	50 mL	50 mL	0.5 mL 0.5 mL 0.5 mL 0.5 mL	74138 74821 75333 75334	Metals D	1%HNO3,5%HCl
K1410444-001: KQ1412263-04	Duplicate Matrix Spike	.01	50 mL	50 mL	0.5 mL 0.5 mL 0.5 mL 0.5 mL	74138 74821 75333 75334	Metals D	1%HNO3,5%HCl
K1410444-002	MW-6	.01	50 mL	50 mL			Metals D	1%HNO3,5%HCl

6 Total Samples consisting of 2 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
Antimony 1000 ug/mL Sb	Spike	74038	9/1/2015	K-MET SS4	Spike	74138	2/24/2015
K-MET QCP-CICV-1	Spike	66705	2/1/2015	K-MET SS5	Spike	75334	12/1/2014
K-MET QCP-CICV-3	Spike	66708	2/1/2015	K-MET-SS1	Spike	74821	2/8/2015
K-MET SS3	Spike	75333	1/24/2015				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET HCL	74685	Digestion	K-MET 50ml Centrifuge Tube	75044
Digestion	K-MET HNO3	75020			

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value	
Digestion	K-BlockDigester-05	Corrected Temperature	96	deg C	Digestion	K-BlockDigester-05	Thermometer ID 1133904	NONE
Digestion	K-BlockDigester-05	Correction Factor	0	deg C	Digestion	K-BlockDigester-05	Thermometer Location	53
Digestion	K-BlockDigester-05	Observed Temperature	96	deg C				

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	02-OCT-14 17:04	02-OCT-14 19:18	Anna Cheatley		N	

Comments

Review

Reviewed by: EJS Date: 10/2/14

METALS SPIKING SOLUTIONS CONCENTRATIONS FORM

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added
K-MET SS1 *** Add after HNO3 and before cas cal -14 when making the solution	HNO3	50.0	1000ml	-	
	Al	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	200	
	Be	100*	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	1000ml	50	
	Cr	100*	1000ml	20	
	Cu	100*	1000ml	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000ml	50	
	Mn	100*	1000ml	50	
	Ni	100*	1000ml	50	
	Sb***	50	1000ml	50	
V	100*	1000ml	50		
Zn	100*	1000ml	50		
K-MET SS2	HNO3	25.0	500ml	-	
	As	2.0	500ml	4	
	Cd	2.0	500ml	4	
	Pb	2.0	500ml	4	
	Se	2.0	500ml	4	
	Tl	2.0	500ml	4	
K-MET SS3	HNO3	25.0	500ml	-	
	As	50.0	500ml	100	
	Se	50.0	500ml	100	
	Tl	50.0	500ml	100	
	Hg	6	500	12	
K-MET SS4	HNO3	25	500ml	-	
	B	50	500ml	100	
	Mo	50	500ml	100	
K-MET SS5	HNO3	10.0	200ml	-	
	K**	20	200ml	1000	
	Na**	20	200ml	1000	
	Mg**	20	200ml	1000	
	Ca**	20	200ml	1000	

K-MET GFLCSW	HNO3	10.0	1000ml	-	
	As, Pb, Se, Tl	5.0	1000ml	2.5	
	Cd	-	-	1.25	
	Cu	2.5	1000ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-2	Sb	no dilution	-	500	
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

Service Request # K1410444
Instrument ID# K-ICP-AES-04

ICP-OES 200.7 Data Review Form

	Yes	No
1. Standardization completed	<u> X </u>	<u> </u>
2. ICV within 5 % of true value	<u> X </u>	<u> </u>
3. ICB below MRL	<u> X </u>	<u> </u>
4. CRI/LLICV standard analyzed.	<u> X </u>	<u> </u>
5. ICS standards within 20% of true value	<u> X </u>	<u> </u>
6. All preceding CCVs within 10 % of true value	<u> X </u>	<u> </u>
7. Following CCV within 10 % of true value	<u> X </u>	<u> </u>
8. Bracketing CCBs below MRL	<u> X </u>	<u> </u>
9. Method Blank below MRL	<u> X </u>	<u> </u>
10. MS (70-130), Dup (20) and LCS (85-115) within control limits	<u> X </u>	<u> </u>
11. All analytes within instrument linear range	<u> X </u>	<u> </u>
12. Adequate rinse out time allowed between samples to eliminate memory effect	<u> X </u>	<u> </u>
13. Run terminated early	<u> </u>	<u> X </u>

Comments:

StarLIMS Run # 415138 Saved under 100814AICP04
200.7: NR Mg2790.

Primary Review by GMM Date 10/8/14

Secondary Review by GMM Date 10/9/14

Data Review Form

Service Request #: K1410444
Instrument ID#: K-ICP-AES-04
DataFile Name: R:\ICP\WIP\DATA\K-ICP-AES-04\100814AICP04.txt

There are no issues to report.

Primary Approver: AM 10/8/14
Secondary Approver: _____

Sample Name: BLK Acquired: 10/8/2014 8:36:24 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0024	-48.67	.0378	-.7000	.0130	4.2917	-1.620
Stddev	.0001	3.00	.0220	.5562	.0004	1.6288	1.656
%RSD	4.808	6.157	58.23	79.47	3.262	37.953	102.2

#1	.0024	-46.55	.0222	-1.093	.0127	3.1400	-2.791
#2	.0025	-50.79	.0533	-.3066	.0133	5.4435	-.4495

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0005	-.0004	.0001	.2006	.0004	-.0010	.0007
Stddev	.0003	.0000	.0004	.0025	.0001	.0004	.0001
%RSD	60.46	.7990	556.5	1.264	15.69	36.72	13.85

#1	.0003	-.0004	.0004	.1988	.0003	-.0008	.0006
#2	.0007	-.0004	-.0002	.2024	.0004	-.0013	.0008

Elem	Cu3273	Fe2599	Pb2203	Li6707	Mg2790	Mg2795	Mg2852
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-36.07	-.0002	-.0006	-3.650	.0005	-.0001	1.650
Stddev	3.93	.0005	.0003	15.56	.0005	.0004	1.626
%RSD	10.90	199.9	49.83	426.4	85.68	309.3	98.57

#1	-33.29	-.0006	-.0004	7.354	.0002	-.0004	.5000
#2	-38.85	.0001	-.0009	-14.65	.0009	.0002	2.800

Elem	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0000	.0000	-.0003	-.0009	.0000	-13.87	-1.230
Stddev	.0000	.000	.0000	.0003	.0000	5.50	.014
%RSD	50.48	519.3	4.951	36.82	40.21	39.62	1.150

#1	.0000	-.0001	-.0003	-.0007	.0000	-17.75	-1.220
#2	.0001	.0000	-.0003	-.0012	.0000	-9.983	-1.240

Sample Name: BLK Acquired: 10/8/2014 8:36:24 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.646	-20.62	-21.09	-.01503	-.0007	-.0003	.0021
Stddev	2.522	7.06	26.05	.00162	.0002	.0000	.0001
%RSD	95.32	34.24	123.5	10.775	23.11	5.970	6.866
#1	.8625	-25.62	-2.668	-.01388	-.0008	-.0002	.0020
#2	4.429	-15.63	-39.51	-.01617	-.0006	-.0003	.0022

Elem	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0003	.0001	1.592	.0008	13.30
Stddev	.0002	.0001	.438	.0001	.40
%RSD	67.60	46.02	27.50	10.19	2.991
#1	-.0004	.0001	1.283	.0007	13.58
#2	-.0001	.0002	1.902	.0009	13.02

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2490.4	40344.	3645.3
Stddev	5.4	186.	9.3
%RSD	.21779	.46122	.25573
#1	2486.6	40476.	3651.8
#2	2494.3	40213.	3638.7

am
10/8/14

Sample Name: STD A Acquired: 10/8/2014 8:38:51 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-19-D

Elem	Al1670	Sb2068	Be2348	B_2496	Cd2144	Cd2265	Ca3933	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.2246	190.6	14541.	1658.	2.346	1.609	35.03	.1053
Stddev	.0007	.9	74.	11.	.003	.005	.04	.0003
%RSD	.3223	.4724	.50989	.6651	.1267	.2963	.1184	.2527

#1	.2251	190.0	14593.	1666.	2.348	1.605	35.00	.1055
#2	.2241	191.3	14488.	1650.	2.343	1.612	35.06	.1051

Elem	Co2307	Cu2247	Cu3273	Pb2203	Mg2795	Mn2576	Mo2020	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.7594	.4360	5863.	.1328	3.311	.6922	.4549	.7389
Stddev	.0007	.0016	5.	.0001	.005	.0016	.0005	.0003
%RSD	.0919	.3779	.0900	.0591	.1408	.2326	.1072	.0354

#1	.7599	.4349	5859.	.1328	3.308	.6911	.4546	.7390
#2	.7589	.4372	5867.	.1329	3.315	.6933	.4552	.7387

Elem	Se1960	Ag3280	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	97.33	5556.	.0817	.1586	.6376	.1465	.7010	3109.
Stddev	.59	19.	.0004	.0003	.0020	.0002	.0031	7.
%RSD	.6049	.3508	.4367	.1801	.3064	.1533	.4473	.2198

#1	96.91	5542.	.0820	.1584	.6362	.1463	.7032	3104.
#2	97.75	5570.	.0814	.1588	.6390	.1466	.6988	3113.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2505.6	40803.	3690.6
Stddev	1.3	37.	1.4
%RSD	.05257	.09143	.03908

#1	2504.7	40830.	3691.7
#2	2506.5	40777.	3689.6

Sample Name: STD B Acquired: 10/8/2014 8:41:04 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-12-D

Elem	Al3944	As1890	Ba4554	Ca3158	Fe2599	Li6707	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137300.	543.6	277.5	2.393	3.981	26740.	.5147
Stddev	51.	1.2	.7	.011	.033	143.	.0048
%RSD	.0374	.2260	.2583	.4496	.8361	.5356	.9371

#1	137300.	544.5	278.1	2.400	4.004	26840.	.5181
#2	137300.	542.7	277.0	2.385	3.957	26640.	.5113

Elem	Mg2852	Mn2605	P_1782	K_7664	Si2516	Na5895	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	43220.	.1515	1.976	9771.	5318.	35110.	40.182
Stddev	76.	.0008	.002	1.	9.	127.	.361
%RSD	.1750	.5509	.1221	.0103	.1640	.3606	.89831

#1	43280.	.1521	1.974	9772.	5324.	35200.	40.437
#2	43170.	.1509	1.977	9771.	5311.	35020.	39.926

Elem	Bi2230	S_1820
Units	Cts/S	Cts/S
Avg	.5336	359.1
Stddev	.0002	1.0
%RSD	.0309	.2791

#1	.5335	359.9
#2	.5337	358.4

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2453.3	39447.	3656.2
Stddev	.2	120.	18.9
%RSD	.00929	.30453	.51828

#1	2453.2	39362.	3642.8
#2	2453.5	39532.	3669.6

Sample Name: ICVB Acquired: 10/8/2014 8:43:57 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9827	1.030	.0019	-.0022	.0012	-.00004	2.012	.0001
Stddev	.0018	.001	.0005	.0001	.0004	.00017	.008	.0000
%RSD	.1878	.1207	25.71	4.046	31.03	459.73	.3831	10.99
#1	.9813	1.029	.0015	-.0021	.0010	-.00016	2.007	.0001
#2	.9840	1.031	.0022	-.0023	.0015	.00008	2.018	.0002

Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	4.965	4.911	-.0012	.0000	-.0001	-.0001	10.05
Stddev	.0001	.047	.024	.0009	.0004	.0002	.0003	.05
%RSD	70.52	.9514	.4817	73.01	2312.	183.0	306.1	.4945
#1	.0001	4.931	4.894	-.0018	-.0002	-.0002	-.0003	10.02
#2	.0002	4.998	4.928	-.0006	.0003	.0000	.0001	10.09

Check ?	None	None	Chk Pass	None	None	None	None	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	1.991	4.968	4.954	5.059	9.723	9.964	-.0003
Stddev	.0008	.016	.035	.013	.025	.036	.038	.0003
%RSD	72.99	.8043	.7055	.2555	.4912	.3744	.3771	105.4
#1	.0005	2.003	4.943	4.945	5.076	9.698	9.991	-.0001
#2	.0017	1.980	4.992	4.963	5.041	9.749	9.938	-.0005

Check ?	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	None
Value Range								

Sample Name: ICVB Acquired: 10/8/2014 8:43:57 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-A

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	4.984	-.0095	.0013	5.015	-.0012	14.38	2.0218
Stddev	.0003	.008	.0032	.0032	.005	.0007	.08	.0038
%RSD	77.15	.1581	33.76	243.9	.1097	63.23	.5850	.18729
#1	.0002	4.990	-.0118	.0036	5.019	-.0006	14.44	2.0245
#2	.0005	4.979	-.0072	-.0010	5.011	-.0017	14.32	2.0192

Check ?	None	Chk Pass	None	None	Chk Pass	None	None	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0010	4.914	.0001	.0086	.0004	.0005	5.099	4.980
Stddev	.0009	.011	.0000	.0000	.0001	.0000	.003	.003
%RSD	86.69	.2312	14.55	.4024	24.42	5.285	.0567	.0587
#1	-.0017	4.906	.0001	.0086	.0005	.0005	5.101	4.978
#2	-.0004	4.922	.0001	.0086	.0004	.0005	5.097	4.982

Check ?	None	Chk Pass	None	None	None	None	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2466.9	39768.	3650.4
Stddev	2.7	61.	17.9
%RSD	.10752	.15250	.48943
#1	2465.0	39725.	3663.0
#2	2468.7	39811.	3637.7

Sample Name: ICV Acquired: 10/8/2014 8:46:26 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-19-E

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.274	5.037	2.381	2.502	5.000	.12429	.0034	1.240
Stddev	.023	.003	.005	.003	.012	.00001	.0013	.002
%RSD	.5479	.0592	.2012	.1085	.2387	.00533	37.10	.1275
#1	4.257	5.039	2.385	2.500	5.009	.12429	.0043	1.239
#2	4.290	5.035	2.378	2.504	4.992	.12428	.0025	1.241

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass None Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.232	12.45	11.88	.5021	1.229	.6131	.6029	2.473
Stddev	.004	.01	.08	.0005	.000	.0036	.0042	.007
%RSD	.3525	.1119	.7039	.0939	.0154	.5949	.6890	.2722
#1	1.229	12.46	11.82	.5024	1.229	.6105	.6058	2.468
#2	1.235	12.44	11.94	.5017	1.230	.6157	.5999	2.478

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.401	.0009	12.36	12.01	12.47	1.236	1.232	1.997
Stddev	.011	.0014	.09	.07	.05	.000	.012	.004
%RSD	.4512	162.3	.7086	.5928	.3845	.0118	1.009	.1986
#1	2.393	.0019	12.43	11.96	12.50	1.236	1.241	1.999
#2	2.408	-.0001	12.30	12.06	12.43	1.236	1.223	1.994

Check ? Chk Pass None Chk Pass None Chk Pass Chk Pass None Chk Pass
 Value
 Range

Sample Name: ICV Acquired: 10/8/2014 8:46:26 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-19-E

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.218	.0002	12.35	2.431	.0085	.6010	12.43	.00069
Stddev	.002	.0049	.13	.005	.0081	.0014	.10	.00007
%RSD	.1594	2782.	1.058	.2134	95.27	.2358	.8112	10.589
#1	1.216	.0036	12.45	2.428	.0142	.6020	12.50	.00074
#2	1.219	-.0033	12.26	2.435	.0028	.6000	12.36	.00064

Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.427	.0021	2.024	1.261	1.255	1.229	.0030	-.0009
Stddev	.012	.0002	.002	.006	.004	.000	.0028	.0007
%RSD	.4980	9.240	.1007	.4452	.3222	.0179	93.15	79.55
#1	2.418	.0022	2.023	1.265	1.252	1.229	.0049	-.0004
#2	2.435	.0020	2.026	1.257	1.258	1.229	.0010	-.0015

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2474.1	40210.	3668.7
Stddev	3.1	30.	8.7
%RSD	.12390	.07556	.23751
#1	2476.2	40232.	3674.8
#2	2471.9	40189.	3662.5

Sample Name: ICB Acquired: 10/8/2014 8:48:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0013	.0036	.0019	.0003	-.00008	.0006	.0001
Stddev	.0011	.0010	.0002	.0003	.0002	.00003	.0030	.0001
%RSD	113.8	71.52	5.582	18.39	61.44	38.936	512.6	142.4
#1	.0018	.0007	.0037	.0016	.0005	-.00005	-.0015	.0002
#2	.0002	.0020	.0035	.0021	.0002	-.00010	.0027	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0147	.0011	-.0005	.0000	-.0001	-.0001	.0025
Stddev	.0000	.0034	.0003	.0000	.0000	.0004	.0012	.0043
%RSD	64.97	23.26	25.86	1.630	47.27	293.5	2031.	172.4
#1	.0000	.0123	.0012	-.0004	.0000	-.0004	-.0009	-.0005
#2	.0001	.0171	.0009	-.0005	.0000	.0001	.0008	.0055

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	-.0003	-.0111	.0011	-.0009	.0002	.0002	.0019
Stddev	.0003	.0010	.0169	.0003	.0010	.0000	.0009	.0000
%RSD	13.42	358.5	153.0	24.74	112.1	11.84	407.3	2.024
#1	.0026	-.0010	-.0230	.0012	-.0002	.0002	-.0004	.0018
#2	.0022	.0004	.0009	.0009	-.0016	.0002	.0008	.0019

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 High Limit
 Low Limit

Sample Name: ICB Acquired: 10/8/2014 8:48:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0004	.0190	.0051	-.0048	.0001	.0068	.00007
Stddev	.0001	.0011	.0018	.0017	.0052	.0005	.0062	.00000
%RSD	21.81	245.4	9.367	34.42	107.2	379.3	92.08	2.0606
#1	.0003	.0012	.0203	.0038	-.0085	.0005	.0112	.00006
#2	.0004	-.0003	.0178	.0063	-.0012	-.0002	.0024	.00007

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0004	.0004	-.0002	.0003	.0001	-.0007	-.0033
Stddev	.0003	.0002	.0000	.0004	.0001	.0000	.0005	.0035
%RSD	474.1	44.26	9.408	184.1	21.82	45.43	71.28	105.5
#1	-.0003	.0005	.0005	.0001	.0002	.0001	-.0003	-.0057
#2	.0002	.0003	.0004	-.0005	.0003	.0001	-.0010	-.0008

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2515.2	40794.	3661.5
Stddev	2.1	37.	5.6
%RSD	.08496	.08991	.15305
#1	2516.7	40768.	3665.5
#2	2513.7	40820.	3657.6

Sample Name: LLICV Acquired: 10/8/2014 8:51:10 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106	F .0134	.0217	.0105	.0046	.00114	.0201	.0010
Stddev	.0003	.0042	.0016	.0020	.0002	.00003	.0007	.0000
%RSD	2.669	31.33	7.227	19.03	3.538	2.3531	3.297	1.807
#1	.0104	.0105	.0206	.0091	.0045	.00116	.0205	.0010
#2	.0108	.0164	.0228	.0119	.0048	.00112	.0196	.0010

Check ?	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100						
Range		20.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3278	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	F .0373	.0212	.0036	.0022	.0039	F .0049	F .0261
Stddev	.0000	.0139	.0001	.0004	.0004	.0003	.0001	.0008
%RSD	2.476	37.23	.5662	9.674	16.53	8.455	1.530	3.006
#1	.0012	.0275	.0213	.0034	.0024	.0036	.0048	.0267
#2	.0011	.0471	.0211	.0039	.0019	.0041	.0049	.0255

Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value		.0200					.0040	.0200
Range		20.00%					20.00%	20.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0114	.0186	.0001	.0057	.0040	.0011	.0010	.0044
Stddev	.0008	.0000	.0347	.0001	.0001	.0000	.0003	.0003
%RSD	6.570	.2275	28640.	1.556	2.890	2.933	25.89	7.849
#1	.0109	.0186	-.0244	.0056	.0039	.0011	.0008	.0046
#2	.0120	.0186	.0246	.0057	.0040	.0011	.0012	.0041

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

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 10/8/14

Sample Name: LLICV Acquired: 10/8/2014 8:51:10 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	.0425	.2132	F .0251	.1965	.0045	.2068	.00107
Stddev	.0001	.0052	.0243	.0022	.0074	.0004	.0051	.00005
%RSD	2.501	12.33	11.40	8.850	3.757	8.984	2.486	4.3488
#1	.0043	.0388	.2304	.0267	.2017	.0043	.2031	.00104
#2	.0042	.0462	.1960	.0236	.1912	.0048	.2104	.00110

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				.0200				
Range				20.00%				

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0102	.0216	.0024	.0037	.0042	.0041	.0212	.0357
Stddev	.0013	.0002	.0001	.0001	.0001	.0001	.0021	.0006
%RSD	12.94	.9973	3.588	2.865	3.499	1.764	10.07	1.671
#1	.0092	.0214	.0023	.0036	.0043	.0041	.0227	.0361
#2	.0111	.0217	.0024	.0038	.0041	.0042	.0197	.0353

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2521.4	40848.	3657.9
Stddev	3.3	67.	1.1
%RSD	.13249	.16451	.02972
#1	2523.7	40896.	3657.1
#2	2519.0	40801.	3658.7

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Sample Name: LLICV Acquired: 10/8/2014 8:53:37 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0110	F .0151	.0206	F .0129	.0044	.00102	.0206	.0010
Stddev	.0000	.0026	.0008	.0012	.0002	.00001	.0005	.0000
%RSD	.1161	16.90	4.002	9.122	3.460	.56483	2.222	1.636
#1	.0110	.0133	.0212	.0121	.0043	.00101	.0209	.0010
#2	.0110	.0169	.0200	.0137	.0045	.00102	.0202	.0010

Check ?	None	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100		.0100				
Range		20.00%		20.00%				

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	F .0270	.0206	.0040	.0021	.0040	.0043	.0219
Stddev	.0000	.0051	.0001	.0005	.0001	.0004	.0003	.0040
%RSD	2.567	18.92	.6000	11.39	3.392	9.435	7.136	18.19
#1	.0011	.0306	.0207	.0037	.0022	.0042	.0046	.0247
#2	.0011	.0234	.0205	.0043	.0021	.0037	.0041	.0191

Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0200						
Range		20.00%						

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0128	.0201	-.0241	.0054	.0035	.0012	.0011	.0041
Stddev	.0010	.0006	.0294	.0001	.0003	.0002	.0000	.0003
%RSD	7.538	2.912	121.9	1.840	9.824	13.00	1.812	6.883
#1	.0121	.0206	-.0033	.0055	.0033	.0013	.0011	.0039
#2	.0135	.0197	-.0449	.0053	.0037	.0011	.0011	.0043

Check ?	Chk Fail	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value	.0100							
Range	20.00%							

Sample Name: LLICV Acquired: 10/8/2014 8:53:37 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE RERUN

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041	.0409	.2157	.0218	.1954	.0042	.1993	.00104
Stddev	.0001	.0006	.0481	.0009	.0045	.0002	.0143	.00001
%RSD	2.073	1.384	22.29	4.159	2.313	5.130	7.176	1.2517
#1	.0041	.0413	.1817	.0212	.1922	.0040	.1892	.00103
#2	.0040	.0405	.2497	.0225	.1986	.0043	.2094	.00105

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107	.0208	.0023	.0044	.0044	.0041	.0221	.0357
Stddev	.0024	.0009	.0001	.0001	.0001	.0002	.0000	.0003
%RSD	22.02	4.281	2.255	3.289	2.575	5.533	.1936	.8953
#1	.0124	.0214	.0022	.0043	.0044	.0043	.0222	.0354
#2	.0091	.0202	.0023	.0045	.0043	.0040	.0221	.0359

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2525.0	41052.	3696.4
Stddev	.1	109.	2.0
%RSD	.00311	.26480	.05540
#1	2525.0	41129.	3697.8
#2	2524.9	40975.	3694.9

Sample Name: LLICV,0.5 Acquired: 10/8/2014 8:56:03 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 1/50mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0080	.0804	.4067	.0449	.3957	.0077	.4011	.00208
Stddev	.0001	.0044	.0163	.0038	.0032	.0001	.0093	.00007
%RSD	1.482	5.528	4.013	8.357	.8131	1.516	2.313	3.2026
#1	.0080	.0835	.3951	.0423	.3980	.0078	.3945	.00203
#2	.0079	.0772	.4182	.0476	.3934	.0076	.4076	.00212

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0204	.0410	.0044	.0083	.0081	.0082	.0434	.0746
Stddev	.0011	.0009	.0000	.0003	.0001	.0000	.0007	.0062
%RSD	5.312	2.286	.6657	3.966	.8356	.2498	1.648	8.265
#1	.0196	.0417	.0044	.0086	.0081	.0082	.0429	.0790
#2	.0212	.0403	.0044	.0081	.0082	.0082	.0439	.0702

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2529.1	40927.	3692.5
Stddev	2.7	69.	2.0
%RSD	.10512	.16754	.05338
#1	2527.2	40878.	3691.1
#2	2531.0	40975.	3693.9

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Sample Name: CCVB1 Acquired: 10/8/2014 8:59:47 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.283	10.22	-.0006	1.018	10.05	-.00002	.0001	.0000
Stddev	.004	.04	.0010	.003	.03	.00007	.0010	.000
%RSD	.0500	.3636	169.7	.2576	.3222	312.61	1295.	1500.
#1	7.278	10.17	-.0009	1.014	10.02	-.00010	.0012	.0000
#2	7.283	10.26	-.0018	1.019	10.08	-.00004	.0005	.0000
#3	7.285	10.23	.0004	1.018	10.02	.00007	-.0003	.0000
#4	7.286	10.22	-.0001	1.020	10.07	-.00002	-.0011	.0000

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	9.979	9.782	-.0002	-.0003	-.0004	.0005	10.08
Stddev	.000	.069	.059	.0004	.0004	.0006	.0009	.04
%RSD	177.7	.6880	.5990	156.1	138.2	175.0	178.0	.4033
#1	.0000	10.07	9.696	.0000	.0000	.0005	.0018	10.04
#2	.0000	9.899	9.824	-.0005	-.0004	-.0004	.0001	10.06
#3	-.0001	9.988	9.814	.0002	-.0008	-.0010	.0002	10.14
#4	.0000	9.963	9.794	-.0006	.0001	-.0005	-.0001	10.09

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Sample Name: CCVB1 Acquired: 10/8/2014 8:59:47 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.9948	F 9.402	9.761	10.08	1.001	1.001	.0000
Stddev	.0008	.0014	* .062	.065	.03	.001	.003	.000
%RSD	52.94	.1426	.6595	.6611	.2556	.0574	.3170	611.1
#1	.0010	.9951	9.460	9.710	10.08	1.001	.9961	-.0003
#2	.0023	.9942	9.314	9.705	10.10	1.001	1.001	.0002
#3	.0007	.9934	9.418	9.838	10.05	1.001	1.003	-.0003
#4	.0020	.9967	9.418	9.791	10.10	.9999	1.003	.0002

Check ?	None	Chk Pass	Chk Fail	None	Chk Pass	None	Chk Pass	None
Value			10.00					
Range			-5.440%					

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	9.986	9.947	.0042	10.03	.0001	10.00	1.0036
Stddev	.0001	.010	.022	.0025	.06	.0008	.02	.0062
%RSD	283.7	.0964	.2183	60.74	.6409	998.6	.2194	.61742
#1	.0000	9.986	9.964	.0050	9.947	-.0003	9.976	.99906
#2	-.0001	9.989	9.950	.0036	10.10	-.0002	9.995	.99750
#3	.0002	9.973	9.957	.0070	10.03	.0013	10.02	1.0100
#4	.0001	9.997	9.915	.0010	10.06	-.0006	10.02	1.0076

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

*NR for 200.7
 ok for 6010
 Ann
 10/8/14

Sample Name: CCVB1 Acquired: 10/8/2014 8:59:47 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0013	.0005	.0014	.0001	.0002	1.021	1.008
Stddev	.0024	.0004	.0001	.0005	.0002	.0001	.001	.004
%RSD	853.8	26.23	11.39	34.92	154.0	40.61	.1249	.3547

#1	.0023	.0017	.0005	.0012	.0000	.0003	1.022	1.007
#2	.0008	.0013	.0004	.0014	.0004	.0002	1.020	1.013
#3	-.0033	.0015	.0005	.0020	-.0001	.0003	1.021	1.008
#4	-.0010	.0009	.0004	.0009	.0002	.0001	1.022	1.005

Check ? Value Range	None	None	None	None	None	None	Chk Pass	Chk Pass
---------------------------	------	------	------	------	------	------	----------	----------

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2484.9	39960.	3670.9
Stddev	4.7	71.	17.5
%RSD	.18756	.17692	.47635

#1	2484.8	39907.	3678.7
#2	2491.2	39936.	3687.9
#3	2480.0	39933.	3647.1
#4	2483.6	40064.	3669.9

Sample Name: CCVA1 Acquired: 10/8/2014 9:05:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2525	.2676	.2482	.2579	.2512	.24994	.2545	.2520
Stddev	.0013	.0036	.0024	.0014	.0005	.00081	.0019	.0005
%RSD	.5166	1.337	.9752	.5456	.1934	.32542	.7603	.1930
#1	.2536	.2626	.2481	.2598	.2512	.24971	.2521	.2522
#2	.2521	.2709	.2456	.2565	.2514	.25004	.2549	.2524
#3	.2534	.2694	.2476	.2573	.2505	.25098	.2542	.2520
#4	.2508	.2674	.2514	.2578	.2516	.24903	.2568	.2513

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2494	.5104	.5021	.2516	.2504	.2514	.2499	.2593
Stddev	.0003	.0096	.0009	.0007	.0005	.0004	.0015	.0021
%RSD	.1156	1.888	.1745	.2588	.2010	.1600	.6080	.8042
#1	.2494	.5170	.5030	.2512	.2511	.2519	.2479	.2581
#2	.2495	.4961	.5026	.2509	.2501	.2510	.2496	.2571
#3	.2497	.5155	.5014	.2518	.2506	.2515	.2513	.2613
#4	.2490	.5129	.5013	.2524	.2500	.2512	.2508	.2609

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Sample Name: CCVA1 Acquired: 10/8/2014 9:05:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2501	.0000	.2380	.2540	.2529	.2538	.2464	.2506
Stddev	.0017	.0012	.0179	.0004	.0013	.0004	.0015	.0006
%RSD	.6727	2797.	7.504	.1687	.5094	.1715	.5907	.2518
#1	.2512	.0008	.2255	.2534	.2521	.2539	.2460	.2506
#2	.2495	-.0005	.2538	.2543	.2539	.2541	.2448	.2499
#3	.2517	-.0014	.2529	.2542	.2515	.2531	.2466	.2514
#4	.2481	.0013	.2198	.2541	.2541	.2541	.2483	.2506

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2499	.0019	2.431	.2559	.1243	.2549	.2528	.00009
Stddev	.0005	.0016	.022	.0020	.0051	.0014	.0078	.00003
%RSD	.1952	80.22	.9251	.7986	4.073	.5625	3.078	36.051
#1	.2502	.0021	2.428	.2585	.1202	.2535	.2623	.00006
#2	.2501	-.0002	2.422	.2541	.1316	.2540	.2494	.00008
#3	.2499	.0024	2.411	.2567	.1218	.2567	.2443	.00013
#4	.2492	.0035	2.463	.2544	.1236	.2555	.2554	.00007

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: CCVA1 Acquired: 10/8/2014 9:05:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2516	.2489	.2518	.2492	.2526	.2523	.0005	-.0051
Stddev	.0008	.0012	.0004	.0004	.0009	.0006	.0023	.0021
%RSD	.3132	.4888	.1535	.1454	.3448	.2273	466.0	40.32
#1	.2510	.2485	.2514	.2489	.2535	.2514	.0007	-.0039
#2	.2508	.2494	.2516	.2494	.2517	.2524	-.0023	-.0080
#3	.2524	.2474	.2518	.2496	.2531	.2526	.0033	-.0054
#4	.2521	.2503	.2523	.2489	.2520	.2526	.0003	-.0033

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2518.7	40739.	3671.8
Stddev	5.3	121.	15.8
%RSD	.21057	.29747	.43079
#1	2510.9	40700.	3668.2
#2	2521.0	40733.	3690.6
#3	2520.1	40905.	3675.8
#4	2522.6	40617.	3652.6

Sample Name: CCB Acquired: 10/8/2014 9:11:27 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0003	-.0006	-.0012	.0000	-.00001	.0009	.0000
Stddev	.0005	.0013	.0012	.0004	.000	.00001	.0007	.0000
%RSD	121.6	426.3	207.1	32.86	1026.	90.025	74.41	85.80

#1	.0007	-.0013	-.0014	-.0009	.0002	.00000	.0013	.0000
#2	.0001	.0006	.0003	-.0015	-.0003	-.00002	.0004	.0000

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0110	.0004	-.0007	.0001	.0000	.0000	.0028
Stddev	.0001	.0092	.0002	.0004	.0001	.000	.0001	.0048
%RSD	63.02	83.07	70.48	59.57	94.58	573.3	371.0	171.7

#1	.0001	.0046	.0005	-.0010	.0000	.0001	.0001	-.0006
#2	.0002	.0175	.0002	-.0004	.0002	-.0002	-.0001	.0062

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	-.0003	-.0212	.0003	.0019	.0000	.0005	.0005
Stddev	.0007	.0000	.0075	.0001	.0000	.0000	.0004	.0001
%RSD	52.51	7.410	35.44	19.27	1.670	606.7	75.30	15.27

#1	.0018	-.0003	-.0159	.0003	.0019	.0000	.0008	.0005
#2	.0008	-.0003	-.0265	.0004	.0019	.0000	.0002	.0006

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 10/8/2014 9:11:27 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0011	.0164	.0022	-.0054	.0007	.0006	.00003
Stddev	.0002	.0025	.0245	.0032	.0080	.0001	.0073	.00009
%RSD	69.55	218.4	149.5	144.6	148.6	15.40	1235.	268.33
#1	.0004	.0029	-.0009	.0044	-.0111	.0008	-.0046	-.00003
#2	.0001	-.0006	.0337	.0000	.0003	.0006	.0057	.00009

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0009	.0002	.0005	.0002	.0000	-.0002	-.0027
Stddev	.0004	.0003	.0000	.0000	.0002	.0000	.0009	.0026
%RSD	250.1	28.88	10.39	9.737	106.5	65.76	529.9	95.73
#1	.0001	.0011	.0001	.0005	.0001	.0000	-.0008	-.0009
#2	-.0005	.0007	.0002	.0005	.0004	.0000	.0005	-.0045

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2523.2	40749.	3615.6
Stddev	1.2	82.	95.1
%RSD	.04602	.20100	2.6301
#1	2522.4	40691.	3548.4
#2	2524.0	40807.	3682.9

Sample Name: ICSA Acquired: 10/8/2014 9:13:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-B

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.76	434.1	-.0013	-.0005	.0009	-.00043	.0072	.0002
Stddev	.01	6.8	.0045	.0057	.0004	.00019	.0011	.0000
%RSD	.0628	1.561	349.7	1186.	39.03	42.761	15.50	13.42
#1	22.75	438.9	.0019	-.0045	.0007	-.00030	.0080	.0001
#2	22.77	429.4	-.0044	.0036	.0012	-.00056	.0064	.0002
Check ?	None	None	None	None	None	None	None	None

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	478.6	*****	.0023	-.0019	-.0024	-.0018	186.0
Stddev	.0002	.5	----	.0001	.0005	.0005	.0002	.3
%RSD	73.65	.1142	----	3.014	24.49	19.83	11.69	.1796
#1	-.0004	478.9	----	.0023	-.0022	-.0020	-.0020	186.3
#2	-.0001	478.2	----	.0022	-.0016	-.0027	-.0017	185.8

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030	.0040	526.7	184.1	436.9	-.0014	-.0032	-.0024
Stddev	.0003	.0004	.8	.5	2.9	.0001	.0006	.0002
%RSD	8.350	10.40	.1597	.2593	.6696	10.84	20.33	9.785
#1	.0028	.0043	527.3	184.4	438.9	-.0015	-.0027	-.0026
#2	.0032	.0037	526.2	183.8	434.8	-.0013	-.0036	-.0022

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030	.0040	526.7	184.1	436.9	-.0014	-.0032	-.0024
Stddev	.0003	.0004	.8	.5	2.9	.0001	.0006	.0002
%RSD	8.350	10.40	.1597	.2593	.6696	10.84	20.33	9.785
#1	.0028	.0043	527.3	184.4	438.9	-.0015	-.0027	-.0026
#2	.0032	.0037	526.2	183.8	434.8	-.0013	-.0036	-.0022
Check ?	None	None	Chk Pass	None	None	None	None	None

Sample Name: ICSA Acquired: 10/8/2014 9:13:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-B

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037	.0039	.0044	-.0177	.0102	-.0014	.0242	.00340
Stddev	.0004	.0009	.0539	.0052	.0001	.0004	.0060	.00006
%RSD	10.70	22.38	1237.	29.14	1.162	26.02	24.77	1.8483
#1	.0040	.0033	.0424	-.0214	.0102	-.0011	.0200	.00335
#2	.0034	.0045	-.0337	-.0141	.0103	-.0017	.0285	.00344
Check ?	None	None	None	None	None	None	None	None

Value
Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0106	.0027	-.0005	.0016	.0020	.0006	.0146	-.0047
Stddev	.0045	.0001	.0001	.0006	.0000	.0002	.0007	.0020
%RSD	42.33	4.503	14.85	39.01	2.122	26.21	4.988	41.39
#1	-.0138	.0026	-.0005	.0021	.0020	.0005	.0141	-.0061
#2	-.0075	.0028	-.0006	.0012	.0020	.0007	.0151	-.0033
Check ?	None	None	None	None	None	None	None	None

Value
Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2181.5	34862.	3475.7
Stddev	2.0	5.	12.3
%RSD	.09381	.01533	.35357
#1	2183.0	34858.	3467.0
#2	2180.1	34866.	3484.3

Sample Name: ICSAB Acquired: 10/8/2014 9:16:35 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-C

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.88	435.2	.8555	-.0056	.5157	.46373	.0014	.9177
Stddev	.01	.6	.0040	.0024	.0012	.00046	.0008	.0020
%RSD	.0639	.1478	.4688	42.80	.2257	.09922	59.28	.2128
#1	22.87	435.7	.8583	-.0073	.5165	.46405	.0008	.9163
#2	22.89	434.8	.8527	-.0039	.5149	.46340	.0020	.9191

Check ?	None	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9035	482.0	*****	.5024	.4522	.4570	.4514	186.7
Stddev	.0003	.4	----	.0021	.0011	.0008	.0018	.2
%RSD	.0361	.0753	----	.4103	.2440	.1814	.4024	.0929
#1	.9032	481.7	----	.5010	.4530	.4576	.4527	186.8
#2	.9037	482.2	----	.5039	.4514	.4565	.4501	186.5

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8735	.0046	526.8	183.7	434.5	.4899	.5258	-.0028
Stddev	.0044	.0001	.2	.1	.7	.0027	.0002	.0005
%RSD	.4987	1.539	.0328	.0552	.1689	.5548	.0408	16.73
#1	.8766	.0045	526.7	183.6	435.0	.4880	.5260	-.0032
#2	.8704	.0046	526.9	183.8	434.0	.4918	.5257	-.0025

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	None
Value Range								

Sample Name: ICSAB Acquired: 10/8/2014 9:16:35 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-C

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8869	.0041	-.0113	-.0037	.0109	.9154	.0148	.00339
Stddev	.0014	.0015	.0134	.0007	.0057	.0010	.0031	.00010
%RSD	.1590	35.67	118.7	20.29	52.62	.1103	20.77	2.8636
#1	.8879	.0031	-.0018	-.0032	.0149	.9147	.0170	.00346
#2	.8859	.0052	-.0208	-.0042	.0068	.9161	.0127	.00332

Check ?	Chk Pass	None	None	None	None	Chk Pass	None	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0122	.0018	-.0003	.5181	.9077	.8570	.0141	-.0096
Stddev	.0058	.0003	.0003	.0032	.0003	.0011	.0016	.0042
%RSD	47.52	13.66	112.3	.6141	.0286	.1302	11.17	43.66
#1	-.0081	.0017	-.0005	.5158	.9075	.8578	.0152	-.0126
#2	-.0163	.0020	-.0001	.5203	.9079	.8562	.0129	-.0066

Check ?	None	None	None	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2168.2	34845.	3473.5
Stddev	3.3	177.	6.7
%RSD	.15176	.50779	.19237
#1	2170.5	34970.	3478.2
#2	2165.9	34720.	3468.8

Sample Name: KQ1412512-02 Acquired: 10/8/2014 9:26:11 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410531-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044	.0011	-.0015	-.0001	-.00009	-.0002	-.0001	.0001

#1	.0046	.0010	-.0024	.0001	-.00005	.0007	-.0001	.0001
#2	.0042	.0012	-.0006	-.0003	-.00014	-.0011	.0000	.0001

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051	-.0016	-.0002	-.0003	-.0002	.0032	.0021	-.0002

#1	.0050	-.0018	-.0004	-.0001	.0000	.0041	.0020	-.0014
#2	.0052	-.0014	.0000	-.0005	-.0004	.0023	.0023	.0010

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0000	.0001	.0002	.0026	.0166	.0027	.0026

#1	.0039	.0000	.0000	.0002	.0021	.0468	.0008	.0084
#2	.0040	.0000	.0003	.0002	.0031	-.0135	.0045	-.0031

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0081	-.00007	-.0006	.0006	.0002	.0001	.0000

#1	.0000	.0132	-.00006	-.0001	.0001	.0002	.0001	.0001
#2	-.0001	.0030	-.00008	-.0010	.0012	.0001	.0001	-.0001

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0001	-.0007	-.0078

#1	.0000	-.0008	-.0090
#2	.0003	-.0006	-.0065

Sample Name: KQ1412512-02 Acquired: 10/8/2014 9:26:11 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410531-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2514.6	40797.	3675.6
#1	2509.8	40812.	3662.8
#2	2519.3	40781.	3688.5

Sample Name: KQ1412512-01 Acquired: 10/8/2014 9:28:37 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410531-LCSW

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.005	2.343	2.519	4.991	.12145	.9908	1.231	1.212

#1	5.024	2.349	2.517	4.989	.12180	.9914	1.232	1.211
#2	4.985	2.337	2.521	4.994	.12110	.9901	1.231	1.213

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.35	.5022	1.229	.6108	.6025	2.448	2.380	-.0012

#1	12.38	.5031	1.227	.6095	.6045	2.447	2.376	-.0012
#2	12.33	.5013	1.231	.6121	.6005	2.450	2.385	-.0013

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.33	1.245	1.001	1.206	.0032	12.30	2.415	-.0013

#1	12.34	1.245	1.001	1.206	.0037	12.30	2.413	-.0151
#2	12.32	1.246	1.001	1.206	.0027	12.31	2.418	.0124

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6074	12.50	.00047	2.421	.0010	.0004	1.247	1.247

#1	.6096	12.48	.00046	2.419	.0007	.0004	1.249	1.248
#2	.6052	12.51	.00048	2.424	.0014	.0005	1.245	1.247

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.218	.0010	-.0051

#1	1.219	.0012	-.0035
#2	1.218	.0007	-.0066

Sample Name: KQ1412512-01 Acquired: 10/8/2014 9:28:37 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410531-LCSW

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2472.8	39844.	3664.0
#1	2474.3	39930.	3666.0
#2	2471.2	39758.	3662.0

Sample Name: K1410531-003 Acquired: 10/8/2014 9:30:53 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.261	-.0001	.0255	.0277	.00045	.1294	.0001	.0001

#1	1.264	-.0006	.0248	.0213	.00053	.1293	.0001	.0003
#2	1.259	.0005	.0261	.0341	.00036	.1296	.0001	-.0001

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.311	.0753	.0067	.0524	.0513	5.964	.0039	.0017

#1	4.236	.0754	.0067	.0521	.0514	5.817	.0041	.0011
#2	4.387	.0752	.0067	.0528	.0513	6.110	.0036	.0022

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	*****	.1474	.0194	.0317	5.096	1.666	.0069	16.74

#1	.9479	.1475	.0197	.0318	5.107	1.665	.0062	16.82
#2	-----	.1473	.0190	.0316	5.086	1.667	.0076	16.67

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	317.0	.02769	.0006	.0018	.2560	.2688	.0169

#1	.0010	318.7	.02678	-.0005	.0024	.2555	.2702	.0172
#2	.0007	315.3	.02860	.0018	.0012	.2564	.2674	.0167

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0163	-.0014	23.50

#1	.0163	-.0023	23.51
#2	.0163	-.0005	23.48

Sample Name: K1410531-003 Acquired: 10/8/2014 9:30:53 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2411.7	38397.	3682.6
#1	2408.2	38498.	3738.5
#2	2415.3	38296.	3626.7

Sample Name: K1410531-003L Acquired: 10/8/2014 9:33:23 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: Sample Type:
 Comment: EM 100814A 1/5

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2744	-.0031	.0049	.0043	.00001	.0279	.0001	.0000

#1	.2751	-.0022	.0050	.0043	.00011	.0282	.0001	.0001
#2	.2736	-.0039	.0049	.0042	-.00009	.0276	.0000	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8738	.0143	.0014	.0106	.0111	1.201	.0019	-.0004

#1	.8760	.0140	.0014	.0108	.0107	1.204	.0020	.0003
#2	.8717	.0146	.0014	.0105	.0115	1.198	.0017	-.0011

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1955	.0297	.0037	.0067	.9998	.2755	.0047	3.292

#1	.1953	.0297	.0037	.0068	1.005	.2773	.0069	3.281
#2	.1957	.0296	.0037	.0067	.9948	.2737	.0025	3.303

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	63.24	.00542	.0000	.0014	.0524	.0541	.0034

#1	.0004	63.38	.00535	-.0003	.0009	.0521	.0540	.0033
#2	.0001	63.10	.00550	.0002	.0020	.0528	.0541	.0035

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0034	-.0020	4.700

#1	.0034	-.0027	4.693
#2	.0034	-.0012	4.706

Sample Name: K1410531-003L Acquired: 10/8/2014 9:33:23 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: Sample Type:
Comment: EM 100814A 1/5

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2467.1	39443.	3620.3
#1	2469.7	39545.	3621.0
#2	2464.5	39341.	3619.6

Sample Name: K1410531-003D Acquired: 10/8/2014 9:35:47 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.358	-.0020	.0258	.0200	.00023	.1273	.0000	.0000

#1	1.359	-.0016	.0269	.0201	.00025	.1272	.0001	.0000
#2	1.357	-.0024	.0246	.0199	.00022	.1275	.0000	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.294	.0777	.0069	.0531	.0519	6.084	.0043	-.0003

#1	4.275	.0779	.0069	.0533	.0520	6.062	.0046	-.0011
#2	4.313	.0775	.0069	.0530	.0518	6.105	.0040	.0006

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9471	.1470	.0191	.0319	5.109	1.697	.0058	17.05

#1	.9443	.1469	.0189	.0320	5.107	1.712	.0041	17.06
#2	.9500	.1471	.0193	.0317	5.111	1.682	.0074	17.03

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	316.7	.02709	-.0003	.0017	.2651	.2722	.0168

#1	.0003	318.2	.02705	.0007	.0014	.2643	.2730	.0167
#2	-.0007	315.2	.02714	-.0014	.0019	.2658	.2714	.0169

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0162	.0001	23.64

#1	.0162	-.0013	23.64
#2	.0162	.0015	23.65

Sample Name: K1410531-003D Acquired: 10/8/2014 9:35:47 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2406.0	38141.	3666.6
#1	2405.5	38070.	3686.4
#2	2406.6	38213.	3646.8

Sample Name: K1410531-003S Acquired: 10/8/2014 9:38:17 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.438	.4346	1.018	1.002	.04734	1.088	.0472	.0461

#1	3.434	.4354	1.021	.9984	.04786	1.092	.0473	.0462
#2	3.442	.4339	1.014	1.005	.04682	1.085	.0472	.0459

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.93	.2749	.4747	.2824	.2812	7.062	.4498	.0017

#1	13.85	.2750	.4751	.2825	.2825	7.025	.4512	.0023
#2	14.02	.2749	.4743	.2822	.2800	7.098	.4484	.0010

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.71	.6276	.9926	.4906	5.082	12.12	.9047	17.21

#1	10.70	.6290	.9933	.4900	5.101	12.08	.9062	17.19
#2	10.71	.6263	.9918	.4912	5.063	12.16	.9032	17.24

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0449	323.9	.02727	.8112	.0011	.2626	.7694	.4980

#1	.0443	323.1	.02720	.8080	.0019	.2628	.7707	.4982
#2	.0455	324.7	.02733	.8145	.0003	.2623	.7681	.4979

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4808	.0017	23.27

#1	.4805	.0028	23.33
#2	.4811	.0006	23.21

Sample Name: K1410531-003S Acquired: 10/8/2014 9:38:17 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2397.9	38207.	3659.4
#1	2397.8	38202.	3670.6
#2	2398.1	38212.	3648.1

Sample Name: K1410531-003A Acquired: 10/8/2014 9:40:36 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A A=0.05/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.108	4.575	2.508	4.970	.11971	.1255	1.190	1.164

#1	6.118	4.574	2.514	4.973	.12013	.1248	1.188	1.162
#2	6.099	4.575	2.501	4.968	.11929	.1261	1.191	1.166

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.34	.5726	1.188	.6404	.6304	8.200	2.229	-.0005

#1	16.30	.5734	1.187	.6397	.6279	8.165	2.224	.0006
#2	16.37	.5718	1.190	.6410	.6328	8.234	2.234	-.0016

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.24	1.357	.0193	1.189	4.963	14.75	2.278	16.66

#1	13.24	1.356	.0195	1.187	4.966	14.72	2.282	16.61
#2	13.24	1.357	.0191	1.190	4.959	14.78	2.273	16.70

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5830	324.0	.02701	2.127	.0022	.2524	1.522	1.246

#1	.5817	323.2	.02687	2.132	.0021	.2527	1.523	1.245
#2	.5843	324.8	.02715	2.123	.0023	.2521	1.521	1.247

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.198	.0025	22.79

#1	1.197	.0015	22.77
#2	1.199	.0035	22.81

Sample Name: K1410531-003A Acquired: 10/8/2014 9:40:36 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A A=0.05/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2396.2	38237.	3679.9
#1	2397.7	38306.	3690.5
#2	2394.7	38169.	3669.3

Sample Name: KQ1412263-01 Acquired: 10/8/2014 9:42:58 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410444-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029	.0035	.0008	.0009	-.00007	.0005	.0000	.0002

#1	.0034	.0056	-.0006	.0010	-.00003	.0013	.0001	.0002
#2	.0024	.0014	.0022	.0008	-.00011	-.0003	-.0001	.0002

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072	-.0002	.0001	-.0007	.0006	.0079	.0025	.0001

#1	.0077	-.0003	.0002	-.0004	.0004	.0094	.0034	.0003
#2	.0067	-.0001	.0000	-.0009	.0008	.0065	.0017	-.0002

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0048	.0002	.0005	.0003	.0008	-.0013	.0074	.0219

#1	.0051	.0002	.0005	.0002	.0009	.0030	.0071	.0291
#2	.0046	.0001	.0006	.0004	.0006	-.0056	.0077	.0148

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0764	.00007	.0006	-.0001	.0005	.0001	.0005

#1	.0003	.0709	.00007	.0005	.0001	.0006	.0005	.0005
#2	.0004	.0819	.00008	.0006	-.0002	.0003	-.0003	.0005

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0002	-.0026	.0043

#1	.0002	-.0026	.0030
#2	.0002	-.0027	.0056

Sample Name: KQ1412263-01 Acquired: 10/8/2014 9:42:58 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410444-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2520.1	40704.	3644.2
#1	2514.8	40732.	3604.1
#2	2525.4	40675.	3684.3

Sample Name: KQ1412263-02 Acquired: 10/8/2014 9:45:24 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 Jser: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410444-LCSW

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Jnits	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.070	2.374	2.531	5.039	.12262	1.010	1.241	1.227

#1	5.044	2.380	2.526	5.042	.12237	1.005	1.242	1.228
#2	5.097	2.368	2.536	5.035	.12288	1.015	1.241	1.225

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.37	.5024	1.238	.6160	.6086	2.473	2.413	.0002

#1	12.44	.4994	1.239	.6163	.6074	2.459	2.419	.0007
#2	12.31	.5055	1.236	.6156	.6098	2.486	2.407	-.0003

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.46	1.251	1.019	1.215	-.0015	12.42	2.419	.0117

#1	12.46	1.246	1.019	1.217	-.0010	12.43	2.419	.0112
#2	12.45	1.255	1.019	1.214	-.0019	12.40	2.419	.0122

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6115	12.61	.00053	2.441	.0018	.0005	1.255	1.251

#1	.6074	12.61	.00061	2.445	.0020	.0006	1.251	1.250
#2	.6156	12.61	.00045	2.437	.0015	.0004	1.259	1.252

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.228	.0031	-.0055

#1	1.230	.0027	-.0062
#2	1.226	.0035	-.0047

Sample Name: KQ1412263-02 Acquired: 10/8/2014 9:45:24 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410444-LCSW

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2473.9	39965.	3666.3
#1	2474.0	39968.	3667.0
#2	2473.8	39962.	3665.6

Sample Name: K1410444-001 Acquired: 10/8/2014 9:47:41 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029	.0022	.0021	.0143	.00001	.0076	.0000	.0002

#1	.0033	.0027	.0027	.0143	-.00007	.0076	.0000	.0002
#2	.0025	.0017	.0015	.0143	.00009	.0076	.0001	.0002

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.91	.0016	-.0002	-.0001	.0009	.0046	.0017	.0141

#1	27.89	.0018	-.0005	-.0001	.0006	.0052	.0029	.0138
#2	27.93	.0015	.0001	.0000	.0011	.0040	.0005	.0143

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.01	.0095	.0028	.0011	.0171	3.585	.0028	9.451

#1	10.99	.0095	.0030	.0009	.0169	3.587	.0046	9.417
#2	11.02	.0095	.0027	.0013	.0172	3.583	.0010	9.485

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	26.99	.12061	-.0024	.0007	.0004	.0223	.0060

#1	-.0002	26.99	.12057	-.0011	.0010	.0005	.0225	.0061
#2	-.0003	27.00	.12066	-.0038	.0004	.0004	.0222	.0058

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0058	-.0010	5.388

#1	.0059	-.0009	5.398
#2	.0058	-.0011	5.378

Sample Name: K1410444-001 Acquired: 10/8/2014 9:47:41 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2453.2	39456.	3664.5
#1	2454.1	39445.	3658.0
#2	2452.3	39468.	3670.9

Sample Name: CCVB Acquired: 10/8/2014 9:50:11 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.286	10.17	-.0013	1.018	10.00	.00007	.0009	.0000
Stddev	.009	.04	.0025	.008	.08	.00007	.0001	.000
%RSD	.1216	.3792	186.8	.8171	.7537	103.72	9.260	114.5
#1	7.280	10.20	-.0031	1.023	10.06	.00012	.0009	-.0001
#2	7.292	10.15	.0004	1.012	9.949	.00002	.0010	.0000

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	10.00	9.796	-.0003	.0002	-.0002	.0004	10.05
Stddev	.0001	.03	.018	.0008	.0002	.0002	.0002	.02
%RSD	100.9	.2857	.1864	298.4	80.35	73.38	43.44	.2455
#1	.0000	10.03	9.783	-.0008	.0001	-.0004	.0003	10.03
#2	-.0001	9.985	9.809	.0003	.0003	-.0001	.0006	10.07

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.9968	9.361	9.818	10.03	.9993	.9970	.0002
Stddev	.0010	.0019	.038	.018	.01	.0007	.0035	.0000
%RSD	94.43	.1869	.4095	.1794	.0653	.0703	.3484	7.429
#1	.0004	.9981	9.388	9.805	10.03	.9988	.9995	.0002
#2	.0018	.9955	9.333	9.830	10.04	.9998	.9945	.0002

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value Range								

Sample Name: CCVB Acquired: 10/8/2014 9:50:11 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	9.970	9.932	.0013	10.08	-.0003	10.03	1.0049
Stddev	.0002	.014	.029	.0009	.03	.0001	.01	.0039
%RSD	199.5	.1379	.2908	71.60	.2605	15.06	.1165	.39020
#1	.0000	9.980	9.953	.0006	10.10	-.0003	10.02	1.0021
#2	.0002	9.960	9.912	.0019	10.06	-.0004	10.04	1.0077

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0014	.0017	.0007	.0010	.0001	.0002	1.021	1.009
Stddev	.0017	.0004	.0000	.0001	.0001	.0000	.004	.002
%RSD	124.2	22.54	3.904	10.89	96.00	4.833	.3434	.2278
#1	-.0026	.0014	.0007	.0010	.0002	.0002	1.019	1.008
#2	-.0002	.0019	.0006	.0011	.0000	.0002	1.024	1.011

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2491.5	40002.	3668.8
Stddev	3.8	7.	18.7
%RSD	.15193	.01736	.50961
#1	2488.8	39997.	3682.0
#2	2494.2	40006.	3655.6

Sample Name: CCVA Acquired: 10/8/2014 9:52:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2524	.2679	.2484	.2565	.2499	.25070	.2550	.2516
Stddev	.0006	.0009	.0009	.0001	.0008	.00079	.0019	.0002
%RSD	.2253	.3491	.3460	.0206	.3182	.31502	.7622	.0628
#1	.2520	.2673	.2478	.2565	.2504	.25014	.2537	.2518
#2	.2528	.2686	.2490	.2566	.2493	.25126	.2564	.2515

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2492	.5113	.5016	.2511	.2499	.2503	.2487	.2532
Stddev	.0006	.0007	.0015	.0002	.0001	.0011	.0020	.0052
%RSD	.2369	.1390	.3048	.0664	.0488	.4283	.8153	2.042
#1	.2497	.5118	.5027	.2510	.2498	.2510	.2473	.2495
#2	.2488	.5108	.5005	.2512	.2500	.2495	.2502	.2569

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2500	-.0004	.2695	.2537	.2530	.2540	.2443	.2502
Stddev	.0007	.0013	.0268	.0012	.0002	.0002	.0017	.0013
%RSD	.2875	312.8	9.953	.4847	.0687	.0752	.6974	.5378
#1	.2495	.0005	.2884	.2546	.2531	.2541	.2455	.2511
#2	.2505	-.0014	.2505	.2528	.2528	.2539	.2431	.2492

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value Range								

Sample Name: CCVA Acquired: 10/8/2014 9:52:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2489	-.0006	2.446	.2573	.1202	.2544	.2620	.00007
Stddev	.0011	.0015	.029	.0016	.0046	.0002	.0046	.00001
%RSD	.4332	239.1	1.173	.6039	3.842	.0946	1.753	10.802
#1	.2497	.0004	2.425	.2584	.1169	.2542	.2588	.00006
#2	.2481	-.0017	2.466	.2562	.1235	.2545	.2653	.00007

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2502	.2471	.2522	.2481	.2512	.2524	-.0009	-.0045
Stddev	.0014	.0014	.0002	.0005	.0002	.0003	.0016	.0029
%RSD	.5787	.5488	.0655	.1988	.0937	.1330	167.3	65.49
#1	.2491	.2481	.2523	.2484	.2514	.2527	-.0020	-.0024
#2	.2512	.2462	.2520	.2477	.2511	.2522	.0002	-.0065

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2517.8	40796.	3679.4
Stddev	.8	168.	18.0
%RSD	.03264	.41226	.48804
#1	2517.3	40678.	3666.7
#2	2518.4	40915.	3692.1

Sample Name: CCB Acquired: 10/8/2014 9:54:56 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0042	.0020	.0016	.0002	.00001	.0014	.0000
Stddev	.0003	.0009	.0022	.0015	.0003	.00012	.0011	.000
%RSD	42.84	22.19	108.3	99.08	173.5	2312.9	77.56	197.9
#1	.0005	.0035	.0036	.0026	.0004	.00009	.0006	-.0001
#2	.0010	.0048	.0005	.0005	.0000	-.00008	.0021	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0091	.0009	-.0006	.0001	-.0002	.0010	.0006
Stddev	.0000	.0098	.0000	.0002	.0002	.0000	.0001	.0005
%RSD	49.08	107.2	5.077	31.69	323.3	4.597	13.71	77.16
#1	.0001	.0022	.0009	-.0004	-.0001	-.0002	.0009	.0003
#2	.0001	.0161	.0010	-.0007	.0002	-.0002	.0011	.0010

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	-.0001	.0061	.0006	.0007	.0000	-.0002	.0004
Stddev	.0026	.0008	.0013	.0000	.0010	.0001	.0004	.0003
%RSD	102.0	714.0	21.40	4.002	156.3	310.9	173.7	68.59
#1	.0044	-.0007	.0052	.0006	-.0001	.0001	-.0005	.0006
#2	.0007	.0005	.0070	.0006	.0014	.0000	.0001	.0002

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 High Limit
 Low Limit

Sample Name: CCB Acquired: 10/8/2014 9:54:56 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0008	-.0145	.0011	-.0067	.0002	.0100	.00010
Stddev	.0003	.0008	.0104	.0010	.0091	.0005	.0048	.00009
%RSD	115.2	101.1	72.29	95.00	136.4	283.5	48.08	99.497
#1	.0000	.0002	-.0218	.0004	-.0131	.0005	.0066	.00003
#2	.0004	.0013	-.0071	.0018	-.0002	-.0002	.0134	.00016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	.0015	.0001	.0001	.0000	.0000	-.0005	-.0082
Stddev	.0005	.0001	.0002	.0006	.0000	.0001	.0016	.0016
%RSD	44.38	5.330	142.9	596.2	95.60	1978.	321.4	19.50
#1	-.0015	.0014	.0003	.0006	.0001	.0001	.0006	-.0071
#2	-.0008	.0015	.0000	-.0003	.0000	-.0001	-.0017	-.0093

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2506.9	40524.	3671.1
Stddev	3.8	93.	20.4
%RSD	.14979	.22956	.55706
#1	2504.3	40458.	3685.5
#2	2509.6	40590.	3656.6

Sample Name: LLCCV Acquired: 10/8/2014 9:57:33 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107	F .0154	.0201	.0106	.0046	.00100	.0224	.0009
Stddev	.0001	.0013	.0006	.0010	.0003	.00011	.0005	.0001
%RSD	1.353	8.471	2.739	9.661	6.334	10.740	2.303	6.067

#1	.0109	.0164	.0197	.0098	.0048	.00092	.0227	.0010
#2	.0106	.0145	.0205	.0113	.0044	.00108	.0220	.0009

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100						
Range		30.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0203	.0213	.0034	.0020	.0041	.0044	.0240
Stddev	.0000	.0054	.0001	.0007	.0003	.0002	.0000	.0059
%RSD	4.262	26.76	.6285	20.45	14.95	4.965	.2282	24.46

#1	.0011	.0165	.0212	.0029	.0022	.0043	.0044	.0282
#2	.0010	.0241	.0214	.0038	.0018	.0040	.0044	.0199

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0121	.0196	-.0040	.0057	.0064	.0011	.0009	.0044
Stddev	.0009	.0004	.0292	.0000	.0015	.0000	.0001	.0008
%RSD	7.231	1.919	728.1	.2537	24.08	.8060	14.26	17.59

#1	.0114	.0193	.0166	.0057	.0075	.0010	.0010	.0038
#2	.0127	.0199	-.0246	.0057	.0053	.0011	.0009	.0049

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLCCV Acquired: 10/8/2014 9:57:33 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043	.0444	.1839	.0214	.2007	.0040	.2049	.00108
Stddev	.0003	.0024	.0228	.0050	.0019	.0006	.0042	.00005
%RSD	7.958	5.304	12.43	23.15	.9270	14.75	2.035	4.6524
#1	.0046	.0460	.2000	.0179	.2020	.0045	.2079	.00105
#2	.0041	.0427	.1677	.0249	.1993	.0036	.2020	.00112

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0087	.0213	.0022	.0042	.0044	.0043	.0219	.0350
Stddev	.0012	.0007	.0001	.0004	.0002	.0000	.0003	.0033
%RSD	13.33	3.402	2.461	8.538	4.426	.2823	1.150	9.559
#1	.0095	.0208	.0022	.0044	.0042	.0043	.0220	.0374
#2	.0078	.0218	.0023	.0039	.0045	.0043	.0217	.0327

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2525.4	40880.	3695.1
Stddev	3.8	97.	1.5
%RSD	.15100	.23830	.04170
#1	2522.7	40949.	3694.0
#2	2528.1	40811.	3696.2

Sample Name: K1410444-001L Acquired: 10/8/2014 10:00:39 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: D Sample Type:
 Comment: EM 100814A DISS 1/5

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	-.0019	-.0025	.0033	.00003	.0021	.0000	.0001

#1	.0015	-.0025	.0001	.0030	.00013	.0001	.0000	.0002
#2	.0018	-.0012	-.0052	.0035	-.00007	.0042	.0000	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.585	-.0002	.0000	-.0004	.0002	.0037	.0008	.0024

#1	5.557	-.0004	.0001	-.0002	.0002	.0023	.0013	.0013
#2	5.613	.0000	.0000	-.0006	.0003	.0050	.0004	.0034

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.192	.0019	.0002	.0005	.0054	.6800	.0022	1.856

#1	2.194	.0019	.0003	.0007	.0053	.6794	.0034	1.860
#2	2.189	.0019	.0002	.0004	.0054	.6805	.0010	1.851

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	5.316	.02391	.0012	.0010	.0002	.0044	.0014

#1	.0005	5.333	.02393	.0023	.0011	.0002	.0043	.0014
#2	.0004	5.300	.02389	.0000	.0009	.0002	.0045	.0014

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0012	-.0005	1.075

#1	.0014	-.0014	1.076
#2	.0011	.0005	1.074

Sample Name: K1410444-001L Acquired: 10/8/2014 10:00:39 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: D Sample Type:
Comment: EM 100814A DISS 1/5

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2512.9	40492.	3676.3
#1	2512.7	40525.	3683.6
#2	2513.1	40459.	3669.0

Sample Name: K1410444-001S Acquired: 10/8/2014 10:03:09 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.812	.5016	1.003	.9925	.04806	.9979	.0484	.0478

#1	1.810	.5028	1.002	.9914	.04810	.9940	.0482	.0479
#2	1.813	.5004	1.003	.9935	.04802	1.002	.0485	.0478

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.39	.2010	.4766	.2364	.2331	.9761	.4684	.0141

#1	37.21	.2017	.4763	.2364	.2327	.9768	.4661	.0150
#2	37.56	.2003	.4768	.2364	.2335	.9754	.4707	.0133

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.48	.4991	1.003	.4709	.0189	13.35	.9297	9.288

#1	20.44	.4994	1.003	.4710	.0194	13.34	.9309	9.285
#2	20.51	.4988	1.004	.4707	.0185	13.36	.9285	9.291

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0508	36.33	.11819	.9219	.0005	.0010	.5219	.4864

#1	.0509	36.27	.11817	.9225	.0016	.0010	.5207	.4863
#2	.0506	36.39	.11821	.9212	-.0005	.0010	.5230	.4864

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4727	.0005	5.267

#1	.4732	.0008	5.267
#2	.4723	.0002	5.266

Sample Name: K1410444-001S Acquired: 10/8/2014 10:03:09 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2439.7	39200.	3643.6
#1	2439.7	39210.	3643.2
#2	2439.7	39189.	3644.0

Sample Name: K1410444-001SD Acquired: 10/8/2014 10:05:29 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.841	.4975	1.027	1.022	.04883	1.017	.0495	.0486

#1	1.844	.4964	1.030	1.025	.04920	1.020	.0496	.0487
#2	1.838	.4986	1.024	1.020	.04846	1.014	.0494	.0486

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.39	.2067	.4868	.2422	.2380	1.008	.4790	.0132

#1	38.43	.2078	.4866	.2422	.2388	1.011	.4822	.0130
#2	38.35	.2055	.4870	.2422	.2372	1.006	.4759	.0133

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.02	.5118	1.027	.4804	.0220	13.77	.9465	9.545

#1	21.03	.5121	1.029	.4803	.0229	13.80	.9482	9.570
#2	21.01	.5115	1.025	.4804	.0211	13.75	.9447	9.520

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0506	37.31	.12149	.9448	.0010	.0007	.5337	.4951

#1	.0510	37.43	.12185	.9441	.0011	.0007	.5341	.4960
#2	.0501	37.20	.12113	.9455	.0010	.0007	.5334	.4942

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4833	.0021	5.371

#1	.4832	.0020	5.369
#2	.4834	.0021	5.374

Sample Name: K1410444-001SD Acquired: 10/8/2014 10:05:29 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2441.3	39143.	3639.6
#1	2438.8	39219.	3636.6
#2	2443.9	39068.	3642.7

Sample Name: K1410444-001A Acquired: 10/8/2014 10:07:47 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS A=0.05/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.905	4.758	2.543	5.014	.12222	.0076	1.229	1.214

#1	4.906	4.762	2.547	5.007	.12297	.0076	1.229	1.214
#2	4.905	4.754	2.539	5.022	.12147	.0076	1.230	1.215

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.81	.5063	1.218	.6061	.5916	2.478	2.363	.0137

#1	39.77	.5051	1.219	.6065	.5947	2.471	2.360	.0151
#2	39.85	.5075	1.217	.6057	.5885	2.486	2.366	.0123

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.11	1.255	.0026	1.195	.0192	16.03	2.379	9.409

#1	23.04	1.252	.0025	1.194	.0186	15.98	2.384	9.369
#2	23.18	1.258	.0028	1.196	.0197	16.08	2.373	9.449

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5930	39.14	.11804	2.363	.0007	.0003	1.285	1.244

#1	.5936	38.93	.11769	2.363	.0011	.0003	1.286	1.243
#2	.5923	39.35	.11839	2.363	.0002	.0003	1.284	1.244

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.209	.0009	5.290

#1	1.211	.0009	5.297
#2	1.208	.0009	5.282

Sample Name: K1410444-001A Acquired: 10/8/2014 10:07:47 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS A=0.05/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2436.7	39135.	3669.0
#1	2439.1	39228.	3657.4
#2	2434.4	39042.	3680.6

Sample Name: K1410444-002 Acquired: 10/8/2014 10:10:03 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	.0055	.0024	.0428	.00014	.0080	.0001	.0001

#1	.0033	.0052	.0024	.0432	.00013	.0073	.0001	.0002
#2	.0029	.0058	.0024	.0424	.00015	.0086	.0000	.0000

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.97	.0020	.0001	.0001	.0003	.0053	.0005	.0153

#1	20.97	.0022	.0002	.0005	.0004	.0068	.0004	.0147
#2	20.96	.0017	.0000	-.0004	.0002	.0038	.0007	.0160

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.739	.0212	.0051	.0014	.0414	2.825	.0045	10.38

#1	8.704	.0212	.0052	.0013	.0442	2.797	.0044	10.31
#2	8.775	.0212	.0051	.0016	.0386	2.853	.0045	10.45

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	58.69	.10963	.0005	.0012	.0005	.0179	.0009

#1	-.0004	58.45	.10945	.0007	.0014	.0003	.0182	.0009
#2	.0000	58.93	.10982	.0004	.0010	.0007	.0176	.0009

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0010	.0004	6.188

#1	.0010	-.0004	6.186
#2	.0010	.0013	6.190

Sample Name: K1410444-002 Acquired: 10/8/2014 10:10:03 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2444.7	39108.	3638.8
#1	2445.7	39162.	3626.9
#2	2443.6	39055.	3650.7

Sample Name: LRA Acquired: 10/8/2014 10:12:31 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A A=0.1/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.881	9.394	4.986	9.927	.24334	-.0008	2.443	2.415

#1	9.874	9.407	4.990	9.838	.24423	.0004	2.440	2.410
#2	9.888	9.382	4.982	10.02	.24245	-.0020	2.446	2.419

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.70	1.001	2.428	1.215	1.171	4.966	4.706	.0001

#1	24.70	1.004	2.425	1.216	1.169	4.984	4.704	.0005
#2	24.71	.9982	2.431	1.214	1.173	4.949	4.708	-.0003

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.50	2.469	.0001	2.385	.0038	24.70	4.797	.0116

#1	24.53	2.466	.0000	2.383	.0031	24.73	4.805	.0041
#2	24.47	2.473	.0003	2.387	.0044	24.67	4.788	.0191

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.184	24.96	.00094	4.715	.0011	.0000	2.504	2.492

#1	1.185	25.02	.00091	4.718	.0008	.0000	2.508	2.490
#2	1.183	24.89	.00098	4.711	.0014	.0000	2.501	2.495

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	2.408	.0054	-.0007

#1	2.407	.0062	.0019
#2	2.409	.0046	-.0034

Sample Name: LRA Acquired: 10/8/2014 10:12:31 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A A=0.1/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2434.9	39272.	3650.4
#1	2435.4	39302.	3650.3
#2	2434.3	39241.	3650.5

Sample Name: KQ1412487-06 Acquired: 10/8/2014 10:14:54 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2 K1410837-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	.0051	-.0009	.0006	-.00010	.0004	.0001	.0001
#1	.0024	.0049	-.0012	.0007	-.00008	-.0010	.0001	.0000
#2	.0027	.0054	-.0006	.0005	-.00012	.0019	.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0079	-.0001	.0000	.0003	.0011	.0016	.0013	.0000
#1	.0083	-.0002	-.0003	.0002	.0008	.0011	.0005	-.0005
#2	.0076	-.0001	.0002	.0003	.0015	.0022	.0021	.0005
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018	.0002	.0003	.0001	.0034	-.0098	.0046	-.0097
#1	.0021	.0002	.0001	.0000	.0028	-.0128	.0035	-.0084
#2	.0015	.0002	.0004	.0002	.0039	-.0069	.0056	-.0110
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	.0022	.00007	-.0005	.0008	.0001	-.0001	.0007
#1	-.0007	.0014	.00008	.0010	.0010	.0001	.0002	.0007
#2	-.0004	.0029	.00005	-.0019	.0007	.0001	-.0004	.0006
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0008	.0019	-.0096					
#1	.0008	.0029	-.0059					
#2	.0009	.0009	-.0132					

Sample Name: KQ1412487-06 Acquired: 10/8/2014 10:14:54 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2 K1410837-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2527.3	41159.	3669.2
#1	2524.1	41018.	3646.7
#2	2530.4	41301.	3691.7

Sample Name: KQ1412487-05 Acquired: 10/8/2014 10:17:20 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2 K1410837-LCSS

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.68	.3989	.5116	1.471	.35581	.6888	.8873	.8745

#1	31.64	.4006	.5095	1.471	.35631	.6882	.8893	.8762
#2	31.71	.3972	.5137	1.472	.35531	.6894	.8853	.8729

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.17	.6825	.6333	.4919	.5200	50.59	.5329	.0336

#1	33.13	.6821	.6344	.4926	.5221	50.55	.5339	.0337
#2	33.21	.6830	.6322	.4913	.5179	50.62	.5319	.0336

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.64	1.583	.7038	.7561	2.260	12.76	.6983	4.071

#1	13.65	1.579	.7049	.7567	2.266	12.79	.7013	4.085
#2	13.64	1.586	.7027	.7555	2.255	12.73	.6954	4.057

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2001	14.46	.48623	.8033	.4824	1.190	.4760	.7487

#1	.1990	14.50	.48629	.8023	.4832	1.185	.4772	.7509
#2	.2013	14.43	.48617	.8042	.4816	1.194	.4747	.7466

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.7576	.0023	1.230

#1	.7581	-.0002	1.228
#2	.7571	.0047	1.233

Sample Name: KQ1412487-05 Acquired: 10/8/2014 10:17:20 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2 K1410837-LCSS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2550.5	41279.	3824.3
#1	2546.9	41402.	3828.1
#2	2554.1	41157.	3820.4

Sample Name: KQ1412487-07 Acquired: 10/8/2014 10:19:39 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2 K1410837-LCSW

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.862	2.093	.4805	.4985	1.021	.04749	.4816	.0492

#1	1.862	2.091	.4797	.4975	1.020	.04749	.4829	.0492
#2	1.861	2.095	.4813	.4996	1.023	.04749	.4802	.0493

Elem	Cd2265	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0483	5.056	.2043	.5028	.2452	.2512	1.017	.4871

#1	.0483	5.040	.2045	.5023	.2450	.2497	1.018	.4860
#2	.0483	5.072	.2042	.5033	.2455	.2527	1.016	.4883

Elem	Li6707	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	5.016	.5096	.5193	.4943	.0014	4.983	.4492

#1	-.0004	5.009	.5107	.5195	.4940	.0022	4.968	.4479
#2	.0009	5.023	.5086	.5191	.4946	.0006	4.999	.4506

Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0031	.0494	5.096	.00035	.4898	2.455	2.585	.5137

#1	-.0110	.0496	5.112	.00035	.4899	2.453	2.587	.5146
#2	.0047	.0492	5.080	.00036	.4896	2.457	2.583	.5129

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.4844	.4724	-.0014	-.0039

#1	.4858	.4718	-.0012	-.0023
#2	.4831	.4730	-.0015	-.0055

Sample Name: KQ1412487-07 Acquired: 10/8/2014 10:19:39 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2 K1410837-LCSW

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2478.4	40469.	3664.6
#1	2474.8	40437.	3678.5
#2	2482.0	40501.	3650.6

Sample Name: K1410837-001 Acquired: 10/8/2014 10:21:55 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.50	-.0006	.0068	.3508	.01906	-.0082	.0002	-.0003
#1	15.49	.0038	.0055	.3523	.01892	-.0074	.0001	-.0002
#2	15.51	-.0051	.0081	.3494	.01921	-.0091	.0002	-.0004
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.84	.0475	.0268	.0943	.1194	60.64	.0447	.0046
#1	15.86	.0477	.0267	.0946	.1196	60.75	.0447	.0032
#2	15.83	.0473	.0269	.0939	.1192	60.54	.0446	.0061
Elem	Mg2795	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.363	9.074	.2827	.0005	.0632	.7879	3.867	-.0007
#1	7.382	9.090	.2824	.0004	.0631	.7902	3.832	-.0003
#2	7.344	9.058	.2830	.0006	.0632	.7855	3.902	-.0012
Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.653	-.0022	.1839	.11069	-.0023	.0033	.6157	.1577
#1	2.672	-.0017	.1929	.11112	-.0014	.0029	.6156	.1580
#2	2.634	-.0027	.1750	.11027	-.0032	.0037	.6159	.1573
Elem	Zn2062	Zn2138	Bi2230	S_1820				
Units	ppm	ppm	ppm	ppm				
Avg	.1041	.1252	-.0060	.3018				
#1	.1045	.1253	-.0072	.2993				
#2	.1036	.1251	-.0048	.3043				

*NR-see 1/10 dilution
 am
 10/8/14*

Sample Name: K1410837-001 Acquired: 10/8/2014 10:21:55 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	3004.6	48787.	4455.6
#1	2997.8	48695.	4451.6
#2	3011.4	48880.	4459.6

NR-see 1/10 dilution

am
10/8/14

Sample Name: CCVB Acquired: 10/8/2014 10:24:22 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.268	10.24	-.0017	1.019	10.02	.00002	.0008	.0000
Stddev	.006	.05	.0029	.001	.01	.00000	.0013	.000
%RSD	.0822	.4757	169.1	.0585	.1182	12.389	163.6	801.0
#1	7.263	10.27	-.0038	1.019	10.01	.00002	-.0001	.0000
#2	7.272	10.20	.0003	1.018	10.03	.00001	.0017	.0000

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	9.950	9.900	-.0008	-.0001	-.0005	.0000	10.03
Stddev	.0001	.013	.013	.0000	.0002	.0002	.0007	.01
%RSD	64.84	.1301	.1349	5.654	265.3	41.34	2603.	.1190
#1	.0001	9.941	9.910	-.0008	.0001	-.0004	.0005	10.04
#2	.0000	9.959	9.891	-.0007	-.0002	-.0007	-.0005	10.02

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	.9939	9.429	9.836	9.953	.9987	.9943	.0002
Stddev	.0019	.0039	.037	.044	.035	.0029	.0043	.0002
%RSD	112.5	.3900	.3942	.4509	.3496	.2881	.4324	131.9
#1	.0031	.9911	9.455	9.867	9.929	1.001	.9913	.0004
#2	.0004	.9966	9.402	9.804	9.978	.9967	.9974	.0000

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value Range								

Sample Name: CCVB Acquired: 10/8/2014 10:24:22 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	9.943	9.904	.0053	10.10	-.0005	9.970	1.0053
Stddev	.0003	.003	.086	.0043	.02	.0004	.005	.0028
%RSD	107.6	.0261	.8680	81.01	.1743	76.60	.0507	.28020
#1	.0005	9.941	9.843	.0023	10.09	-.0002	9.974	1.0073
#2	.0001	9.945	9.965	.0083	10.11	-.0007	9.966	1.0033

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0011	.0017	.0009	.0013	.0005	.0003	1.017	1.009
Stddev	.0005	.0006	.0001	.0005	.0002	.0000	.000	.003
%RSD	42.93	34.95	10.97	37.40	55.28	5.073	.0118	.2464
#1	-.0014	.0013	.0009	.0009	.0003	.0003	1.017	1.007
#2	-.0008	.0021	.0010	.0016	.0006	.0003	1.018	1.011

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2496.5	40153.	3655.6
Stddev	6.0	37.	11.7
%RSD	.23989	.09133	.32048
#1	2500.8	40127.	3647.3
#2	2492.3	40179.	3663.9

Sample Name: CCVA Acquired: 10/8/2014 10:26:53 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2521	.2677	.2515	.2607	.2498	.24850	.2537	.2505
Stddev	.0020	.0024	.0022	.0067	.0003	.00088	.0001	.0005
%RSD	.8008	.8977	.8690	2.583	.1032	.35290	.0337	.2063
#1	.2536	.2660	.2499	.2654	.2500	.24912	.2537	.2509
#2	.2507	.2694	.2530	.2559	.2496	.24788	.2536	.2501

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2477	.5168	.5046	.2488	.2488	.2493	.2479	.2582
Stddev	.0004	.0098	.0023	.0004	.0007	.0020	.0011	.0044
%RSD	.1473	1.897	.4540	.1522	.2978	.8162	.4625	1.702
#1	.2480	.5237	.5030	.2486	.2493	.2507	.2487	.2551
#2	.2475	.5098	.5062	.2491	.2483	.2478	.2470	.2613

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2480	-.0008	.2640	.2557	.2529	.2535	.2456	.2495
Stddev	.0014	.0003	.0137	.0009	.0030	.0006	.0002	.0005
%RSD	.5739	36.91	5.197	.3696	1.180	.2370	.0689	.1954
#1	.2490	-.0006	.2737	.2550	.2508	.2539	.2455	.2498
#2	.2470	-.0010	.2543	.2563	.2550	.2531	.2458	.2491

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value Range								

Sample Name: CCVA Acquired: 10/8/2014 10:26:53 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2483	.0028	2.446	.2542	.1243	.2544	.2520	.00011
Stddev	.0002	.0002	.013	.0011	.0040	.0011	.0068	.00002
%RSD	.0633	6.735	.5464	.4522	3.180	.4335	2.686	17.801
#1	.2484	.0027	2.455	.2534	.1271	.2552	.2472	.00010
#2	.2482	.0029	2.437	.2550	.1215	.2537	.2568	.00013

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2487	.2474	.2517	.2480	.2504	.2530	-.0001	-.0077
Stddev	.0004	.0018	.0001	.0013	.0002	.0004	.0020	.0030
%RSD	.1587	.7103	.0494	.5098	.0775	.1761	1593.	38.52
#1	.2484	.2486	.2516	.2489	.2506	.2533	-.0015	-.0056
#2	.2490	.2461	.2517	.2471	.2503	.2527	.0013	-.0098

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2530.5	40862.	3686.0
Stddev	.2	51.	7.5
%RSD	.00596	.12415	.20423
#1	2530.4	40826.	3680.7
#2	2530.6	40898.	3691.3

Sample Name: CCB Acquired: 10/8/2014 10:29:07 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0009	.0008	-.0024	.0003	.00006	.0016	.0000
Stddev	.0003	.0021	.0049	.0019	.0001	.00003	.0002	.0000
%RSD	51.46	249.7	607.4	78.90	28.72	53.369	15.19	49.09
#1	.0003	.0024	-.0026	-.0038	.0003	.00004	.0014	.0000
#2	.0007	-.0007	.0043	-.0011	.0004	.00009	.0018	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0016	.0010	-.0005	.0001	-.0001	.0004	.0019
Stddev	.0000	.0039	.0000	.0002	.0002	.0001	.0012	.0025
%RSD	83.53	234.7	.1533	44.74	117.4	41.54	283.4	130.5
#1	.0000	-.0011	.0010	-.0003	.0000	-.0001	.0012	.0036
#2	.0001	.0044	.0010	-.0006	.0002	-.0002	-.0004	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-.0007	-.0049	.0007	-.0013	.0000	-.0001	.0001
Stddev	.0012	.0004	.0031	.0000	.0013	.0001	.0001	.0004
%RSD	157.4	60.89	63.98	5.750	105.1	862.3	61.05	261.4
#1	.0017	-.0004	-.0071	.0007	-.0003	.0001	-.0002	.0004
#2	-.0001	-.0010	-.0027	.0007	-.0022	.0000	-.0001	-.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass

High Limit
 Low Limit

Sample Name: CCB Acquired: 10/8/2014 10:29:07 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0044	-.0213	.0041	-.0088	.0004	.0011	.00002
Stddev	.0001	.0036	.0400	.0016	.0061	.0005	.0007	.00015
%RSD	120.9	83.42	188.1	39.91	69.11	145.0	58.07	738.09
#1	.0000	.0069	.0070	.0052	-.0131	.0007	.0007	-.00009
#2	.0001	.0018	-.0495	.0029	-.0045	.0000	.0016	.00013

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0004	.0002	.0001	.0000	.0000	-.0011	-.0062
Stddev	.0010	.0007	.0001	.0005	.000	.0001	.0022	.0020
%RSD	84.98	178.3	40.32	894.5	780.9	217.0	202.6	31.71
#1	.0005	-.0001	.0003	.0004	.0001	.0000	.0005	-.0048
#2	.0019	.0009	.0002	-.0003	-.0002	.0001	-.0027	-.0076

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2528.8	40875.	3678.0
Stddev	3.9	145.	9.0
%RSD	.15440	.35492	.24480
#1	2531.6	40978.	3671.7
#2	2526.1	40773.	3684.4

Sample Name: LLCCV Acquired: 10/8/2014 10:31:41 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107	F .0131	.0201	.0115	.0042	.00093	.0219	.0010
Stddev	.0002	.0009	.0017	.0019	.0002	.00011	.0017	.0000
%RSD	1.924	6.628	8.274	16.32	4.987	11.421	7.829	4.483
#1	.0108	.0137	.0189	.0101	.0041	.00085	.0207	.0010
#2	.0105	.0125	.0213	.0128	.0044	.00100	.0231	.0011

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100						
Range		30.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	F .0284	.0212	.0039	.0022	.0035	.0048	.0248
Stddev	.0000	.0055	.0000	.0005	.0002	.0003	.0005	.0003
%RSD	1.662	19.46	.1093	12.91	8.340	7.522	10.51	1.186
#1	.0012	.0245	.0212	.0042	.0021	.0033	.0051	.0250
#2	.0012	.0323	.0212	.0035	.0024	.0036	.0044	.0246

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0200						
Range		30.00%						

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0105	.0195	-.0113	.0055	.0047	.0010	.0010	.0042
Stddev	.0008	.0008	.0037	.0000	.0023	.0000	.0003	.0002
%RSD	8.058	4.272	32.80	.7938	49.24	2.627	26.43	3.909
#1	.0099	.0189	-.0087	.0055	.0064	.0010	.0008	.0041
#2	.0111	.0201	-.0139	.0055	.0031	.0010	.0012	.0043

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLCCV Acquired: 10/8/2014 10:31:41 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043	.0412	.1612	.0175	.1968	.0039	.2044	.00101
Stddev	.0001	.0027	.0011	.0011	.0016	.0009	.0059	.00011
%RSD	2.300	6.575	.7059	6.023	.7894	23.96	2.878	10.840
#1	.0044	.0393	.1604	.0182	.1979	.0046	.2003	.00109
#2	.0042	.0431	.1620	.0167	.1957	.0033	.2086	.00094

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0099	.0213	.0024	.0046	.0041	.0043	.0224	.0307
Stddev	.0016	.0004	.0002	.0001	.0000	.0000	.0006	.0008
%RSD	16.00	1.707	8.703	1.275	.9066	.0872	2.684	2.670
#1	.0110	.0215	.0025	.0046	.0041	.0043	.0228	.0301
#2	.0087	.0210	.0022	.0045	.0041	.0043	.0220	.0312

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2535.3	41066.	3704.8
Stddev	3.2	134.	8.6
%RSD	.12730	.32580	.23079
#1	2537.6	41160.	3698.7
#2	2533.0	40971.	3710.8



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October 14, 2014

Analytical Report for Service Request No: K1410444

Keir Craigie
Tetra Tech, Inc.
19803 North Creek Parkway
Bothell, WA 98011

RE: JBLM-YTC/194-8468

Dear Keir:

Enclosed are the results of the samples submitted to our laboratory on September 25, 2014. For your reference, these analyses have been assigned our service request number K1410444.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at Gregory.Salata@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Gregory Salata, Ph.D.
Client Services Manager

GS/aj

Page 1 of 256



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Acronyms

Qualifiers

State Certifications, Accreditations, And Licenses

Case Narrative

Chain Of Custody

General Chemistry Parameters

Dissolved Metals

Raw Data

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
 - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses**

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjllabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/ 194-8468
Sample Matrix: Water

Service Request No.: K1410444
Date Received: 09/25/14

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at ALS Environmental on 09/25/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Nitrite and Nitrate as Nitrogen by EPA Method 300.0:

Sample MW-4 and MW-6 were received with insufficient holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

Carbon, Total Organic by Method 9060:

The Relative Percent Difference (RPD) criterion for the replicate analysis in sample MW-6 was not applicable because the concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Dissolved Metals

No anomalies associated with the analysis of these samples were observed.

Approved by _____





Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



52879

CHAIN OF CUSTODY
52879

001

SR# 6740444
COC Set _____ of _____
COC# _____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

Project Name <u>JBLM-4TC</u>		Project Number <u>144-8408</u>		6H		48H		7D		14D		28D		180D		Remarks
Project Manager <u>Mark Ingersoll</u>		Company <u>Tetra Tech</u>		300.0 / NO2		300.0 / NO3		300.0 / NO3 Dies		SM 5210 B / BOD 5 Day		8270D / PAH SIM		8270D / SVO		
Address <u>1803 North Creek Parkway, Bethel</u>		Phone # <u>408.270.6331</u> email <u>mark.ingersoll@tetratech.com</u>		SM 9221 B / Tot. Coli MT		SM 5210 B / BOD 5 Day		8270D / PAH SIM		8270D / SVO		8330B / Nitrate+NO3+NO2		SM 2540 C / TDS		
Sampler Signature <u>Dana Ramquist</u>		Sampler Printed Name <u>Dana Ramquist</u>		SM 9221 B / Tot. Coli MT		SM 5210 B / BOD 5 Day		8270D / PAH SIM		8270D / SVO		8330B / Nitrate+NO3+NO2		SM 2540 C / TDS		
CLIENT SAMPLE ID	LABID	SAMPLING Date Time		Matrix												
1. <u>MW-4</u>		<u>9/23/14/0930</u>		<u>W</u>	<u>4</u>											
2. <u>MW-6</u>		<u>9/23/14/0955</u>		<u>W</u>	<u>4</u>											
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank, Surrogate, as required <input type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: _____ _____ _____	Circle which metals are to be analyzed Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg
	Turnaround Requirements <input type="checkbox"/> 24 hr. _____ 48 hr. <input type="checkbox"/> 5 Day _____ <input checked="" type="checkbox"/> Standard	Special Instructions/Comments: <u>Filter Metals</u> Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One) <u>1 cooler</u>

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <u>Dana Ramquist</u>	Signature <u>Les Kennedy</u>	Signature	Signature	Signature	Signature
Printed Name <u>Dana Ramquist</u>	Printed Name <u>Les Kennedy</u>	Printed Name	Printed Name	Printed Name	Printed Name
Firm <u>Tetra Tech</u>	Firm <u>ALS</u>	Firm	Firm	Firm	Firm
Date/Time <u>9/24/14 1200</u>	Date/Time <u>9/25/14 1000</u>	Date/Time	Date/Time	Date/Time	Date/Time



Cooler Receipt and Preservation Form

Client / Project: Tetra Tech Service Request K14 10444

Received: 9/25/14 Opened: 9/25/14 By: UU Unloaded: 9/25/14 By: UU

- 1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
- 2. Samples were received in: (circle) Cooler Box Envelope Other _____ NA
- 3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 front
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number		NA	Filed
0.6	0.6	0.9	0.9	0	276	52879	9708	5357	6152	
0.5	0.7	4.5	4.7	+0.2	308	↓	9708	5357	6141	NA 9/25/14
2.8	2.6	5.7	5.5	0.2	336		9708	5357	6130	uu

- 4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves _____
- 5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- 6. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Y N
- 7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- 8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
- 9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- 10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below. NA Y N
- 11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
- 12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Out of	Head-	Broke	pH	Reagent	Volume	Reagent Lot	Initials	Time
	Bottle Type	Temp	space				added	Number		

Notes, Discrepancies, & Resolutions: Received 2 VOA vials labeled TVR-7 that is not listed on the COC FA 9/25/14



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Chloride, Dissolved

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	4.62	0.40	0.06	0.06	2	09/25/14 19:15	9/25/14	
MW-6	K1410444-002	5.98	0.40	0.06	0.06	2	09/25/14 19:29	9/25/14	
Method Blank	K1410444-MB	ND U	0.20	0.03	0.03	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/25/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1411992-03

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1411992-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Chloride, Dissolved	300.0	0.40	0.06	0.06	4.41	4.41	4.41	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Chloride, Dissolved

Sample Name: Batch QC
Lab Code: KQ1411992-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411992-03MS		Duplicate Matrix Spike KQ1411992-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Chloride, Dissolved	4.41	13.6	10.0	92	13.6	10.0	92	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Chloride, Dissolved

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	4.92	5.00	98	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Chloride, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	5.00	4.88	98	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	5.00	4.87	97	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	5.00	4.85	97	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	5.00	4.87	97	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	5.00	4.85	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Chloride, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.20	0.03	0.03	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.20	0.03	0.03	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.20	0.03	0.03	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.20	0.03	0.03	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.20	0.03	0.03	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Nitrite as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	ND U	0.10	0.006	0.004	2	09/25/14 19:15	9/25/14	*
MW-6	K1410444-002	ND U	0.10	0.006	0.004	2	09/25/14 19:29	9/25/14	*
Method Blank	K1410444-MB	ND U	0.050	0.003	0.002	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/25/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC **Units:** mg/L
Lab Code: KQ1411991-03 **Basis:** NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1411991-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Nitrite as Nitrogen	300.0	0.10	0.006	0.004	ND	ND	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Nitrite as Nitrogen

Sample Name: Batch QC
Lab Code: KQ1411991-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411991-03MS		Duplicate Matrix Spike KQ1411991-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrite as Nitrogen	ND U	10.3	10.0	103	10.4	10.0	104	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Nitrite as Nitrogen

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	2.42	2.50	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Nitrite as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	2.50	2.41	97	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	2.50	2.40	96	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	2.50	2.41	96	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	2.50	2.42	97	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	2.50	2.40	96	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Nitrite as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.050	0.003	0.002	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.050	0.003	0.002	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.050	0.003	0.002	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.050	0.003	0.002	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.050	0.003	0.002	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Nitrate as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	1.87	0.10	0.04	0.01	2	09/25/14 19:15	9/25/14	*
MW-6	K1410444-002	1.35	0.10	0.04	0.01	2	09/25/14 19:29	9/25/14	*
Method Blank	K1410444-MB	ND U	0.050	0.020	0.005	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: NA
Date Received: NA
Units: mg/L
Basis: NA

Replicate Sample Summary
Nitrate as Nitrogen

Sample Name:	Lab Code:	LOQ	LOD	MDL	Sample Duplicate		Average	RPD	RPD Limit	Date Analyzed
					Result	Result				
Batch QC	K1410335-004DUP	0.10	0.04	0.01	0.15	0.15	0.151	<1	20	09/25/14
Batch QC	KQ1411991-03DUP	0.10	0.04	0.01	0.26	0.25	0.254	1	20	09/25/14

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Nitrate as Nitrogen

Sample Name: Batch QC
Lab Code: K1410335-004
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1410335-004MS		Duplicate Matrix Spike K1410335-004DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrate as Nitrogen	0.15	9.43	10.0	93	9.47	10.0	93	90-110	<1	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Nitrate as Nitrogen

Sample Name: Batch QC
Lab Code: KQ1411991-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411991-03MS		Duplicate Matrix Spike KQ1411991-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrate as Nitrogen	0.26	9.52	10.0	93	9.61	10.0	94	90-110	<1	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Nitrate as Nitrogen

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	2.37	2.50	95	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Nitrate as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	2.50	2.37	95	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	2.50	2.36	95	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	2.50	2.36	94	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	2.50	2.37	95	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	2.50	2.35	94	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Nitrate as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.050	0.020	0.005	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.050	0.020	0.005	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.050	0.020	0.005	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.050	0.020	0.005	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.050	0.020	0.005	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Sulfate, Dissolved

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	16.6	0.40	0.04	0.02	2	09/25/14 19:15	9/25/14	
MW-6	K1410444-002	18.1	1.0	0.1	0.05	5	09/25/14 19:01	9/25/14	
Method Blank	K1410444-MB	ND U	0.20	0.02	0.01	1	09/25/14 09:58	9/25/14	

ALS Group USA, Corp.

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QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/25/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC **Units:** mg/L
Lab Code: KQ1411992-03 **Basis:** NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1411992-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Sulfate, Dissolved	300.0	0.40	0.04	0.02	7.01	6.89	6.95	2	20

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ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Duplicate Matrix Spike Summary
Sulfate, Dissolved

Sample Name: Batch QC
Lab Code: KQ1411992-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1411992-03MS		Duplicate Matrix Spike KQ1411992-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Sulfate, Dissolved	7.01	16.3	10.0	93	16.3	10.0	93	90-110	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/25/14
Date Extracted: 09/25/14

Lab Control Sample Summary
Sulfate, Dissolved

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 413402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	4.87	5.00	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Sulfate, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413402	KQ1411998-01	09/25/14 09:30	5.00	4.88	98	90-110
CCV2	413402	KQ1411998-02	09/25/14 12:20	5.00	4.85	97	90-110
CCV3	413402	KQ1411998-03	09/25/14 15:24	5.00	4.83	97	90-110
CCV4	413402	KQ1411998-04	09/25/14 18:16	5.00	4.87	97	90-110
CCV5	413402	KQ1411998-05	09/25/14 19:58	5.00	4.85	97	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Sulfate, Dissolved

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413402	KQ1411998-06	09/25/14 09:44	0.20	0.02	0.01	ND	U
CCB2	413402	KQ1411998-07	09/25/14 12:34	0.20	0.02	0.01	ND	U
CCB3	413402	KQ1411998-08	09/25/14 15:39	0.20	0.02	0.01	ND	U
CCB4	413402	KQ1411998-09	09/25/14 18:31	0.20	0.02	0.01	ND	U
CCB5	413402	KQ1411998-10	09/25/14 20:12	0.20	0.02	0.01	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 353.2
Prep Method: Method

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-4	K1410444-001	2.10	0.10	0.04	0.04	2	10/01/14 06:37	10/1/14	
MW-6	K1410444-002	1.77	0.050	0.020	0.020	1	10/01/14 06:37	10/1/14	
Method Blank	K1410444-MB	ND U	0.050	0.020	0.020	1	10/01/14 06:37	10/1/14	

ALS Group USA, Corp.

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QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 10/01/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-4
Lab Code: K1410444-001

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1410444-001DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Nitrate+Nitrite as Nitrogen	353.2	0.10	0.04	0.04	2.10	2.10	2.10	<1	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 10/1/14
Date Extracted: 10/1/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name: MW-4
Lab Code: K1410444-001
Analysis Method: 353.2
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike K1410444-001MS			Duplicate Matrix Spike K1410444-001DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Nitrate+Nitrite as Nitrogen	2.10	7.15	5.00	101	7.15	5.00	101	89-114	<1	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 10/01/14
Date Extracted: 10/01/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 414117

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	3.56	3.52	101	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	414117	KQ1412202-01	10/01/14 06:37	1.00	0.979	98	90-110
CCV2	414117	KQ1412202-02	10/01/14 06:37	1.00	0.970	97	90-110
CCV3	414117	KQ1412202-03	10/01/14 06:37	1.00	0.952	95	90-110
CCV4	414117	KQ1412202-04	10/01/14 06:37	1.00	0.974	97	90-110
CCV5	414117	KQ1412202-05	10/01/14 06:37	1.00	0.980	98	90-110
CCV6	414117	KQ1412202-06	10/01/14 06:37	1.00	0.981	98	90-110
CCV7	414117	KQ1412202-07	10/01/14 06:37	1.00	0.985	99	90-110
CCV8	414117	KQ1412202-08	10/01/14 06:37	1.00	0.986	99	90-110
CCV9	414117	KQ1412202-09	10/01/14 06:37	1.00	0.991	99	90-110
CCV10	414117	KQ1412202-10	10/01/14 06:37	1.00	0.987	99	90-110
CCV11	414117	KQ1412202-11	10/01/14 06:37	1.00	0.906	91	90-110
CCV12	414117	KQ1412202-12	10/01/14 06:37	1.00	0.957	96	90-110
CCV13	414117	KQ1412202-13	10/01/14 06:37	1.00	0.970	97	90-110
CCV14	414117	KQ1412202-14	10/01/14 06:37	1.00	1.02	102	90-110
CCV15	414117	KQ1412202-15	10/01/14 06:37	1.00	1.02	102	90-110
CCV16	414117	KQ1412202-16	10/01/14 06:37	1.00	0.955	96	90-110
CCV17	414117	KQ1412202-17	10/01/14 06:37	1.00	1.01	101	90-110
CCV18	414117	KQ1412202-35	10/01/14 06:37	1.00	1.06	106	90-110
CCV19	414117	KQ1412202-36	10/01/14 06:37	1.00	1.04	104	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request:K1410444

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units:mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	414117	KQ1412202-18	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB2	414117	KQ1412202-19	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB3	414117	KQ1412202-20	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB4	414117	KQ1412202-21	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB5	414117	KQ1412202-22	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB6	414117	KQ1412202-23	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB7	414117	KQ1412202-24	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB8	414117	KQ1412202-25	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB9	414117	KQ1412202-26	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB10	414117	KQ1412202-27	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB11	414117	KQ1412202-28	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB12	414117	KQ1412202-29	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB13	414117	KQ1412202-30	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB14	414117	KQ1412202-31	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB15	414117	KQ1412202-32	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB16	414117	KQ1412202-33	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB17	414117	KQ1412202-34	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB18	414117	KQ1412202-37	10/01/14 06:37	0.050	0.020	0.020	ND	U
CCB19	414117	KQ1412202-38	10/01/14 06:37	0.050	0.020	0.020	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: 9060
Prep Method: None

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-4	K1410444-001	0.58	0.50	0.20	0.07	1	09/26/14 19:53	
MW-6	K1410444-002	0.66	0.50	0.20	0.07	1	09/26/14 19:53	
Method Blank	K1410444-MB	0.18 J	0.50	0.20	0.07	1	09/26/14 19:53	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated

Project: JBLM-YTC/194-8468

Sample Matrix: Water

Analysis Method: 9060

Prep Method: None

Service Request: K1410444

Date Collected: 09/23/14

Date Received: 09/25/14

Units: mg/L

Basis: NA

Replicate Sample Summary

Carbon, Total Organic

Sample Name:	Lab Code:	LOQ	LOD	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
MW-4	K1410444-001DUP	0.50	0.20	0.07	0.58	0.48 J	0.527	19	20	09/26/14
MW-6	K1410444-002DUP	0.50	0.20	0.07	0.66	0.46 J	0.560	37 *	20	09/26/14

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 09/26/14
Date Extracted: NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name: MW-4
Lab Code: K1410444-001
Analysis Method: 9060
Prep Method: None

Units: mg/L
Basis: NA

Matrix Spike
K1410444-001MS

<u>Analyte Name</u>	<u>Sample Result</u>	<u>Result</u>	<u>Spike Amount</u>	<u>% Rec</u>	<u>% Rec Limits</u>
Carbon, Total Organic	0.58	26.4	25.0	103	83-117

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/26/14
Date Extracted: NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method: 9060
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 413468

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	17.8	18.1	98	83-117

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: 9060

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413468	KQ1412021-27	09/26/14 19:53	25.0	24.5	98	90-110
CCV2	413468	KQ1412021-28	09/26/14 19:53	25.0	24.9	100	90-110
CCV3	413468	KQ1412021-29	09/26/14 19:53	25.0	24.6	98	90-110
CCV4	413468	KQ1412021-30	09/26/14 19:53	25.0	24.7	99	90-110

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468

Service Request: K1410444

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: 9060

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	413468	KQ1412021-31	09/26/14 19:53	0.50	0.20	0.07	0.08	J
CCB2	413468	KQ1412021-32	09/26/14 19:53	0.50	0.20	0.07	0.14	J
CCB3	413468	KQ1412021-33	09/26/14 19:53	0.50	0.20	0.07	ND	U
CCB4	413468	KQ1412021-34	09/26/14 19:53	0.50	0.20	0.07	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: SM 2320 B
Prep Method: None

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Alkalinity, Dissolved as CaCO3

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-4	K1410444-001	151	15	6	3	1	09/30/14 19:41	
MW-6	K1410444-002	189	15	6	3	1	09/30/14 19:41	
Method Blank	K1410444-MB	6 J	15	6	3	1	09/30/14 19:41	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: NA
Date Received: NA
Date Analyzed: 09/30/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1412178-06

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1412178-06DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Alkalinity, Dissolved as CaCO3	SM 2320 B	15	6	3	74	75	74.6	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/30/14
Date Extracted: NA

Lab Control Sample Summary
Alkalinity, Dissolved as CaCO3

Analysis Method: SM 2320 B
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 413986

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	173	164	105	90-110

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water
Analysis Method: SM 2540 C
Prep Method: None

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Units: mg/L
Basis: NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-4	K1410444-001	204	10	-	-	1	09/27/14 11:44	
MW-6	K1410444-002	232	10	-	-	1	09/27/14 11:44	
Method Blank	K1410444-MB	ND U	5.0	-	-	1	09/27/14 11:44	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Collected: 09/23/14
Date Received: 09/25/14
Date Analyzed: 09/27/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-6
Lab Code: K1410444-002

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	Duplicate Sample K1410444- 002DUP Result	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Solids, Total Dissolved	SM 2540 C	10	-	-	232	220	226	5	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: JBLM-YTC/194-8468
Sample Matrix: Water

Service Request: K1410444
Date Analyzed: 09/27/14
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Dissolved

Analysis Method: SM 2540 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 413791

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410444-LCS	884	886	100	85-115



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	2500	2381	95	250	248	99	248	99	200.7
Arsenic	2500	2502	100	1000	1018	102	1018	102	200.7
Barium	5000	5000	100	10000	10050	100	10000	100	200.7
Beryllium	125	124	99	250	250	100	251	100	200.7
Cadmium	1250	1232	99	250	249	100	249	100	200.7
Chromium	500	502	100	250	252	101	251	100	200.7
Cobalt	1250	1229	98	250	250	100	250	100	200.7
Copper	625	603	96	250	250	100	249	100	200.7
Lead	2500	2401	96	250	250	100	250	100	200.7
Nickel	1250	1218	97	250	250	100	249	100	200.7
Selenium	2500	2431	97	250	256	102	257	103	200.7
Silver	625	601	96	250	255	102	254	102	200.7
Thallium	2500	2427	97	250	252	101	250	100	200.7
Vanadium	1250	1261	101	250	249	100	248	99	200.7
Zinc	1250	1255	100	250	253	101	251	100	200.7

Metals
 - 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				250	252	101			200.7
Arsenic				1000	1019	102			200.7
Barium				10000	10020	100			200.7
Beryllium				250	249	100			200.7
Cadmium				250	248	99			200.7
Chromium				250	249	100			200.7
Cobalt				250	249	100			200.7
Copper				250	248	99			200.7
Lead				250	248	99			200.7
Nickel				250	248	99			200.7
Selenium				250	254	102			200.7
Silver				250	254	102			200.7
Thallium				250	249	100			200.7
Vanadium				250	248	99			200.7
Zinc				250	250	100			200.7

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

SDG No.: K1410444

Contract: 194-8468

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV									
	Antimony	21.7	20.0	108	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Arsenic	10.5	10.0	105	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Barium	4.6	4.0	115	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Beryllium	1.14	1.0	114	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Cadmium	1.10	1.0	110	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Chromium	3.6	4.0	90	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Cobalt	2.20	2.0	110	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Copper	4.90	4.0	122	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Lead	11.4	10.0	114	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Nickel	4.2	4.0	105	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Silver	4.5	4.0	112	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Thallium	10.2	10.0	102	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Vanadium	3.7	4.0	92	70.0 - 130.0	P	10/08/14	08:51	100814AICP
	Zinc	4.2	4.0	105	70.0 - 130.0	P	10/08/14	08:51	100814AICP
LLICV									
	Selenium	21.8	20.0	109	70.0 - 130.0	P	10/08/14	08:53	100814AICP
LLCCV									
	Antimony	20	20	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Arsenic	11	10	110	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Barium	5	4	125	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Beryllium	1	1	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Cadmium	1	1	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Chromium	3	4	75	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Cobalt	2	2	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Copper	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Lead	12	10	120	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Nickel	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Selenium	21	20	105	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Silver	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Thallium	9	10	90	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Vanadium	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP
	Zinc	4	4	100	70.0 - 130.0	P	10/08/14	09:57	100814AICP

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

SDG No.: K1410444

Contract: 194-8468

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV									
	Antimony	20	20	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Arsenic	12	10	120	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Barium	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Beryllium	1	1	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Cadmium	1	1	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Chromium	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Cobalt	2	2	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Copper	5	4	125	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Lead	11	10	110	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Nickel	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Selenium	18	20	90	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Silver	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Thallium	10	10	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Vanadium	5	4	125	70.0 - 130.0	P	10/08/14	10:31	100814AICP
	Zinc	4	4	100	70.0 - 130.0	P	10/08/14	10:31	100814AICP

Metals

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BLANKS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Antimony	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Arsenic	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Barium	0.6	U	0.6	U	0.6	U	0.6	U	200.7
Beryllium	0.20	U	0.20	U	0.20	U	0.20	U	200.7
Cadmium	0.5	U	0.5	U	0.5	U	0.5	U	200.7
Chromium	0.6	U	-0.7	J	-0.6	J	0.6	U	200.7
Cobalt	0.5	U	0.5	U	0.5	U	0.5	U	200.7
Copper	0.9	U	0.9	U	1.0	J	0.9	U	200.7
Lead	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Nickel	0.4	U	0.4	U	0.4	U	0.4	U	200.7
Selenium	5.1	J	4.0	U	4.0	U	4.1	J	200.7
Silver	0.6	U	0.7	J	0.6	U	0.6	U	200.7
Thallium	3.0	U	3.0	U	3.0	U	3.0	U	200.7
Vanadium	0.5	U	0.5	J	0.5	U	0.5	U	200.7
Zinc	0.4	U	0.4	U	0.4	U	0.4	U	200.7

Metals

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ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0	1000.0	-1.3	855.5	86			
Arsenic	0.0		-0.5	-5.6				
Barium	0.0	500.0	0.9	515.7	103			
Beryllium	0.0	500.0	-0.4	463.7	93			
Cadmium	0.0	1000.0	-0.2	903.5	90			
Chromium	0.0	500.0	2.3	502.4	100			
Cobalt	0.0	500.0	-1.9	452.2	90			
Copper	0.0	500.0	-1.8	451.4	90			
Lead	0.0	1000.0	3.0	873.5	87			
Nickel	0.0	1000.0	3.7	886.9	89			
Selenium	0.0		-17.7	-3.7				
Silver	0.0	1000.0	-1.4	915.4	92			
Thallium	0.0		-10.6	-12.2				
Vanadium	0.0	500.0	1.6	518.1	104			
Zinc	0.0	1000.0	2.0	907.7	91			

Metals

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LABORATORY CONTROL SAMPLE

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Antimony	2500	2370	94.8					
Arsenic	2500	2530	101.2					
Barium	5000	5040	100.8					
Beryllium	125	123	98.4					
Cadmium	1250	1230	98.4					
Chromium	500	502	100.4					
Cobalt	1250	1240	99.2					
Copper	625	609	97.4					
Lead	2500	2410	96.4					
Nickel	1250	1220	97.6					
Selenium	2500	2420	96.8					
Silver	625	612	97.9					
Thallium	2500	2440	97.6					
Vanadium	1250	1260	100.8					
Zinc	1250	1250	100.0					

Metals

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ICP SERIAL DILUTIONS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Units: UG/L

Project Name: JBLM-YTC

Sample Name: MW-4L

Lab Code: K1410444-001DISSL

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Difference	Q	M
		C		C			
Antimony	20.0	U	25.0	U			P
Arsenic	10.0	U	25.0	U			P
Barium	14.3		16.5	J	15.4		P
Beryllium	1.0	U	1.0	U			P
Cadmium	1.0	U	2.5	U			P
Chromium	1.6	J	3.0	U	100.0		P
Cobalt	2.0	U	2.5	U			P
Copper	0.9	J	4.5	U	100.0		P
Lead	10.0	U	25.0	U			P
Nickel	1.1	J	2.5	J	127.3		P
Selenium	20.0	U	20.0	U			P
Silver	4.0	U	3.0	U			P
Thallium	10.0	U	15.0	U			P
Vanadium	22.3		22.0		1.3		P
Zinc	6.0		7.0	J	16.7		P

Metals

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DETECTION LIMITS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP/ICP-MS ID #: K-ICP-AES-04

GFAA ID #:

AA ID #:

Analyte	Wave-length (nm)	Back-ground	LOQ ug/L	LOD ug/L	MDL ug/L	M
Antimony	206.8		20	20.0	5.0	P
Arsenic	189.0		10	10.0	5.0	P
Barium	455.4		4.0	2.0	0.6	P
Beryllium	234.8		1.0	1.00	0.20	P
Cadmium	226.5		1.0	1.0	0.5	P
Chromium	267.7		4.0	2.0	0.6	P
Cobalt	230.7		4.0	2.0	0.5	P
Copper	327.3		4.0	4.0	0.9	P
Lead	220.3		10	10.0	5.0	P
Nickel	221.6		4.0	2.0	0.4	P
Selenium	196.0		20	20.0	4.0	P
Silver	328.1		4.0	4.0	0.6	P
Thallium	190.8		10	10.0	3.0	P
Vanadium	292.4		4.0	2.0	0.5	P
Zinc	206.2		4.0	2.0	0.4	P

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	B
Aluminum	394.401	0.000000	0.0001070	0.000000	0.000000	0.000000
Antimony	217.581	0.000000	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	0.000000	-0.0000640	0.000000	0.0000410
Barium	455.403	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	234.861	0.000000	0.000000	0.0000140	0.000000	0.000000
Boron	249.678	0.000000	0.000000	-0.0006690	0.000000	0.000000
Cadmium	226.502	0.000000	0.000000	0.0001460	0.000000	0.000000
Calcium	393.366	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.616	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	327.396	0.000000	0.0000200	0.000000	0.000000	0.000000
Iron	259.94	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.353	-0.0000900	0.000000	0.000000	0.000000	0.000000
Lithium	670.784	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	285.213	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	260.569	0.000000	-0.0000050	0.0000100	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	0.0000260	0.000000	0.000000
Phosphorus	214.914	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.491	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.0	0.000000	0.000000	-0.0001640	0.000000	-0.0000370
Silicon	251.611	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	-0.0000090
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Strontium	407.771	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.856	0.000000	0.000000	0.000000	0.000000	0.000000
Tin	189.989	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	336.121	0.000000	0.0000130	0.000000	0.000000	0.000000
Vanadium	292.402	0.000000	0.000000	0.000000	0.000000	0.000000

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ba	Cd	Co	Cr	Cu
Aluminum	394.401	0.000000	0.000000	-0.0001860	0.0004130	0.000000
Antimony	217.581	0.000000	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	0.000000	0.000000	0.0004520	0.000000
Barium	455.403	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	234.861	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.678	0.000000	0.000000	0.0038080	0.0002890	0.000000
Cadmium	226.502	0.000000	0.000000	-0.0000280	0.0000230	0.000000
Calcium	393.366	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	-0.0001770	0.000000	0.000000	0.000000
Cobalt	228.616	0.000000	0.000000	0.000000	-0.0005250	0.000000
Copper	327.396	0.000000	0.000000	0.0002800	0.000000	0.000000
Iron	259.94	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.353	0.000000	0.000000	0.000000	0.000000	0.0044710
Lithium	670.784	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	285.213	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	260.569	0.000000	-0.0000420	0.0007060	-0.0001240	-0.0000120
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	-0.0001750	0.000000	0.000000
Phosphorus	214.914	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.491	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.0	0.000000	0.000000	0.000000	0.000000	0.000000
Silicon	251.611	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Strontium	407.771	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.856	0.000000	0.000000	0.0014230	0.0003810	0.000000
Tin	189.989	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	336.121	0.000000	0.000000	0.0000280	0.000000	0.000000
Vanadium	292.402	0.000000	0.000000	0.000000	-0.0063260	-0.0000590

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0010860
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Mn	Mo	Ni	Pb	Sb
Aluminum	394.401	0.0000000	0.0002510	0.0002820	0.0000000	0.0000000
Antimony	217.581	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.042	-0.0002570	0.0004610	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	-0.0000240	-0.0001730	-0.0000210	0.0000000	0.0000000
Boron	249.678	0.0000000	-0.0014840	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0000190	-0.0000190	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0001840	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	-0.0000370	0.0001050	0.0000000	0.0000000
Copper	327.396	0.0000000	-0.0000640	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	-0.0008520	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0005090	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	260.569	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000180
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0007360	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0101570	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0001200	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	-0.0006360	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000310	0.0001200	0.0000000	0.0000000
Vanadium	292.402	-0.0013700	-0.0000860	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	-0.0001090	0.0051730	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:		
		Si	Ti	V
Aluminum	394.401	0.0000000	0.0000000	0.0000000
Antimony	217.581	-0.0000460	0.0000000	0.0021080
Arsenic	189.042	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	-0.0004770
Cadmium	226.502	0.0000040	0.0001350	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	-0.0001070
Cobalt	228.616	-0.0000080	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000960	-0.0001120
Iron	259.94	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0013940	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000
Manganese	260.569	-0.0000030	-0.0000350	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000730
Sodium	589.592	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0003060	0.0005750
Tin	189.989	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0003820	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	-0.0003390	0.0000000		
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
Aluminum	394.401					
Antimony	217.581					
Arsenic	189.042					
Barium	455.403					
Beryllium	234.861					
Boron	249.678					
Cadmium	226.502					
Calcium	393.366					
Chromium	267.716					
Cobalt	228.616					
Copper	327.396					
Iron	259.94					
Lead	220.353					
Lithium	670.784					
Magnesium	285.213					
Manganese	260.569					
Molybdenum	202.03					
Nickel	231.604					
Phosphorus	214.914					
Potassium	766.491					
Selenium	196.0					
Silicon	251.611					
Silver	328.068					
Sodium	589.592					
Strontium	407.771					
Thallium	190.856					
Tin	189.989					
Titanium	336.121					
Vanadium	292.402					

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856					
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Comments:

Metals

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

ICP ID Number: K-ICP-AES-04

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	90000	200.7
Arsenic	15.000	90000	200.7
Barium	15.000	45000	200.7
Beryllium	15.000	9000	200.7
Cadmium	15.000	22500	200.7
Chromium	15.000	45000	200.7
Cobalt	15.000	22500	200.7
Copper	15.000	90000	200.7
Lead	15.000	22500	200.7
Nickel	15.000	90000	200.7
Selenium	15.000	22500	200.7
Silver	15.000	2700	200.7
Thallium	15.000	45000	200.7
Vanadium	15.000	45000	200.7
Zinc	15.000	18000	200.7

Comments:

Metals
-13-
PREPARATION LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Project Name: JBLM-YTC

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1410444-001DISS	10/02/14	50.0	50.0
K1410444-001DISSS	10/02/14	50.0	50.0
K1410444-001DISSSD	10/02/14	50.0	50.0
K1410444-002DISS	10/02/14	50.0	50.0
K1410444-MB	10/02/14	50.0	50.0
LCS	10/02/14	50.0	50.0

Metals
- 14 -
ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Run Number: 100814AICP04

Project Name: JBLM-YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																				
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T V
BLK	1.0	08:36			X	X	X	X	X	X	X	X	X	X				X	X	X		X	X	X
STD A	1.0	08:38			X			X	X		X	X	X		X			X	X	X		X	X	X
STD B	1.0	08:41				X	X																	
ICVB	1.0	08:43																						
ICV	1.0	08:46			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
ICB	1.0	08:48			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
LLICV	1.0	08:51			X	X	X	X	X		X	X	X		X			X		X		X	X	X
LLICV	1.0	08:53																	X					
ZZZZZZ	1.0	08:56																						
CCV1	1.0	08:59				X	X																	
CCV1	1.0	09:05			X			X	X		X	X	X		X			X	X	X		X	X	X
CCB1	1.0	09:11			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
ICSA	1.0	09:13			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
ICSAB	1.0	09:16			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
ZZZZZZ	1.0	09:26																						
ZZZZZZ	1.0	09:28																						
ZZZZZZ	1.0	09:30																						
ZZZZZZ	5.0	09:33																						
ZZZZZZ	1.0	09:35																						
ZZZZZZ	1.0	09:38																						
ZZZZZZ	1.0	09:40																						
K1410444-MB	1.0	09:42			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
LCS	1.0	09:45			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
K1410444-001DISS	1.0	09:47			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
CCV2	1.0	09:50				X	X																	
CCV2	1.0	09:52			X			X	X		X	X	X		X			X	X	X		X	X	X
CCB2	1.0	09:54			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
LLCCV	1.0	09:57			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
K1410444-001DISSL	5.0	10:00			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
K1410444-001DISSS	1.0	10:03			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
K1410444-001DISSSD	1.0	10:05			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X
K1410444-001DISSA	1.0	10:07			X	X	X	X	X		X	X	X		X			X	X	X		X	X	X

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -

ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Run Number: 100814AICP04

Project Name: JBLM-YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N A	T L	V	Z N
K1410444-002DISS	1.0	10:10			X	X	X	X	X		X	X	X	X				X	X	X		X	X	X		
ZZZZZZ	1.0	10:12																								
ZZZZZZ	1.0	10:14																								
ZZZZZZ	1.0	10:17																								
ZZZZZZ	1.0	10:19																								
ZZZZZZ	1.0	10:21																								
CCV3	1.0	10:24				X	X																			
CCVA	1.0	10:26		X			X	X		X	X	X		X				X	X	X		X	X	X		
CCB3	1.0	10:29		X	X	X	X	X		X	X	X		X				X	X	X		X	X	X		
LLCCV	1.0	10:31		X	X	X	X	X		X	X	X		X				X	X	X		X	X	X		
ZZZZZZ	5.0	10:34																								
ZZZZZZ	1.0	10:36																								
ZZZZZZ	1.0	10:39																								
ZZZZZZ	1.0	10:41																								
ZZZZZZ	1.0	10:43																								
ZZZZZZ	1.0	10:46																								
ZZZZZZ	1.0	10:48																								
ZZZZZZ	1.0	10:52																								
ZZZZZZ	1.0	11:07																								
ZZZZZZ	5.0	11:09																								
ZZZZZZ	1.0	11:11																								
ZZZZZZ	1.0	11:14																								
ZZZZZZ	1.0	11:16																								
ZZZZZZ	1.0	11:19																								
ZZZZZZ	1.0	11:21																								
ZZZZZZ	1.0	11:24																								
ZZZZZZ	1.0	11:26																								
ZZZZZZ	1.0	11:28																								
ZZZZZZ	1.0	11:31																								
ZZZZZZ	1.0	11:33																								
ZZZZZZ	1.0	11:36																								
ZZZZZZ	1.0	11:38																								

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -

ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Run Number: 100814AICP04

Project Name: JBLM-YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	S E	A G	N A	T L	V	Z N
ZZZZZZ	5.0	11:40																								
ZZZZZZ	1.0	11:43																								
ZZZZZZ	1.0	11:45																								
ZZZZZZ	1.0	11:48																								
ZZZZZZ	1.0	11:51																								
ZZZZZZ	1.0	11:53																								
ZZZZZZ	1.0	11:56																								
ZZZZZZ	1.0	11:58																								
ZZZZZZ	1.0	12:00																								
ZZZZZZ	1.0	12:03																								
ZZZZZZ	1.0	12:05																								
ZZZZZZ	1.0	12:08																								
ZZZZZZ	1.0	12:10																								
ZZZZZZ	1.0	12:13																								
ZZZZZZ	1.0	12:15																								
ZZZZZZ	1.0	12:18																								
ZZZZZZ	1.0	12:20																								
ZZZZZZ	1.0	12:23																								
ZZZZZZ	1.0	12:25																								
ZZZZZZ	1.0	12:28																								
ZZZZZZ	1.0	12:30																								
ZZZZZZ	1.0	12:33																								
ZZZZZZ	1.0	12:35																								
ZZZZZZ	1.0	12:38																								
ZZZZZZ	1.0	12:40																								
ZZZZZZ	1.0	12:43																								
ZZZZZZ	1.0	12:45																								
ZZZZZZ	1.0	12:48																								
ZZZZZZ	1.0	12:50																								
ZZZZZZ	1.0	12:53																								
ZZZZZZ	1.0	12:55																								
ZZZZZZ	1.0	12:57																								

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

- 14 -

ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Run Number: 100814AICP04

Project Name: JBLM-YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T V	Z N
ZZZZZZ	1.0	13:00																							
ZZZZZZ	1.0	13:02																							
ZZZZZZ	1.0	13:05																							
ZZZZZZ	1.0	13:07																							
ZZZZZZ	1.0	13:10																							
ZZZZZZ	1.0	13:12																							
ZZZZZZ	5.0	13:15																							
ZZZZZZ	1.0	13:17																							
ZZZZZZ	1.0	13:20																							
ZZZZZZ	1.0	13:22																							
ZZZZZZ	1.0	13:25																							
ZZZZZZ	1.0	13:27																							
ZZZZZZ	1.0	13:30																							
ZZZZZZ	1.0	13:32																							
ZZZZZZ	1.0	13:35																							
ZZZZZZ	1.0	13:37																							
ZZZZZZ	1.0	13:40																							
ZZZZZZ	1.0	13:42																							
ZZZZZZ	1.0	13:45																							
ZZZZZZ	1.0	13:47																							
ZZZZZZ	1.0	13:49																							
ZZZZZZ	1.0	13:52																							
ZZZZZZ	1.0	13:54																							
ZZZZZZ	1.0	13:57																							
ZZZZZZ	1.0	13:59																							
ZZZZZZ	1.0	14:01																							
ZZZZZZ	1.0	14:04																							
ZZZZZZ	1.0	14:06																							
ZZZZZZ	1.0	14:09																							
ZZZZZZ	1.0	14:12																							
ZZZZZZ	1.0	14:14																							
ZZZZZZ	1.0	14:17																							

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

- 14 -

ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Run Number: 100814AICP04

Project Name: JBLM-YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N A	T L	V	Z N	C N				
ZZZZZZ	1.0	14:19																													
ZZZZZZ	1.0	14:22																													
ZZZZZZ	1.0	14:24																													
ZZZZZZ	1.0	14:27																													
ZZZZZZ	1.0	14:29																													
ZZZZZZ	1.0	14:32																													
ZZZZZZ	1.0	14:34																													
ZZZZZZ	1.0	14:37																													
ZZZZZZ	1.0	14:39																													
ZZZZZZ	1.0	14:41																													
ZZZZZZ	1.0	14:44																													
ZZZZZZ	1.0	14:46																													
ZZZZZZ	1.0	14:48																													
ZZZZZZ	1.0	14:51																													
ZZZZZZ	1.0	14:53																													
ZZZZZZ	1.0	14:55																													
ZZZZZZ	1.0	14:59																													
ZZZZZZ	1.0	15:02																													
ZZZZZZ	1.0	15:04																													
ZZZZZZ	1.0	15:06																													
ZZZZZZ	1.0	15:09																													
ZZZZZZ	1.0	15:11																													
ZZZZZZ	1.0	15:14																													
ZZZZZZ	1.0	15:16																													
ZZZZZZ	1.0	15:19																													
ZZZZZZ	1.0	15:21																													
ZZZZZZ	1.0	15:23																													
ZZZZZZ	1.0	15:26																													
ZZZZZZ	1.0	15:28																													
ZZZZZZ	1.0	15:31																													
ZZZZZZ	1.0	15:33																													
ZZZZZZ	1.0	15:36																													

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

- 14 -

ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Run Number: 100814AICP04

Project Name: JBLM-YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T V	Z N
ZZZZZZ	1.0	15:38																							
ZZZZZZ	1.0	15:40																							
ZZZZZZ	1.0	15:43																							
ZZZZZZ	1.0	15:45																							
ZZZZZZ	1.0	15:48																							
ZZZZZZ	1.0	15:50																							
ZZZZZZ	1.0	15:53																							
ZZZZZZ	1.0	15:55																							
ZZZZZZ	1.0	15:58																							
ZZZZZZ	1.0	16:00																							
ZZZZZZ	1.0	16:03																							
ZZZZZZ	1.0	16:05																							
ZZZZZZ	1.0	16:08																							
ZZZZZZ	1.0	16:10																							
ZZZZZZ	1.0	16:12																							
ZZZZZZ	1.0	16:15																							
ZZZZZZ	1.0	16:18																							
ZZZZZZ	1.0	16:20																							
ZZZZZZ	1.0	16:23																							
ZZZZZZ	1.0	16:25																							
ZZZZZZ	1.0	16:28																							
ZZZZZZ	1.0	16:30																							
ZZZZZZ	1.0	16:32																							
ZZZZZZ	1.0	16:35																							
ZZZZZZ	1.0	16:37																							
ZZZZZZ	1.0	16:40																							
ZZZZZZ	1.0	16:42																							
ZZZZZZ	1.0	16:44																							
ZZZZZZ	1.0	16:47																							
ZZZZZZ	1.0	16:49																							
ZZZZZZ	1.0	16:52																							
ZZZZZZ	1.0	16:54																							

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
 - 14 -

ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1410444

Project No.: 194-8468

Run Number: 100814AICP04

Project Name: JBLM-YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 10/08/14

End Date: 10/08/14

Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T V	Z N
ZZZZZZ	1.0	16:57																							
ZZZZZZ	1.0	17:00																							
ZZZZZZ	1.0	17:02																							
ZZZZZZ	1.0	17:05																							
ZZZZZZ	1.0	17:07																							
ZZZZZZ	1.0	17:10																							
ZZZZZZ	1.0	17:12																							
ZZZZZZ	1.0	17:15																							
ZZZZZZ	1.0	17:17																							
ZZZZZZ	1.0	17:20																							
ZZZZZZ	1.0	17:22																							
ZZZZZZ	1.0	17:25																							
ZZZZZZ	1.0	17:29																							
ZZZZZZ	1.0	17:32																							
ZZZZZZ	1.0	17:34																							
ZZZZZZ	1.0	17:37																							

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analysis: 300.0
ICAL Date: 7.30.14

Instrument (Circle One)
IC3 IC5 IC6 IC7

IC INITIAL CALIBRATION CHECKLIST

1. The following documentation is in the ICAL file
 - Sequence information
 - Blank analysis information
 - Retention Time information
 - Calibration Status information
 - Response Factor information
 - Data Analysis information
 - Quantitation information for each calibration standard
 - ICV and CCV Quantitation information
2. The ICAL was performed without interruption
3. All calibration standards have been analyzed within 24 hours
4. The analytes in the blank analysis are < MRL
5. The retention times have been updated from the retention time marker standard
6. Each analyte's ICAL includes a minimum of 3 concentrations
7. For each analyte only one value is used for each calibration level
8. For each analyte the lowest standard's concentration is < or = the MRL
9. For each analyte the ICAL includes >3 concentration levels
10. For each analyte no levels are skipped
11. For the ICV analysis is percent recovery 90% to 110% for each analyte Yes No
12. All peak integrations are acceptable

Comments:

Reviewed by: MS
Supervisor Review: 614

Date: 8.13.14
Date: 8.14.14

COLUMBIA ANALYTICAL SERVICES, INC.
Ion Chromatography Calibration Data

Sequence: IC03073014

Date: 7.30.14

Anion	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Corr.Coeff	Slope
F	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.973	1.7497
Cl	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.952	1.3828
NO2	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.996	2.4386
Br	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.923	0.4856
NO3	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.816	3.4542
SO4	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.954	0.8839

All calibration standard concentrations are in mg/L unless otherwise noted.

Zero point forced through zero.

No.	Peak Name	Cal.Type	#Points	Rel.Std.Dev.	Corr.Coeff.	Offset	Slope	Curve
				%	%			
1	Fluoride	Lin	8	3.0211	99.973	0	1.7497	0
2	Chloride	Lin	7	5.0767	99.952	0	1.3828	0
3	Nitrite	Lin	6	1.6525	99.996	0	2.4386	0
4	Bromide	Lin	6	6.8526	99.923	0	0.4856	0
5	Nitrate	Lin	6	11.7458	99.816	0	3.4542	0
6	Sulfate	Lin	7	3.7801	99.954	0	0.8839	0
Average:			6.66667	5.3548	99.9355	0	1.7325	0

IC12/ICAL-60-A	100PPM	NO2, BR, NO3
IC12/ICAL-60-B	100PPM	F, CL, SO4

mL added

	IC12/ICAL-60-C	IC12/ICAL-60-D	IC12/ICAL-60-E	IC12/ICAL-60-F	IC12/ICAL-60-G	IC12/ICAL-60-H		
	STD2	STD3	STD4	STD5	STD6	STD7	STD8	STD1
F	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
CL	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
SO4	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
NO2	0.050	0.100	0.500	1.000	2.00	5.00	--	0
NO3	0.050	0.100	0.500	1.000	2.00	5.00	--	0
BR	0.050	0.100	0.500	1.000	2.00	5.00	--	0

Sequence: IC03073014(22)C
Operator: ALKLS.ALKLSXP307

Page 1 of 2
Printed: 8/14/2014 7:46:18 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 9

Created: 7/30/2014 8:48:53 AM by ALKLS.ALKLSXP307
Last Update: 8/14/2014 7:46:15 AM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time	Dil. Factor
1	STD2/LVL2	epa300	Standard	1	200.0	seth_test	Finished	7/30/2014 11:01:20 AM	1.0000
2	STD3/LVL3	epa300	Standard	2	200.0	seth_test	Finished	7/30/2014 11:17:02 AM	1.0000
3	STD4/LVL4	epa300	Standard	3	200.0	seth_test	Finished	7/30/2014 11:32:41 AM	1.0000
4	STD5/LVL5	epa300	Standard	4	200.0	seth_test	Finished	7/30/2014 11:48:20 AM	1.0000
5	STD6/LVL6	epa300	Standard	5	200.0	seth_test	Finished	7/30/2014 12:04:00 PM	1.0000
6	STD7/LVL7	epa300	Standard	6	200.0	seth_test	Finished	7/30/2014 12:19:40 PM	1.0000
7	STD8/LVL8	epa300	Standard	7	200.0	seth_test	Finished	7/30/2014 12:35:19 PM	1.0000
8	STD1/LVL1	epa300	Standard	8	200.0	seth_test	Finished	7/30/2014 12:50:58 PM	1.0000
9	LCS/ICV	epa300	Unknown	10	200.0	seth_test	Finished	7/30/2014 4:07:08 PM	1.0000

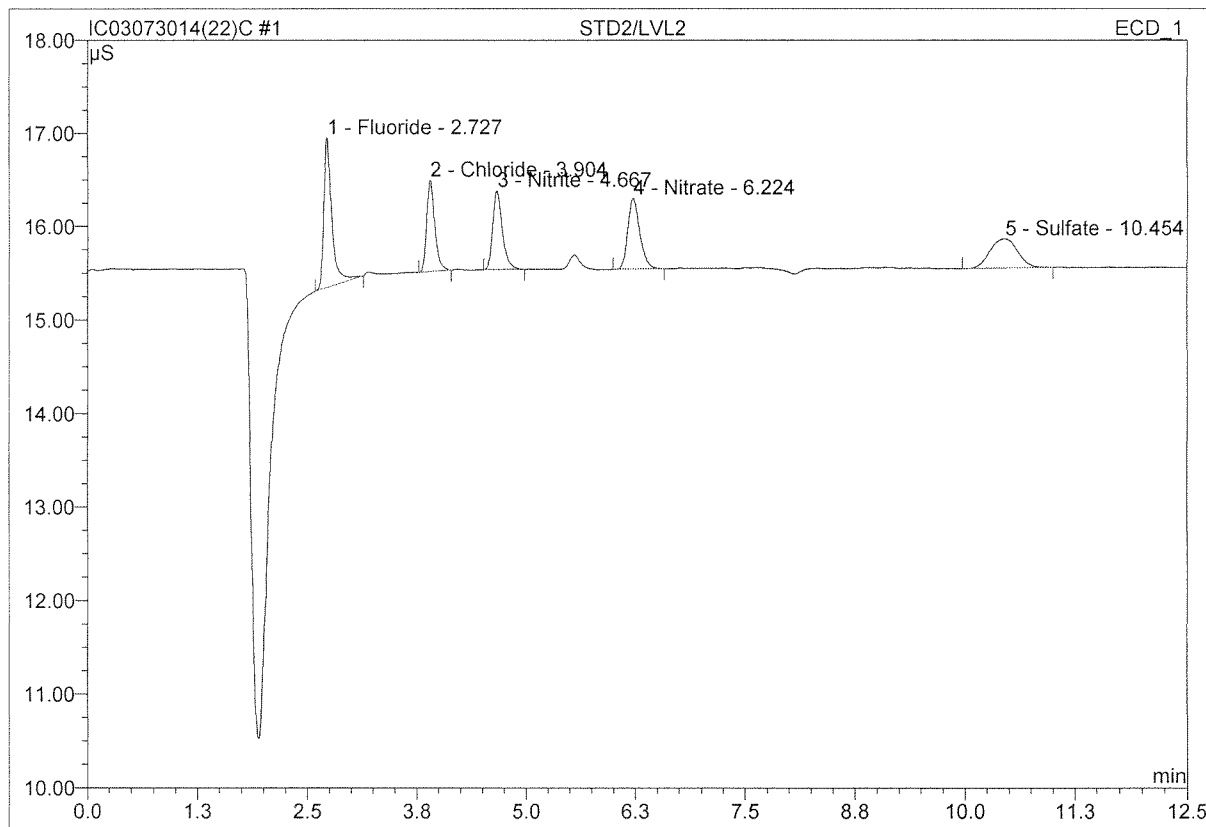
Sequence: IC03073014(22)C
Operator: ALKLS.ALKLSXP307

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 9

Created: 7/30/2014 8:48:53 AM by ALKLS.ALKLSXP307
Last Update: 8/14/2014 7:46:15 AM by ALKLS.ALKLSXP307

No.	Name	Comment
1	STD2/LVL2	
2	STD3/LVL3	
3	STD4/LVL4	
4	STD5/LVL5	
5	STD6/LVL6	
6	STD7/LVL7	
7	STD8/LVL8	
8	STD1/LVL1	
9	LCS/ICV	

1 STD2/LVL2			
Sample Name:	STD2/LVL2	Injection Volume:	200.0
Vial Number:	1	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:01	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



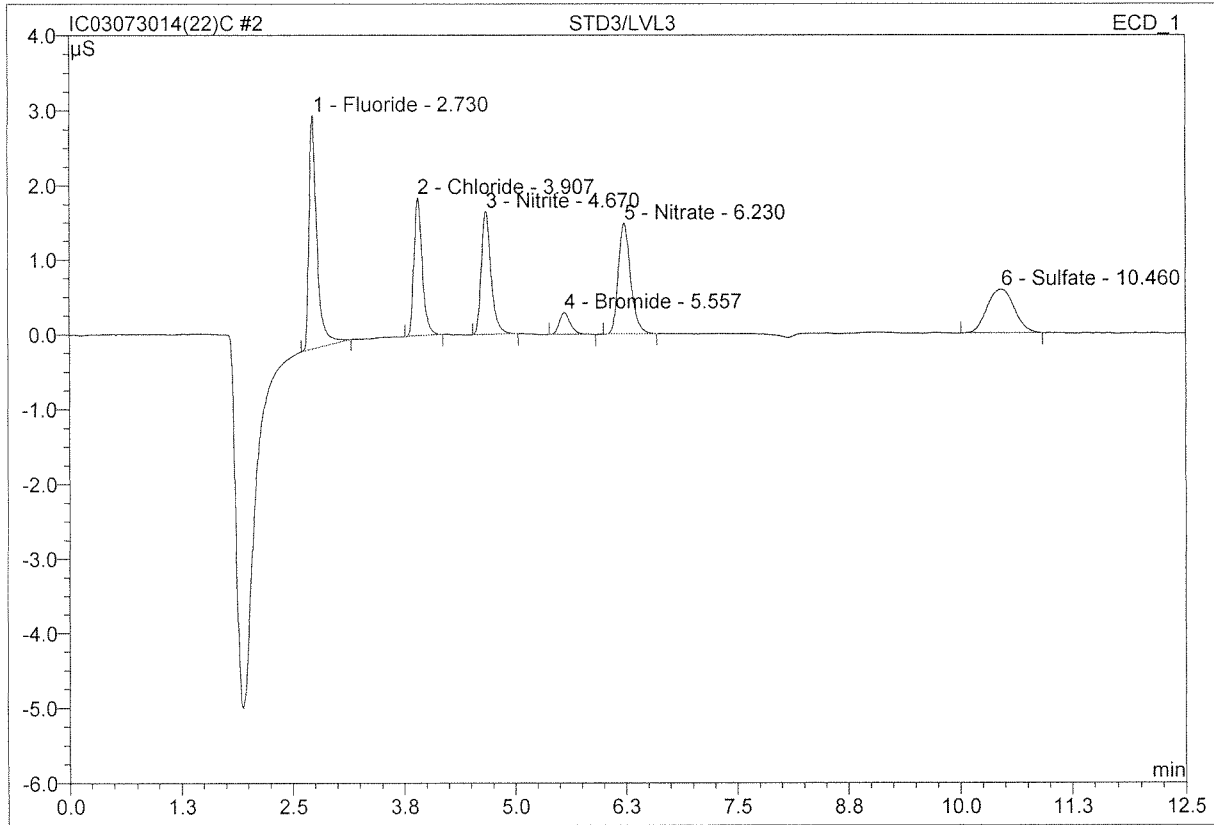
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	1.600	0.169	27.34	0.097	BMB
2	3.90	Chloride	0.976	0.105	17.04	0.076	BMB
3	4.67	Nitrite	0.844	0.108	17.45	0.044	BMB
4	6.22	Nitrate	0.756	0.122	19.67	0.035	BMB
5	10.45	Sulfate	0.313	0.114	18.50	0.130	BMB
Total:			4.489	0.619	100.00	0.382	

pb

Before

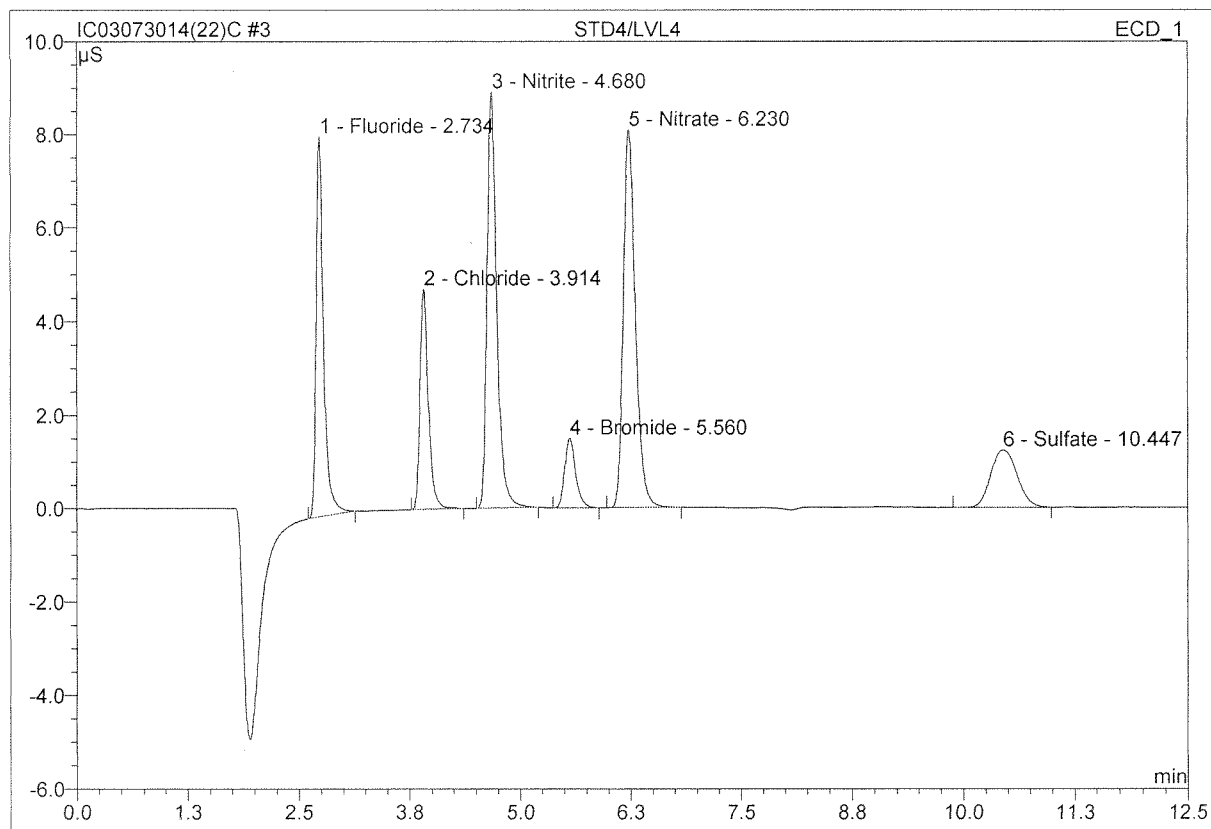
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2 STD3/LVL3			
Sample Name:	STD3/LVL3	Injection Volume:	200.0
Vial Number:	2	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:17	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	3.124	0.320	26.24	0.183	BMB
2	3.91	Chloride	1.850	0.199	16.32	0.144	BMB
3	4.67	Nitrite	1.648	0.212	17.36	0.087	BMB
4	5.56	Bromide	0.292	0.042	3.47	0.087	BMB
5	6.23	Nitrate	1.484	0.241	19.74	0.070	BMB
6	10.46	Sulfate	0.584	0.206	16.88	0.233	BMB
Total:			8.983	1.221	100.00	0.804	

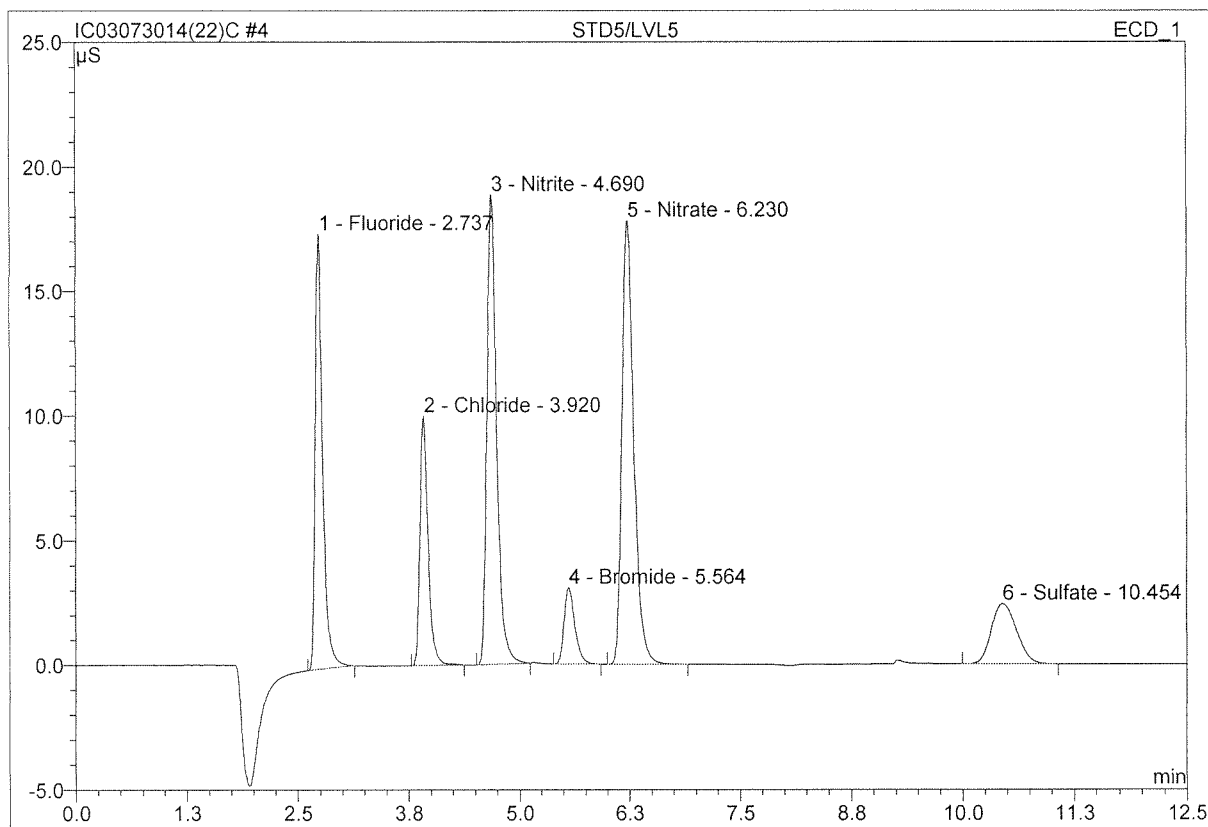
3 STD4/LVL4			
Sample Name:	STD4/LVL4	Injection Volume:	200.0
Vial Number:	3	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:32	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	8.122	0.794	18.26	0.454	BMB
2	3.91	Chloride	4.703	0.508	11.69	0.368	BMB
3	4.68	Nitrite	8.904	1.130	25.99	0.463	BMB
4	5.56	Bromide	1.493	0.213	4.91	0.439	BMB
5	6.23	Nitrate	8.077	1.283	29.51	0.371	BMB
6	10.45	Sulfate	1.230	0.419	9.64	0.474	BMB
Total:			32.529	4.347	100.00	2.569	

4 STD5/LVL5

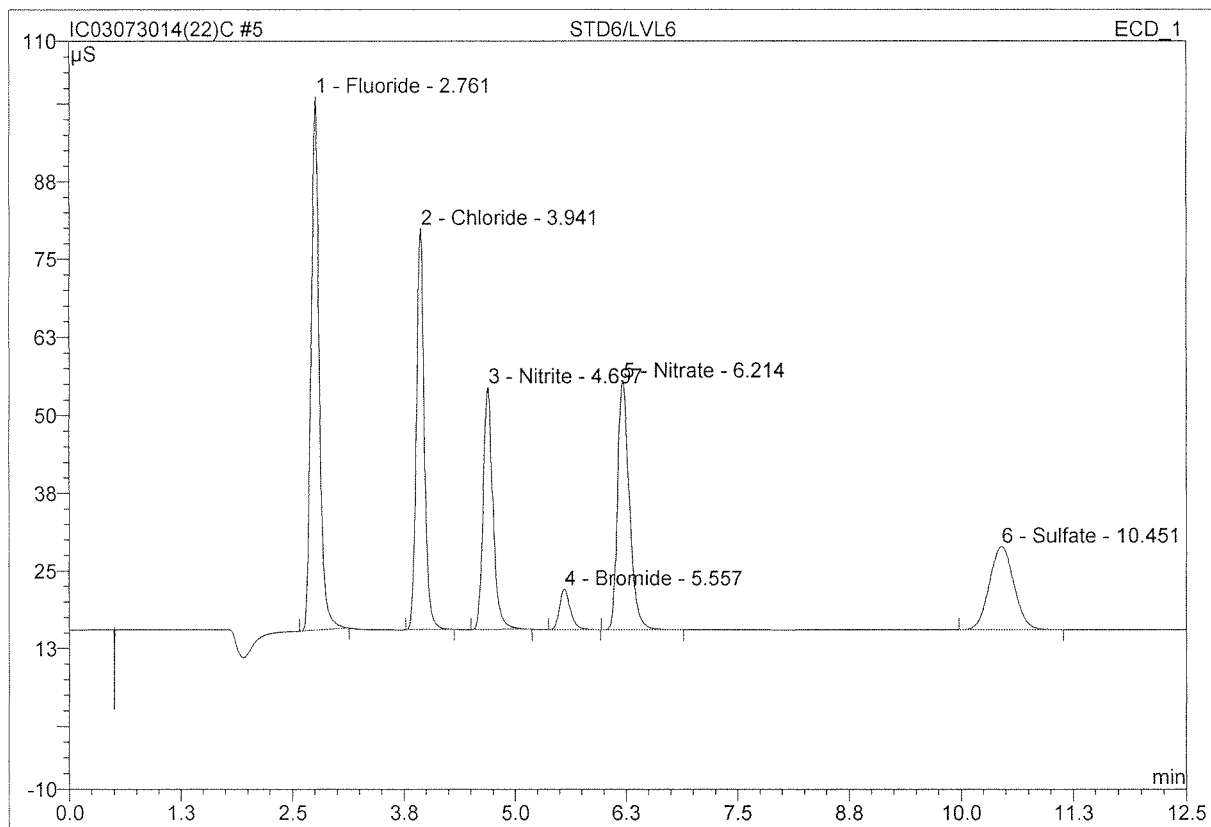
Sample Name:	STD5/LVL5	Injection Volume:	200.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:48	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.74	Fluoride	17.469	1.678	18.41	0.959	BMB
2	3.92	Chloride	9.980	1.065	11.68	0.770	BMB
3	4.69	Nitrite	18.852	2.365	25.95	0.970	BMB
4	5.56	Bromide	3.066	0.433	4.76	0.893	BMB
5	6.23	Nitrate	17.798	2.784	30.55	0.806	BMB
6	10.45	Sulfate	2.414	0.790	8.66	0.893	BMB
Total:			69.579	9.114	100.00	5.290	

5 STD6/LVL6

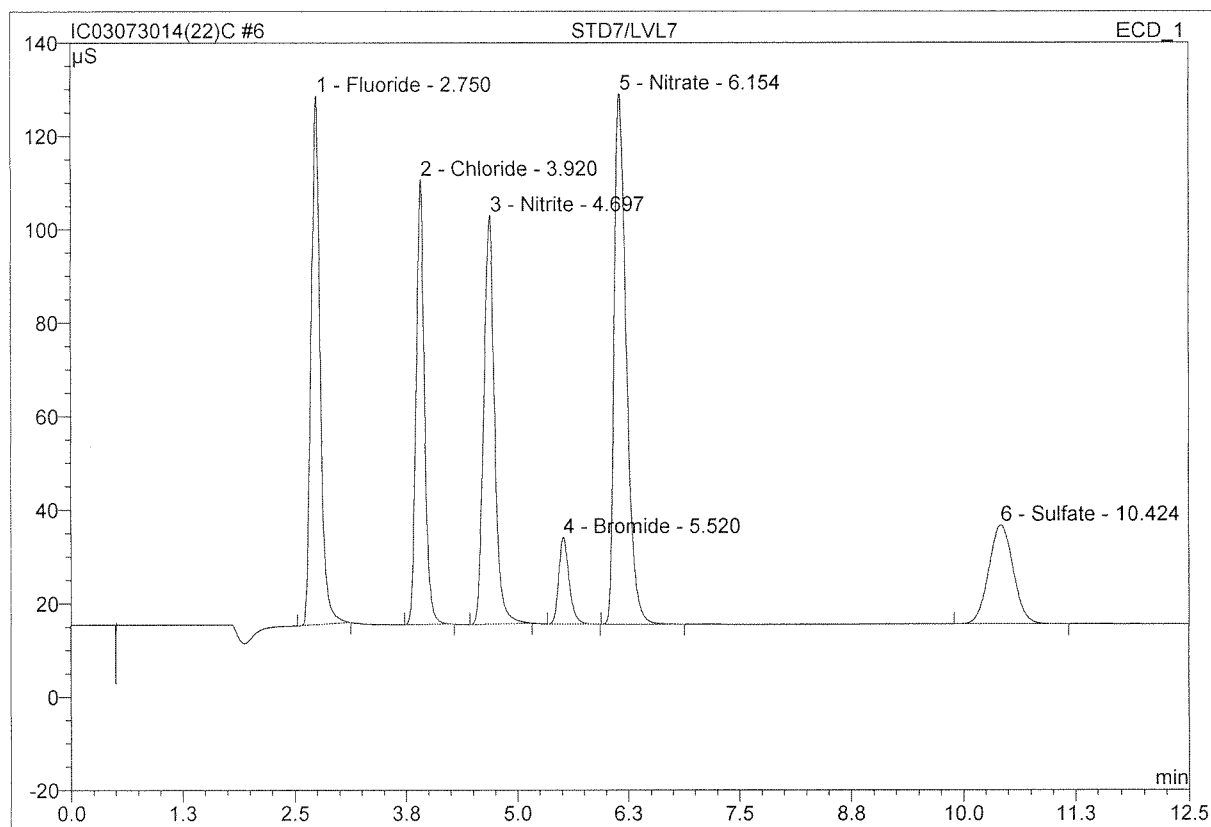
Sample Name:	STD6/LVL6	Injection Volume:	200.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:04	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.76	Fluoride	85.651	9.080	28.55	5.190	BMB
2	3.94	Chloride	64.404	6.584	20.70	4.761	BMB
3	4.70	Nitrite	38.940	4.921	15.47	2.018	BMB
4	5.56	Bromide	6.469	0.898	2.82	1.849	BMB
5	6.21	Nitrate	39.883	6.116	19.23	1.771	BMB
6	10.45	Sulfate	13.355	4.204	13.22	4.757	BMB
Total:			248.701	31.802	100.00	20.345	

6 STD7/LVL7

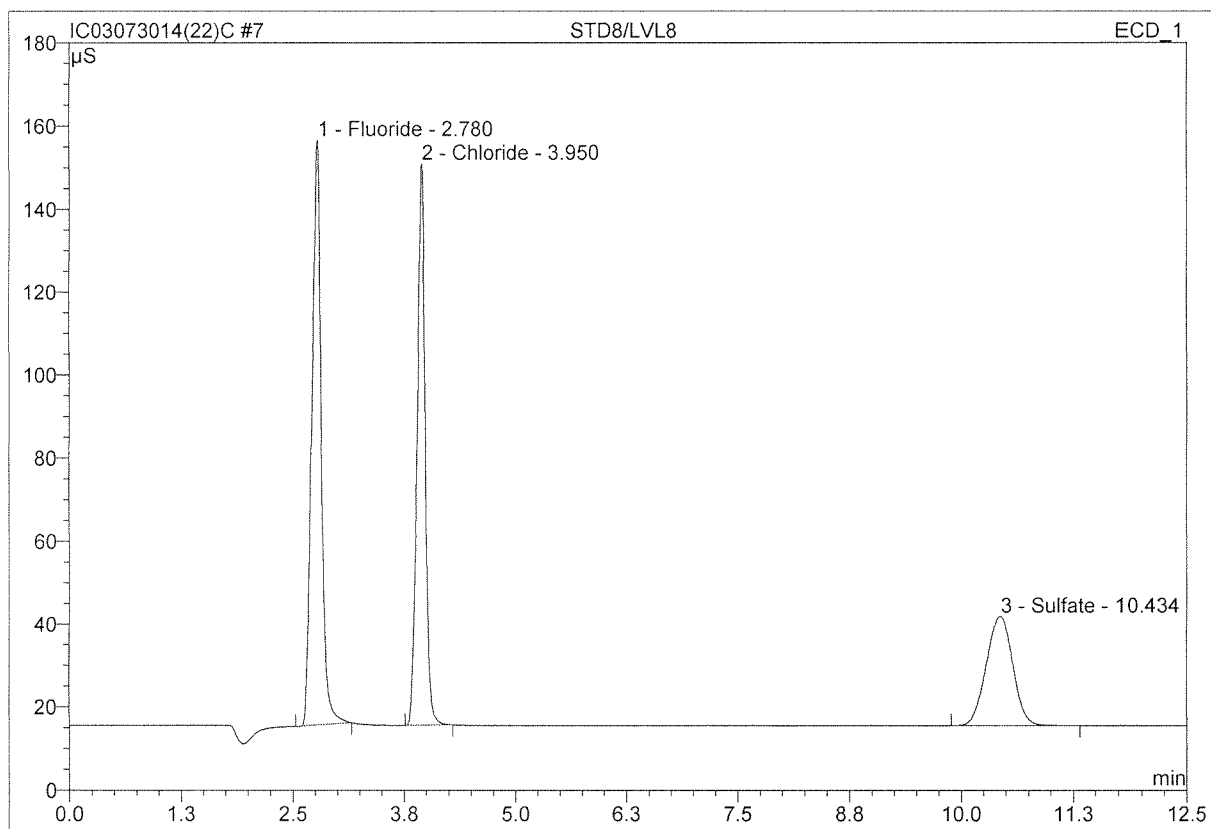
Sample Name:	STD7/LVL7	Injection Volume:	200.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:19	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}^*\text{min}$	Rel.Area %	Amount	Type
1	2.75	Fluoride	113.029	13.200	21.12	7.545	BMB
2	3.92	Chloride	95.063	10.273	16.43	7.429	BMB
3	4.70	Nitrite	87.401	12.200	19.52	5.003	BMB
4	5.52	Bromide	18.499	2.471	3.95	5.088	BMB
5	6.15	Nitrate	113.428	17.769	28.43	5.144	BMB
6	10.42	Sulfate	21.033	6.592	10.55	7.458	BMB
Total:			448.454	62.505	100.00	37.667	

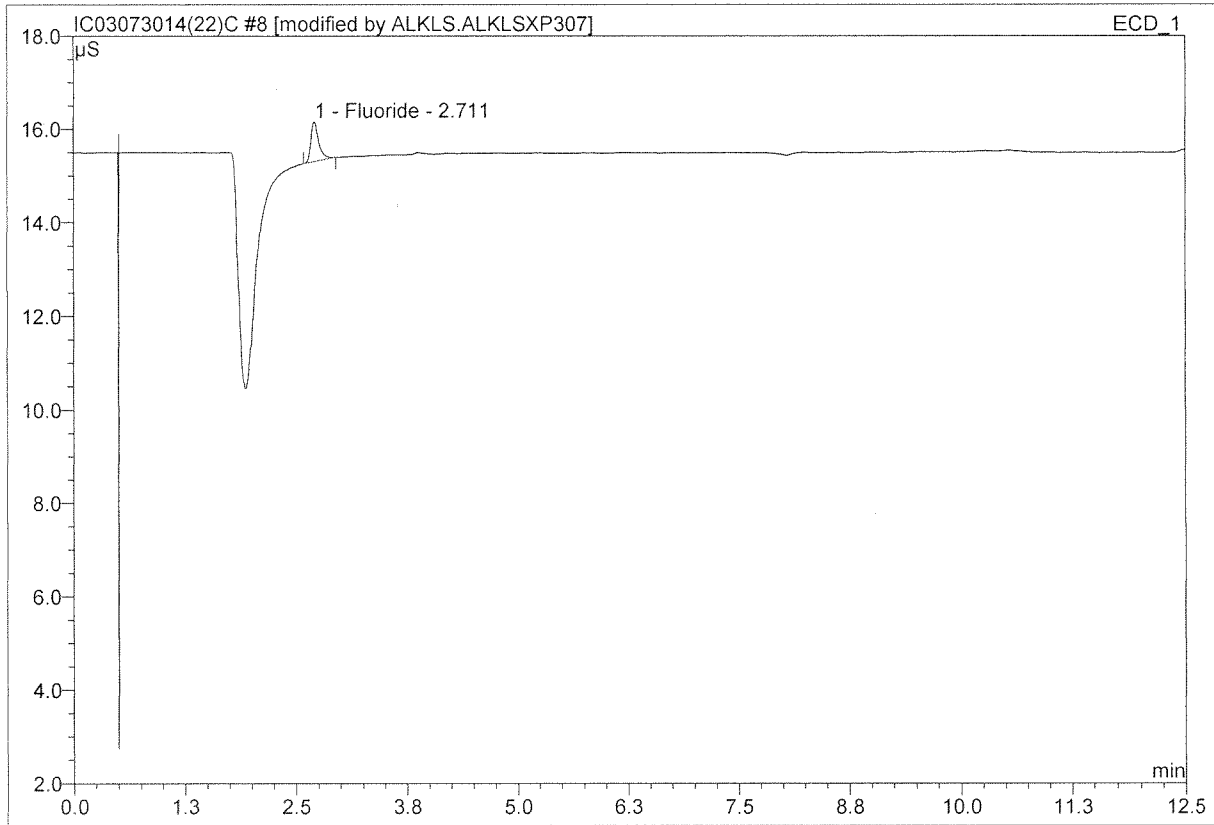
7 STD8/LVL8

Sample Name:	STD8/LVL8	Injection Volume:	200.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:35	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}^*\text{min}$	Rel.Area %	Amount	Type
1	2.78	Fluoride	140.952	17.284	42.81	9.879	BMB
2	3.95	Chloride	135.301	14.110	34.95	10.204	BMB
3	10.43	Sulfate	26.240	8.983	22.25	10.164	BMB
Total:			302.493	40.378	100.00	30.247	

8 STD1/LVL1			
Sample Name:	STD1/LVL1	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:50	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.846	0.086	100.00	0.049	BMB*
Total:			0.846	0.086	100.00	0.049	

After Initials

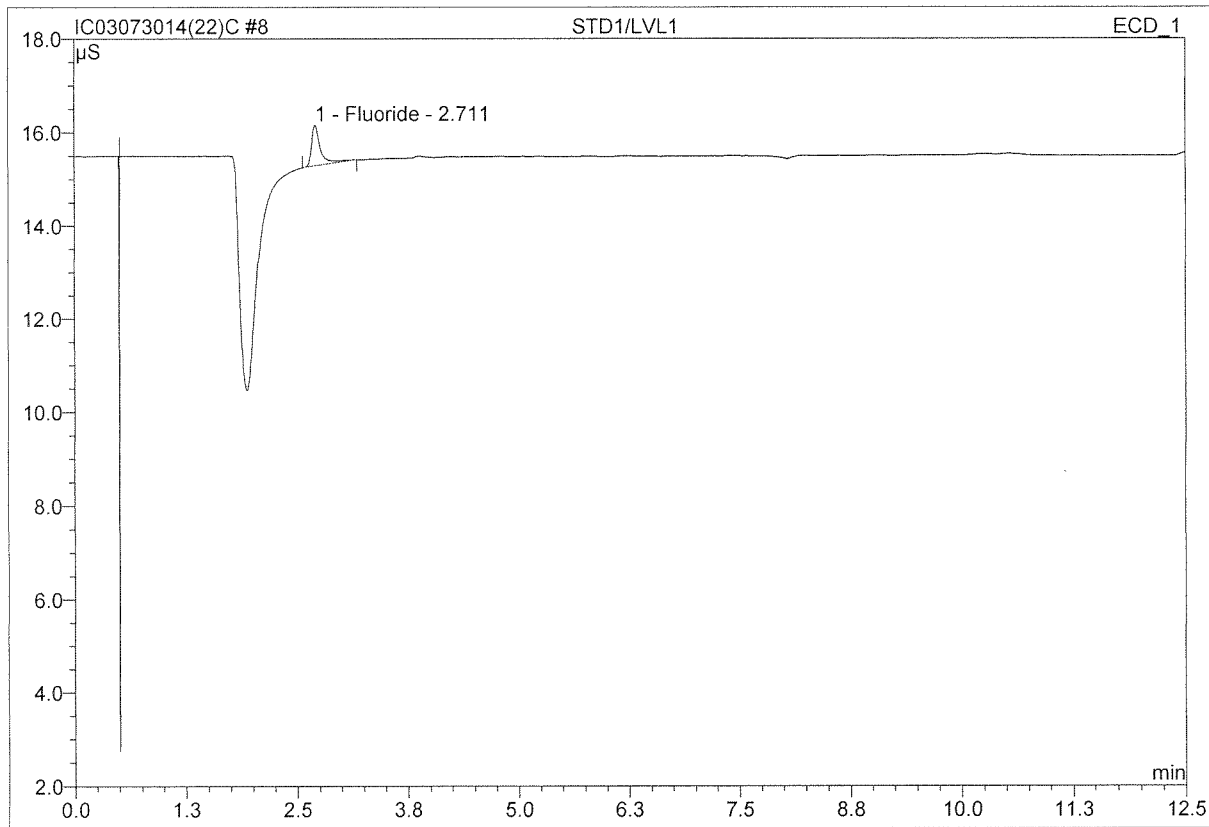
[Handwritten Signature]

648,1409

AUG 13 2014

- Wrong Peak/Peak not Found
- Baseline/shoulder Incorrect
- Other

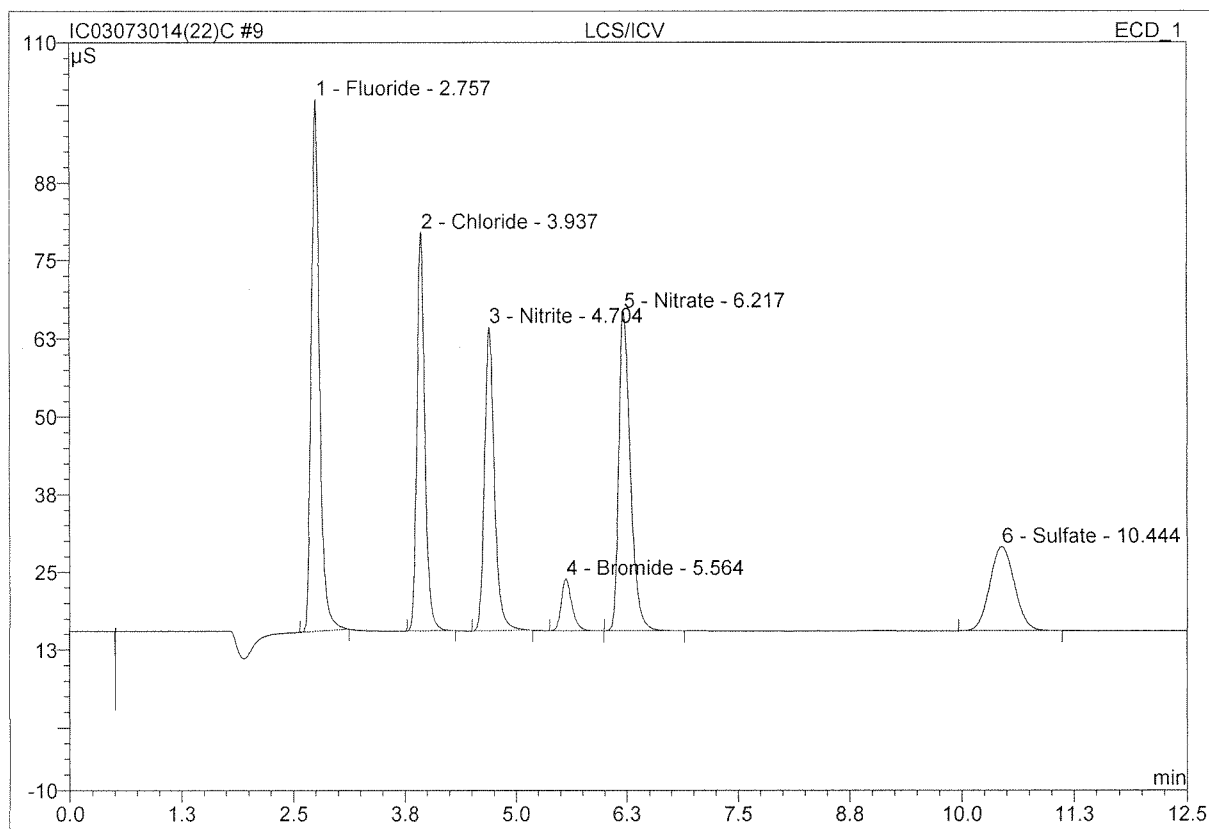
8 STD1/LVL1			
Sample Name:	STD1/LVL1	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:50	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.862	0.099	100.00	0.056	BMB
Total:			0.862	0.099	100.00	0.056	

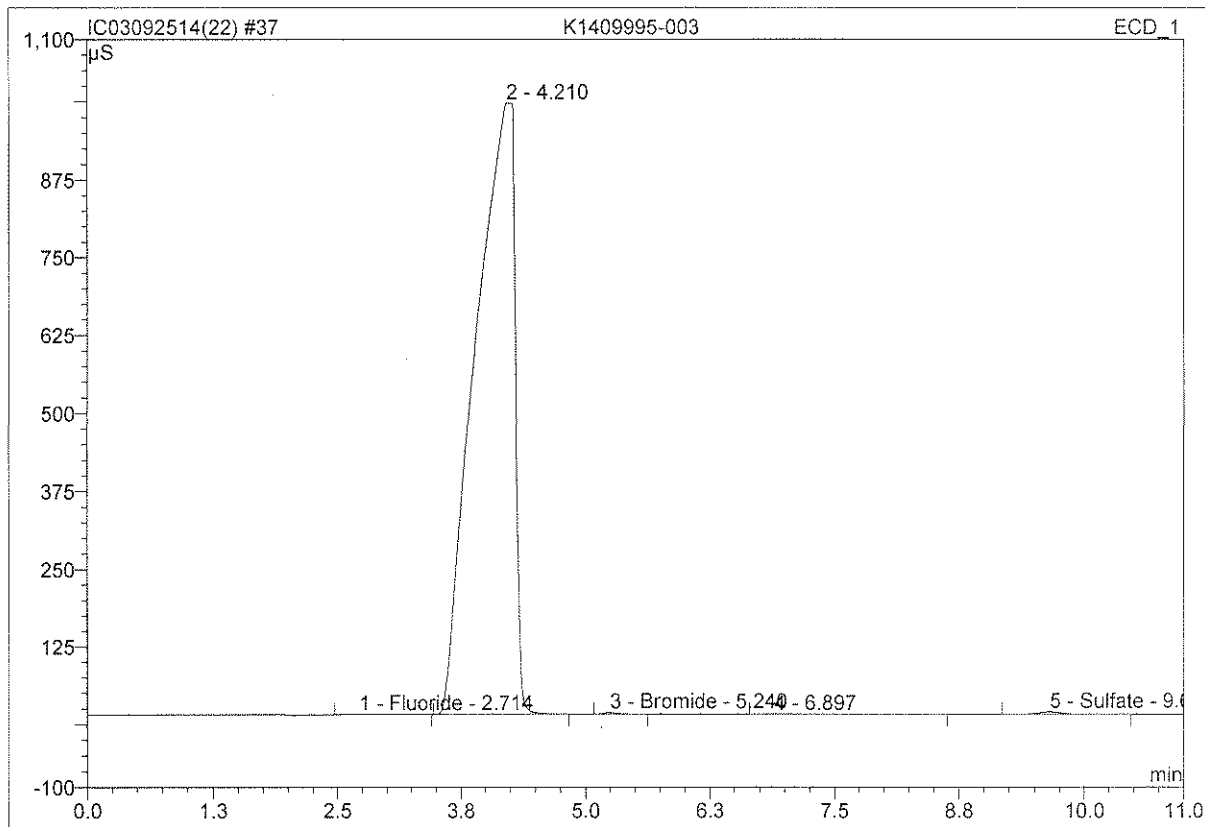
16
Before
AUG 13 2014

9 LCS/ICV			
Sample Name:	LCS/ICV	Injection Volume:	200.0
Vial Number:	10	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 16:07	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



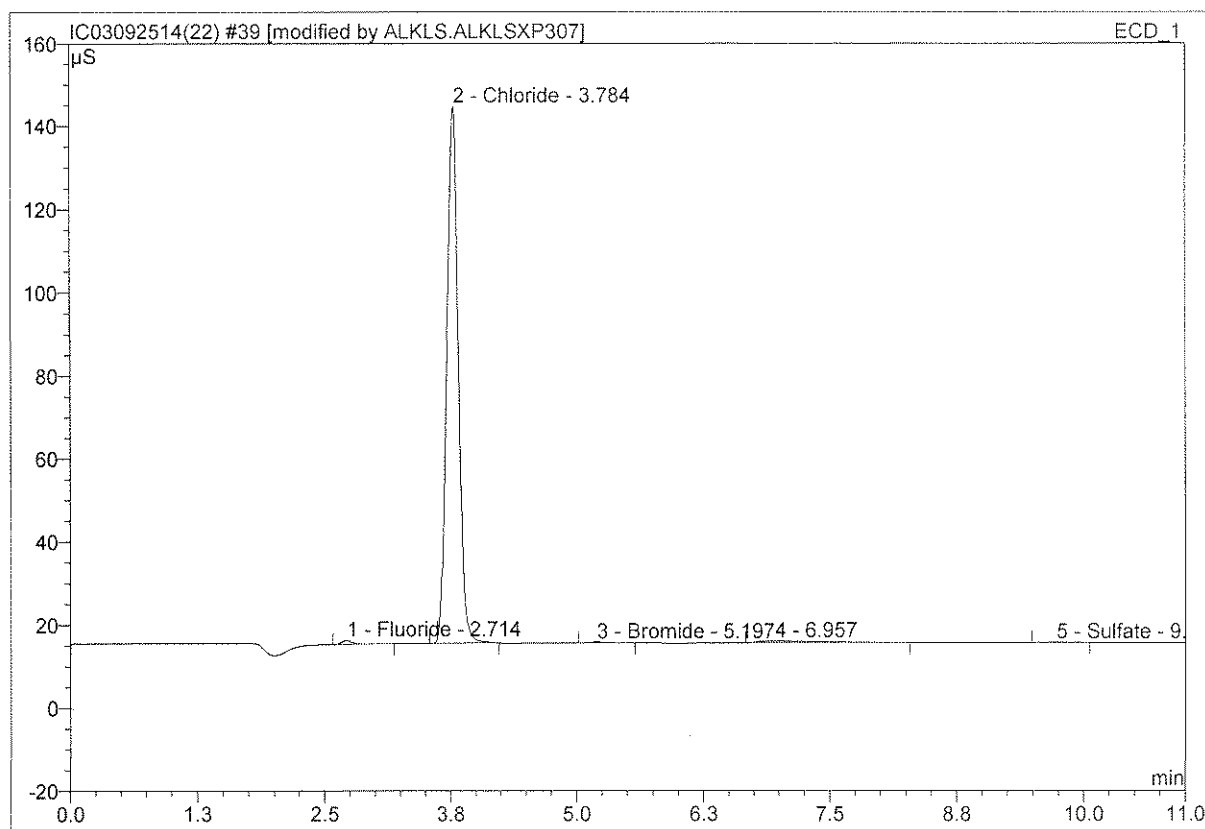
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.76	Fluoride	85.433	9.161	25.92	103 5.236	BMB
2	3.94	Chloride	63.905	6.606	18.69	96 4.777	BMB
3	4.70	Nitrite	48.775	6.290	17.79	103 2.579	BMB
4	5.56	Bromide	8.271	1.143	3.23	94 2.353	BMB
5	6.22	Nitrate	51.193	7.876	22.28	91 2.280	BMB
6	10.44	Sulfate	13.451	4.273	12.09	97 4.835	BMB
Total:			271.028	35.348	100.00	22.059	

37 K1409995-003			
Sample Name:	K1409995-003	Injection Volume:	200.0
Vial Number:	23	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 16:22	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.347	0.117	0.03	0.335	BMB
2	4.21	n.a.	981.711	450.511	99.58	n.a.	BMB
3	5.24	Bromide	2.841	0.414	0.09	4.265	BMB
4	6.90	n.a.	0.446	0.405	0.09	n.a.	BMB
5	9.65	Sulfate	3.775	0.977	0.22	5.525	BMB
Total:			989.119	452.425	100.00	10.125	

39 K1410111-001			
Sample Name:	K1410111-001	Injection Volume:	200.0
Vial Number:	25	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 16:51	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	1.003	0.135	0.76	0.155	BMB
2	3.78	Chloride	129.167	17.131	96.79	24.778	BMB
3	5.20	Bromide	0.245	0.046	0.26	0.188	BMB
4	6.96	n.a.	0.456	0.359	2.03	n.a.	BMB
5	9.73	Sulfate	0.117	0.028	0.16	0.064	BMB*
Total:			130.988	17.699	100.00	25.184	

After Initials

SEP 26 2014

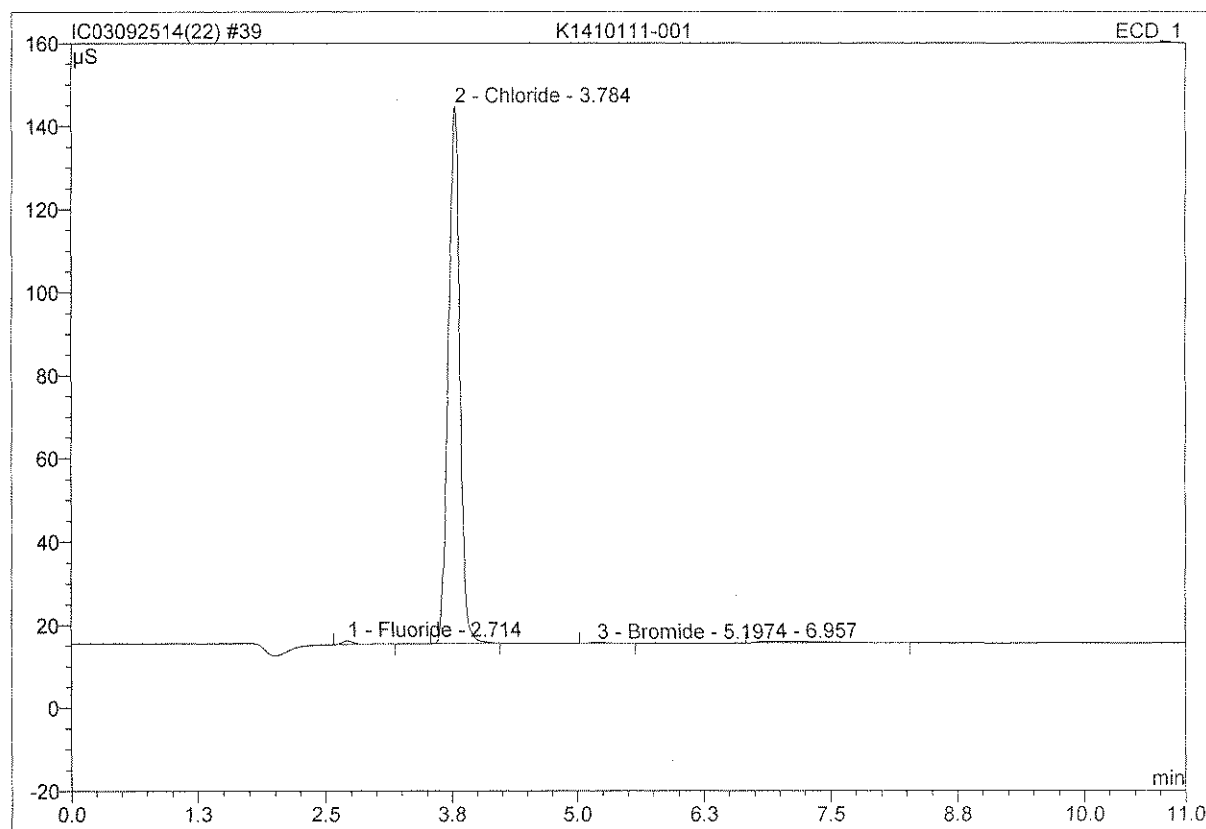
Handwritten signature

Wrong Peak/Peak not Found
 Baseline/shoulder incorrect
 Other _____

default/Integration

Chromleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

39 K1410111-001			
Sample Name:	K1410111-001	Injection Volume:	200.0
Vial Number:	25	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 16:51	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	1.003	0.135	0.77	0.155	BMB
2	3.78	Chloride	129.167	17.131	96.95	24.778	BMB
3	5.20	Bromide	0.245	0.046	0.26	0.188	BMB
4	6.96	n.a.	0.456	0.359	2.03	n.a.	BMB
Total:			130.871	17.671	100.00	25.120	

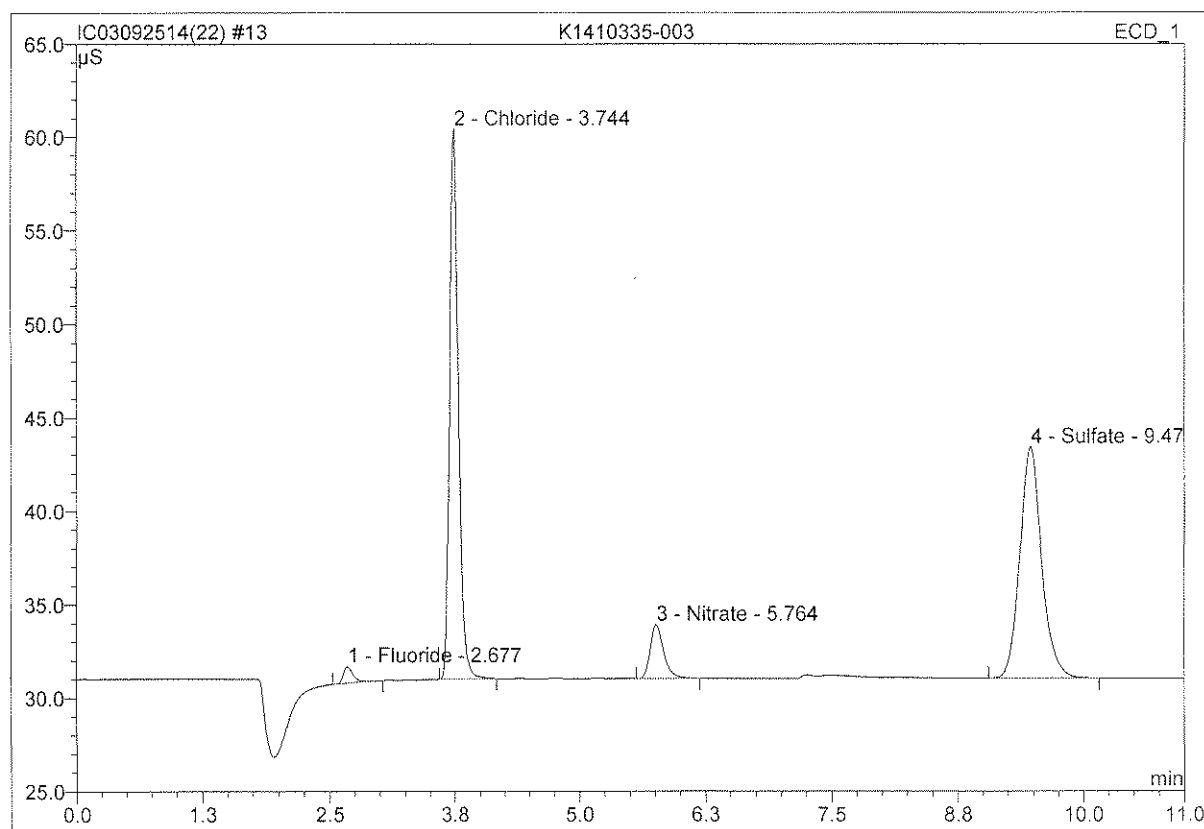
Before

6th

SEP 26 2014

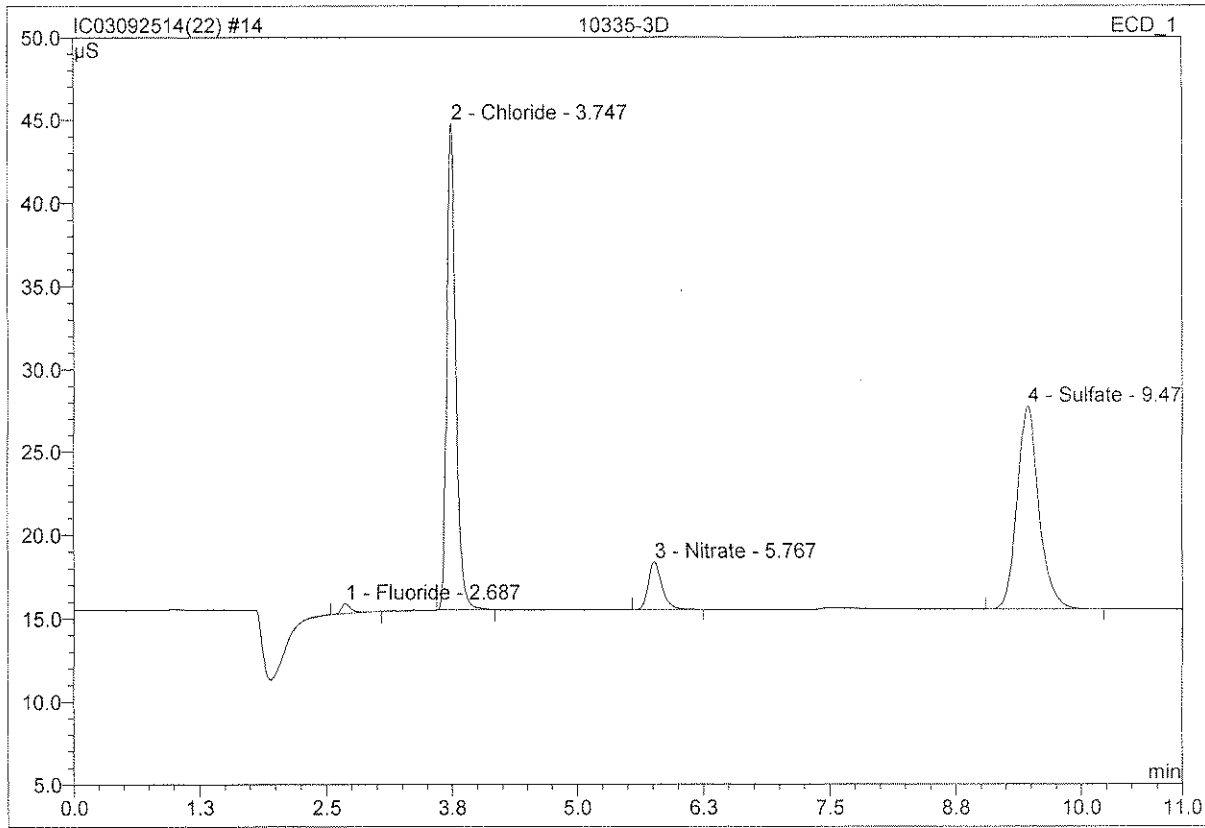
13 K1410335-003

Sample Name:	K1410335-003	Injection Volume:	200.0
Vial Number:	3	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 10:26	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



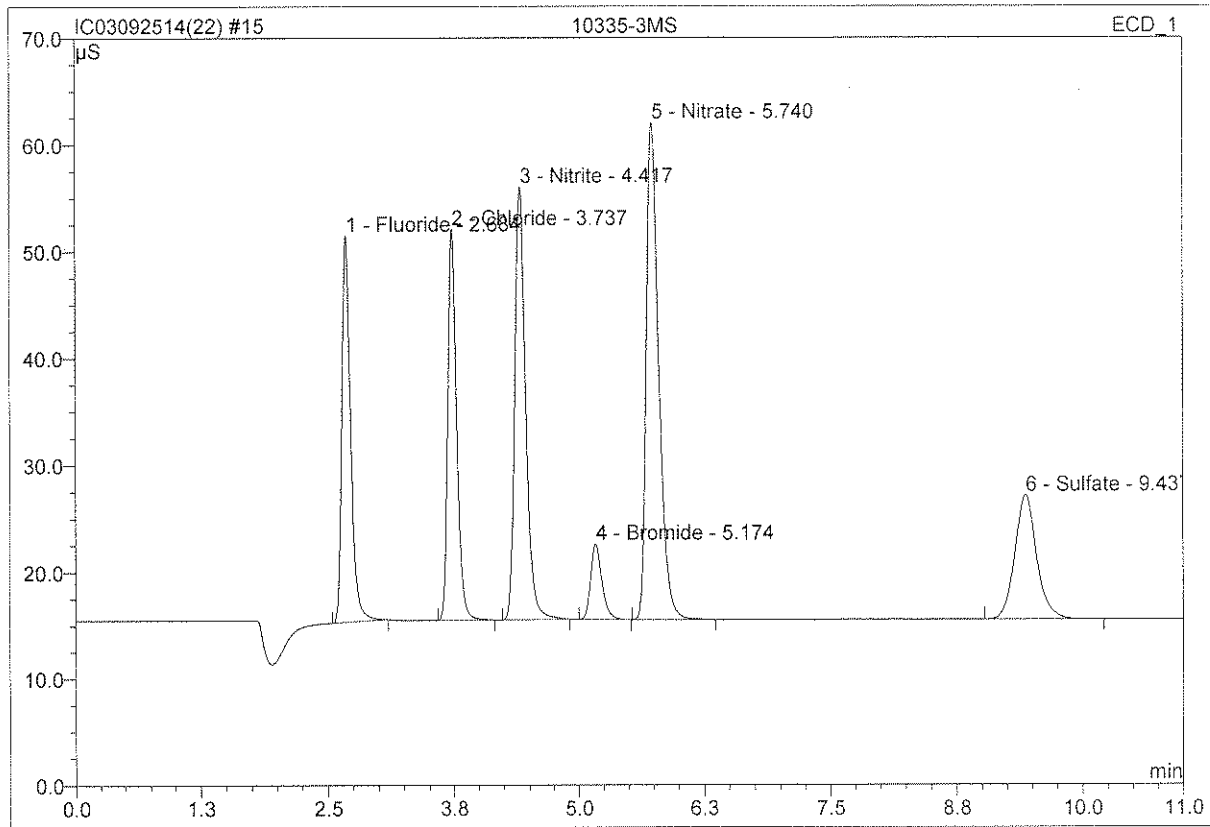
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.884	0.100	1.49	0.114	BMB
2	3.74	Chloride	29.393	3.051	45.61	4.413	BMB
3	5.76	Nitrate	2.883	0.442	6.61	0.256	BMB
4	9.48	Sulfate	12.365	3.096	46.28	7.006	BMB
Total:			45.526	6.689	100.00	11.789	

14 10335-3D			
D			
Sample Name:	10335-3D	Injection Volume:	200.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 10:41	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.588	0.066	1.00	0.076	BMB
2	3.75	Chloride	29.262	3.051	46.24	4.413	BMB
3	5.77	Nitrate	2.843	0.436	6.60	0.252	BMB
4	9.47	Sulfate	12.190	3.045	46.15	6.890	BMB
Total:			44.882	6.598	100.00	11.631	

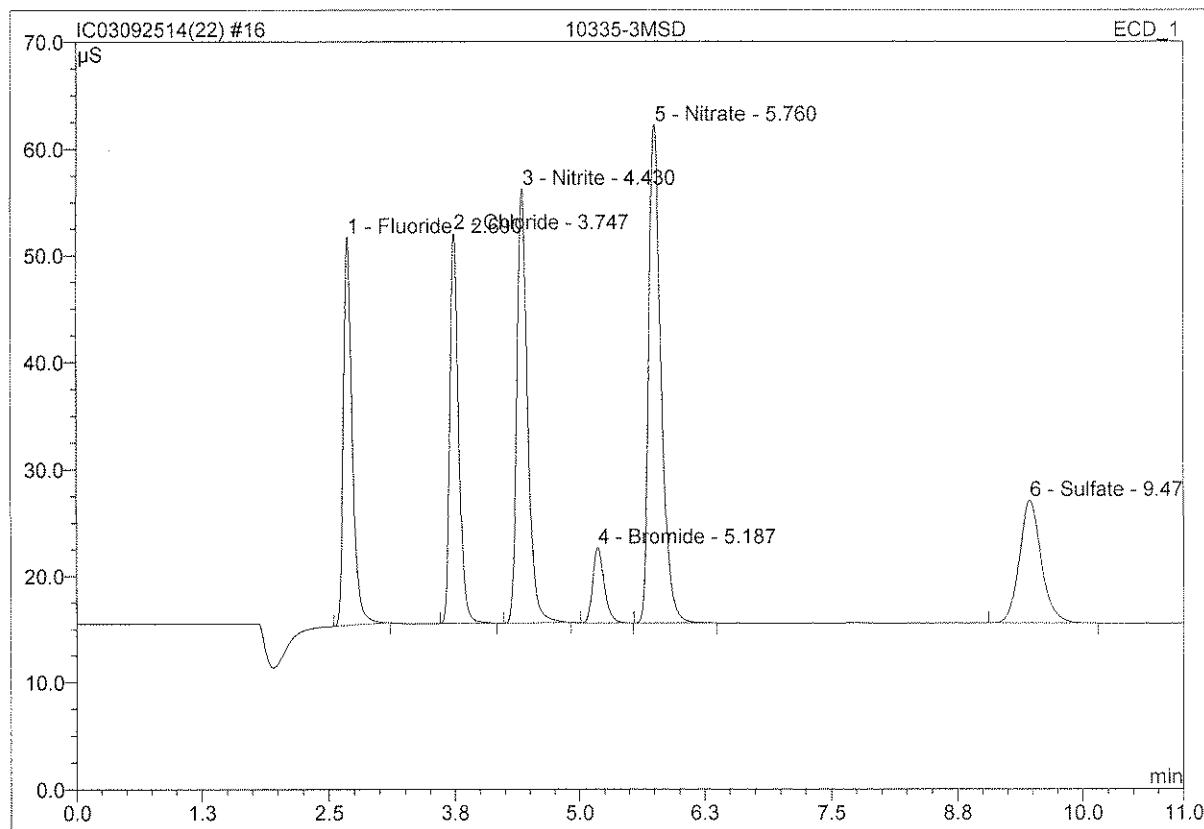
15 10335-3MS			
MS			
Sample Name:	10335-3MS	Injection Volume:	200.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 10:55	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	36.144	3.634	15.93	10.386	BMB
2	3.74	Chloride	36.548	3.760	16.48	13.597	BMB
3	4.42	Nitrite	40.473	5.041	22.10	10.336	BMB
4	5.17	Bromide	7.041	0.923	4.05	9.503	BMB
5	5.74	Nitrate	46.460	6.580	28.84	9.524	BMB
6	9.44	Sulfate	11.549	2.877	12.61	16.276	BMB
Total:			178.214	22.816	100.00	69.622	

SPL-10.10

16 10335-3MSD			
MSD			
Sample Name:	10335-3MSD	Injection Volume:	200.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 11:09	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000

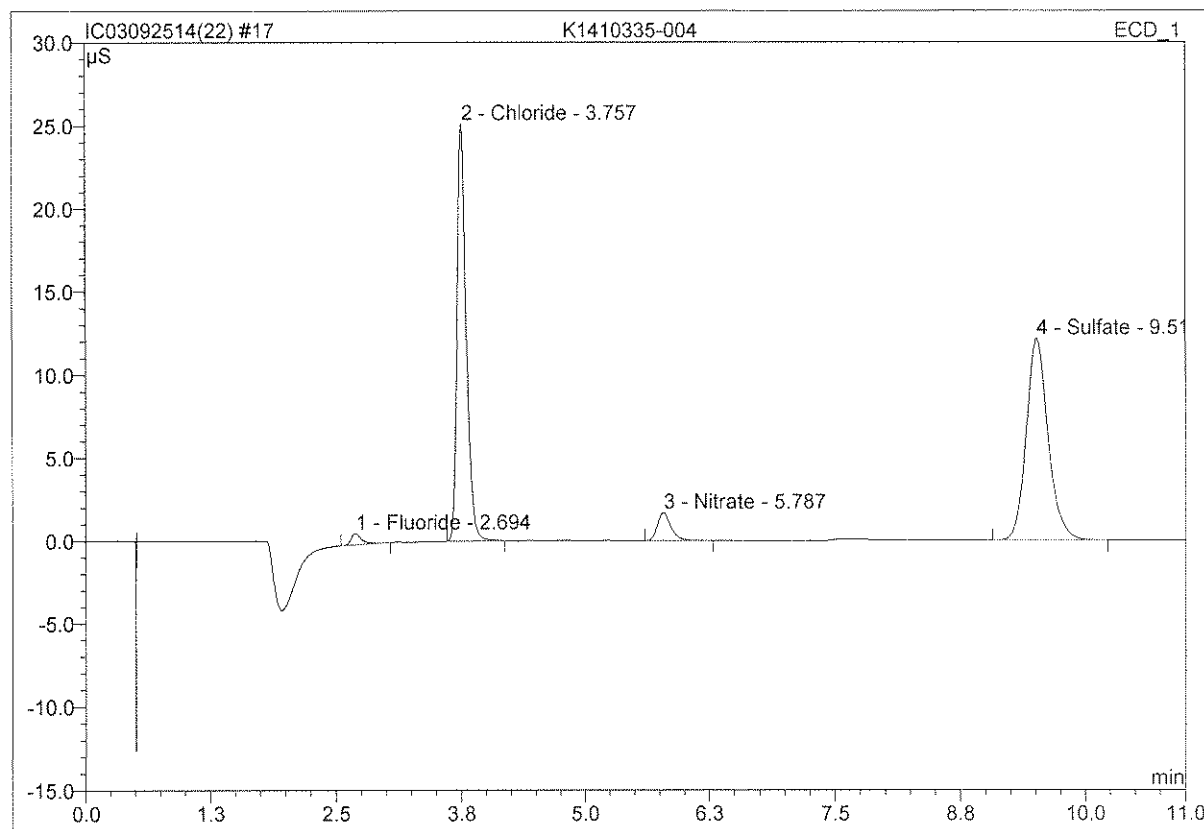


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	36.361	3.667	15.97	10.480	BMB
2	3.75	Chloride	36.552	3.767	16.40	13.621	BMB
3	4.43	Nitrite	40.694	5.080	22.11	10.415	BMB
4	5.19	Bromide	7.076	0.931	4.05	9.586	BMB
5	5.76	Nitrate	46.665	6.639	28.90	9.611	BMB
6	9.48	Sulfate	11.554	2.886	12.56	16.325	BMB
Total:			178.902	22.970	100.00	70.038	

5/11/14

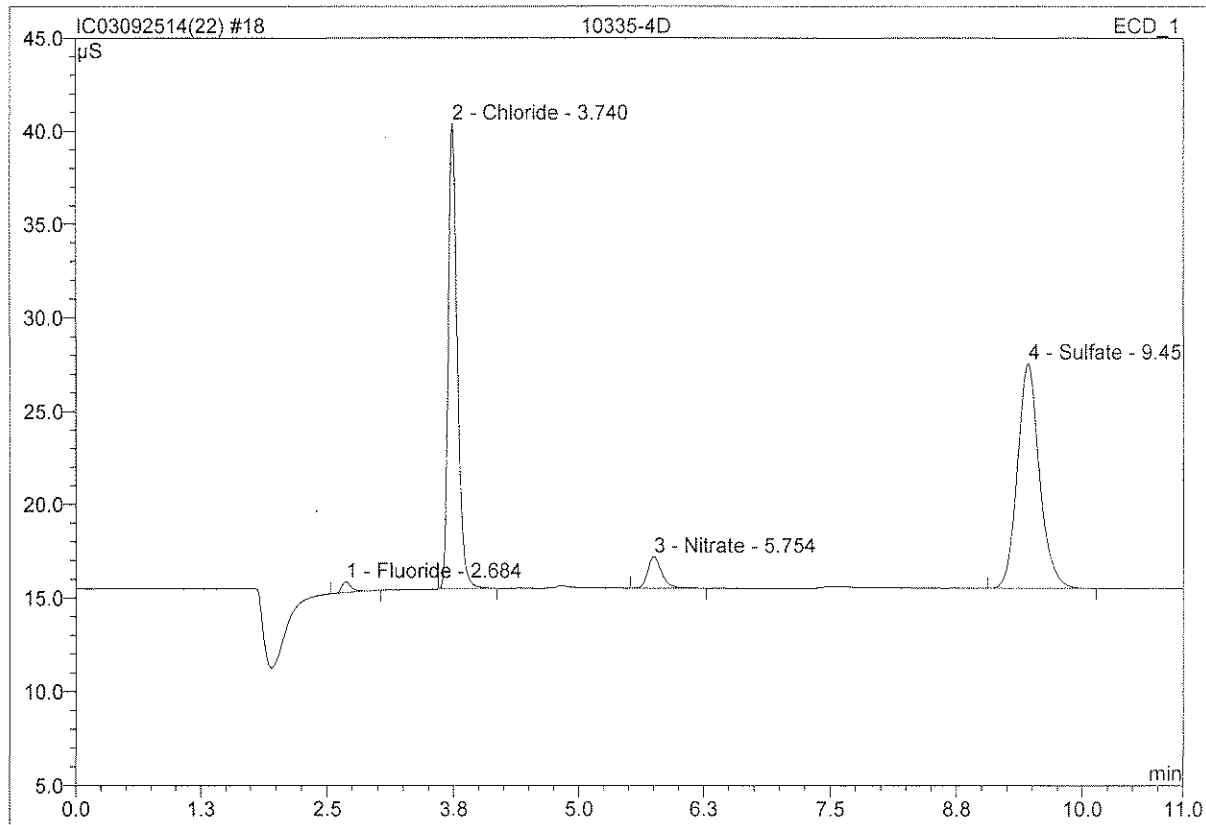
17 K1410335-004

Sample Name:	K1410335-004	Injection Volume:	200.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 11:23	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



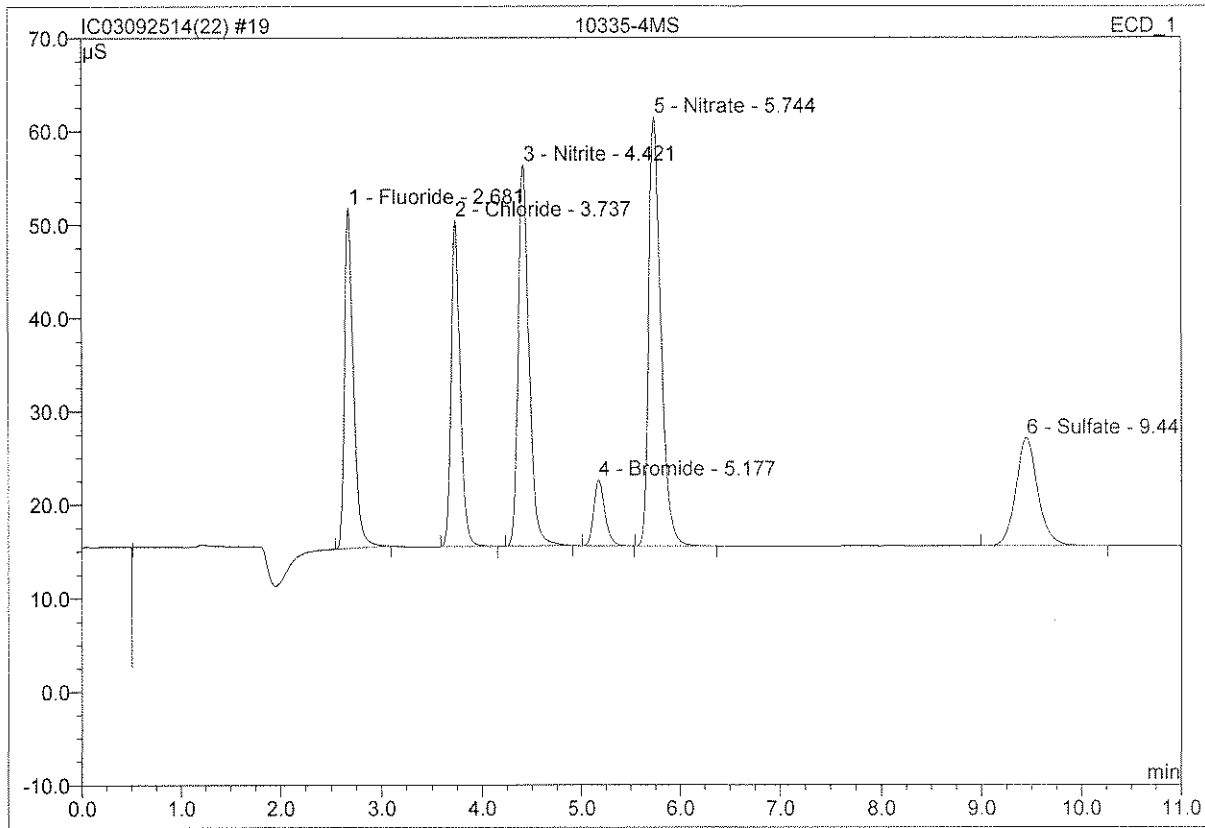
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.670	0.078	1.29	0.089	BMB
2	3.76	Chloride	25.123	2.619	43.62	3.788	BMB
3	5.79	Nitrate	1.677	0.259	4.32	0.150	BMB
4	9.51	Sulfate	12.134	3.048	50.77	6.898	BMB
Total:			39.605	6.005	100.00	10.925	

18 10335-4D			
D			
Sample Name:	10335-4D	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 11:37	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.565	0.064	1.08	0.073	BMB
2	3.74	Chloride	24.927	2.594	43.70	3.751	BMB
3	5.75	Nitrate	1.678	0.261	4.40	0.151	BMB
4	9.46	Sulfate	12.055	3.016	50.81	6.824	BMB
Total:			39.225	5.935	100.00	10.800	

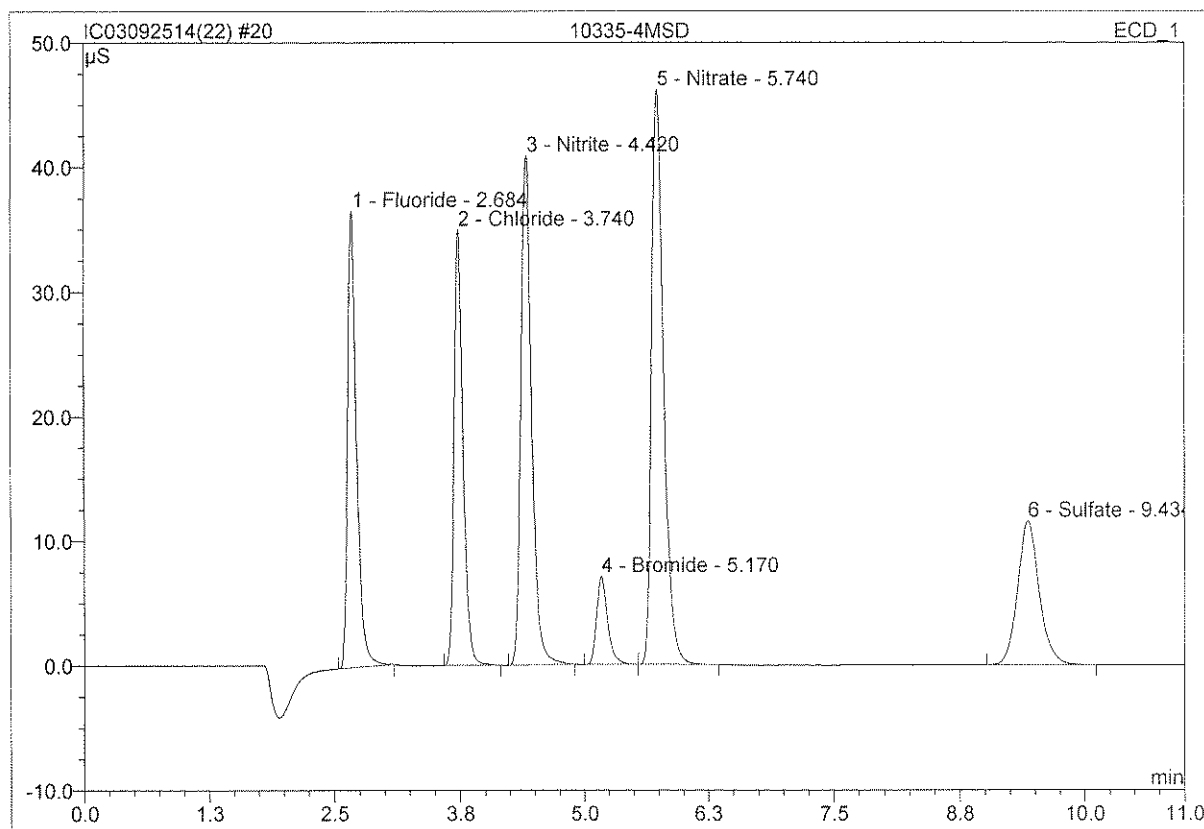
19 10335-4MS			
MS			
Sample Name:	10335-4MS	Injection Volume:	200.0
Vial Number:	9	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 11:51	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	36.462	3.652	16.12	10.437	BMB
2	3.74	Chloride	34.989	3.605	15.91	13.034	BMB
3	4.42	Nitrite	40.814	5.083	22.43	10.421	BMB
4	5.18	Bromide	7.078	0.929	4.10	9.564	BMB
5	5.74	Nitrate	45.948	6.513	28.74	9.428	BMB
6	9.45	Sulfate	11.535	2.879	12.71	16.288	BMB
Total:			176.826	22.661	100.00	69.172	

SP16-10/0

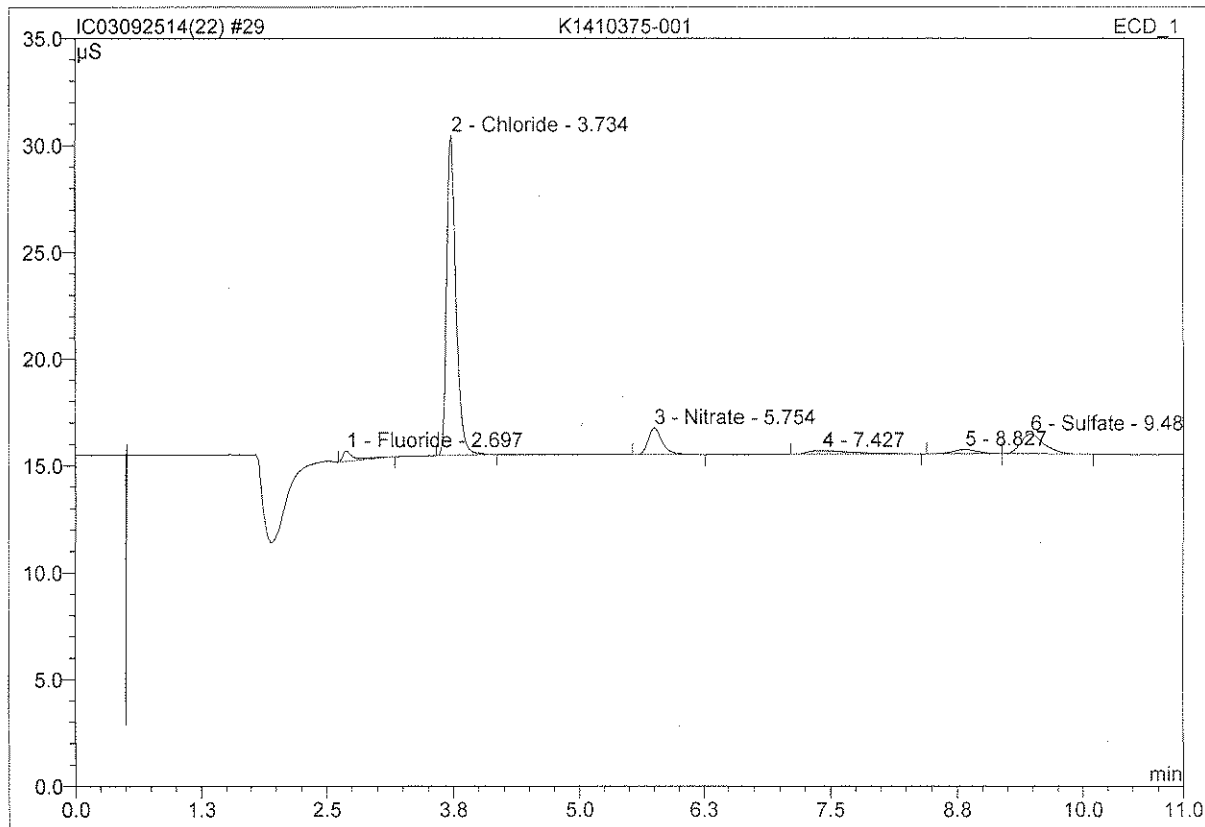
20 10335-4MSD			
MSD			
Sample Name:	10335-4MSD	Injection Volume:	200.0
Vial Number:	10	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 12:06	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	36.646	3.660	16.14	10.460	BMB
2	3.74	Chloride	34.964	3.591	15.83	12.986	BMB
3	4.42	Nitrite	40.883	5.080	22.39	10.415	BMB
4	5.17	Bromide	7.093	0.934	4.12	9.614	BMB
5	5.74	Nitrate	46.170	6.541	28.83	9.468	BMB
6	9.43	Sulfate	11.550	2.880	12.69	16.291	BMB
Total:			177.306	22.685	100.00	69.233	

5/16/10.0

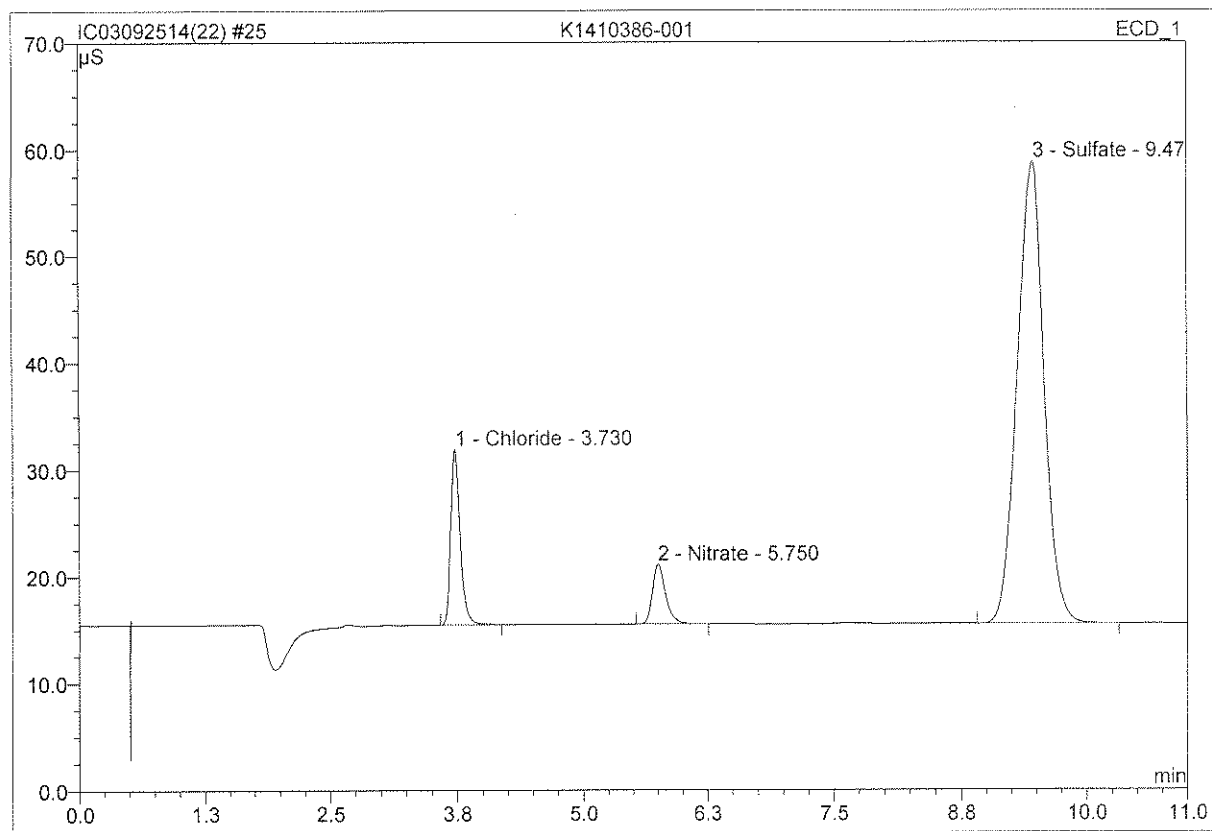
29 K1410375-001			
Sample Name:	K1410375-001	Injection Volume:	200.0
Vial Number:	17	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 14:27	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.70	Fluoride	0.481	0.063	2.80	0.072	BMB
2	3.73	Chloride	14.971	1.598	71.24	2.311	BMB
3	5.75	Nitrate	1.238	0.196	8.76	0.114	BMB
4	7.43	n.a.	0.161	0.089	3.98	n.a.	BMB
5	8.83	n.a.	0.196	0.057	2.53	n.a.	BMB
6	9.48	Sulfate	0.925	0.240	10.70	0.543	BMB
Total:			17.971	2.243	100.00	3.040	

25 K1410386-001

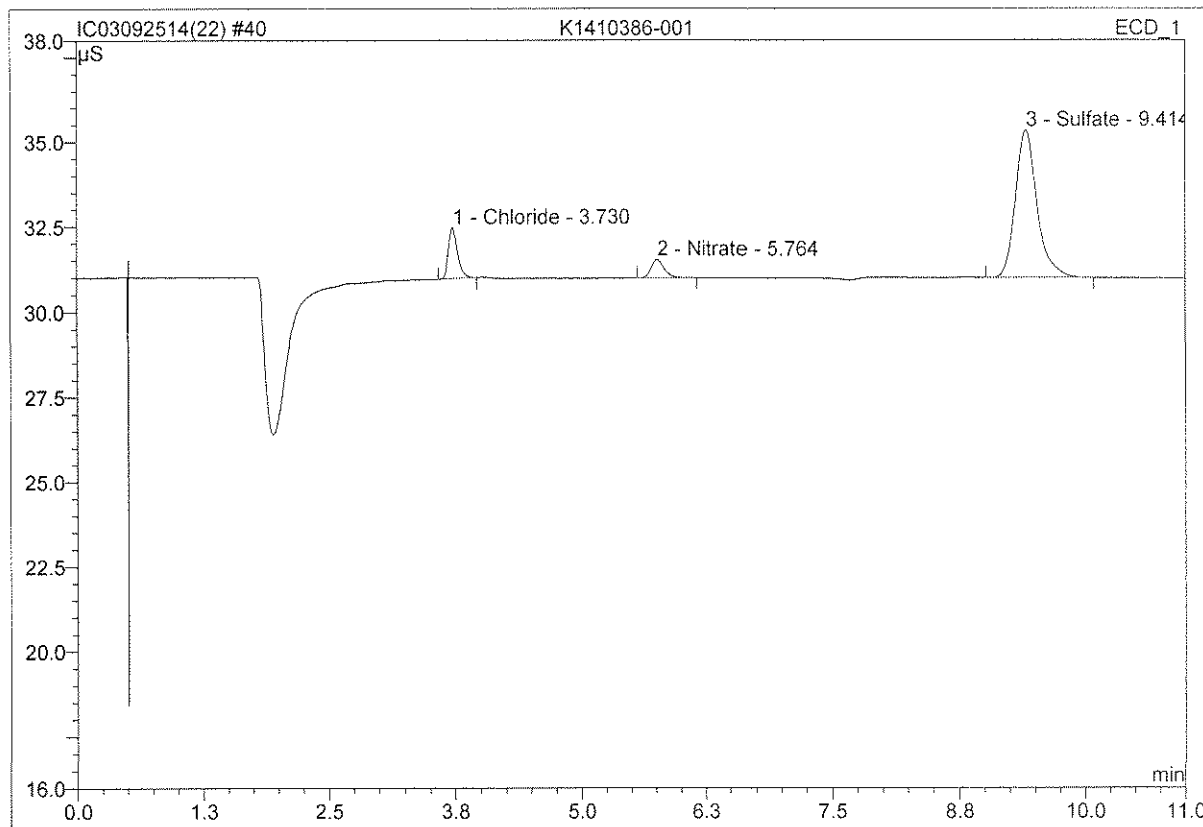
Sample Name:	K1410386-001	Injection Volume:	200.0
Vial Number:	13	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 13:17	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	3.73	Chloride	16.415	1.756	11.06	2.540	BMB
2	5.75	Nitrate	5.573	0.842	5.30	0.488	BMB
3	9.47	Sulfate	43.308	13.278	83.63	30.047	BMB
Total:			65.297	15.877	100.00	33.074	

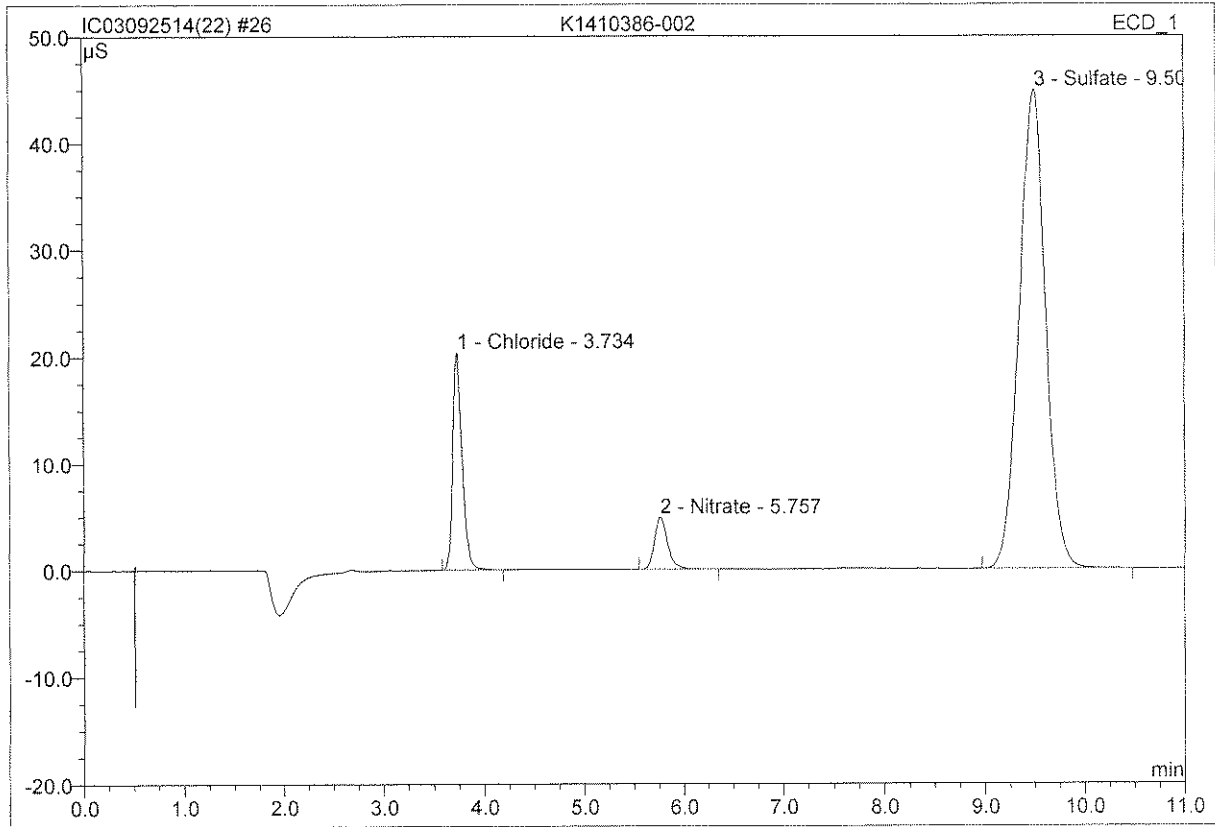
40 K1410386-001

Sample Name:	K1410386-001	Injection Volume:	200.0
Vial Number:	26	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 17:05	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



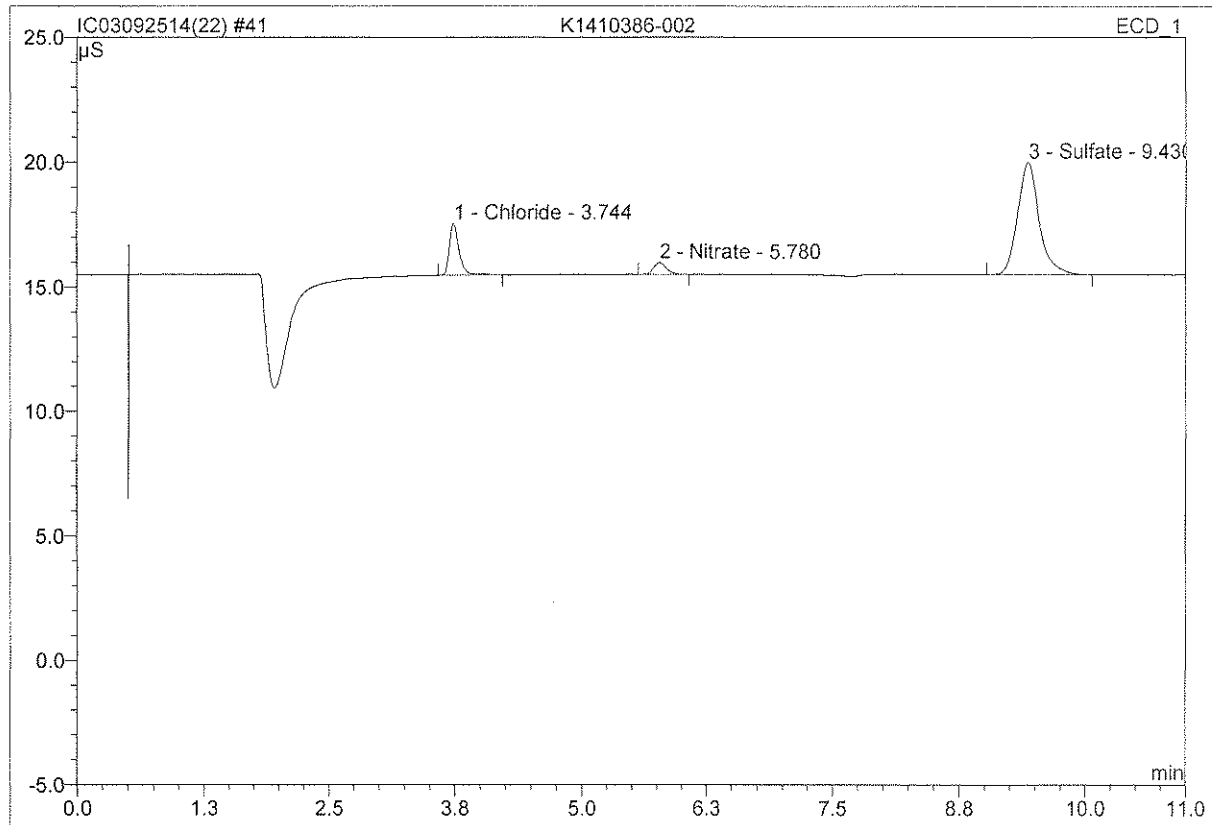
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.73	Chloride	1.486	0.159	12.07	2.293	BMB
2	5.76	Nitrate	0.531	0.081	6.16	0.468	BMB
3	9.41	Sulfate	4.338	1.074	81.77	24.300	BMB
Total:			6.355	1.313	100.00	27.061	

26 K1410386-002			
Sample Name:	K1410386-002	Injection Volume:	200.0
Vial Number:	14	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 13:31	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.73	Chloride	20.408	2.179	13.10	3.152	BMB
2	5.76	Nitrate	4.852	0.741	4.45	0.429	BMB
3	9.50	Sulfate	44.870	13.715	82.45	31.034	BMB
Total:			70.130	16.635	100.00	34.615	

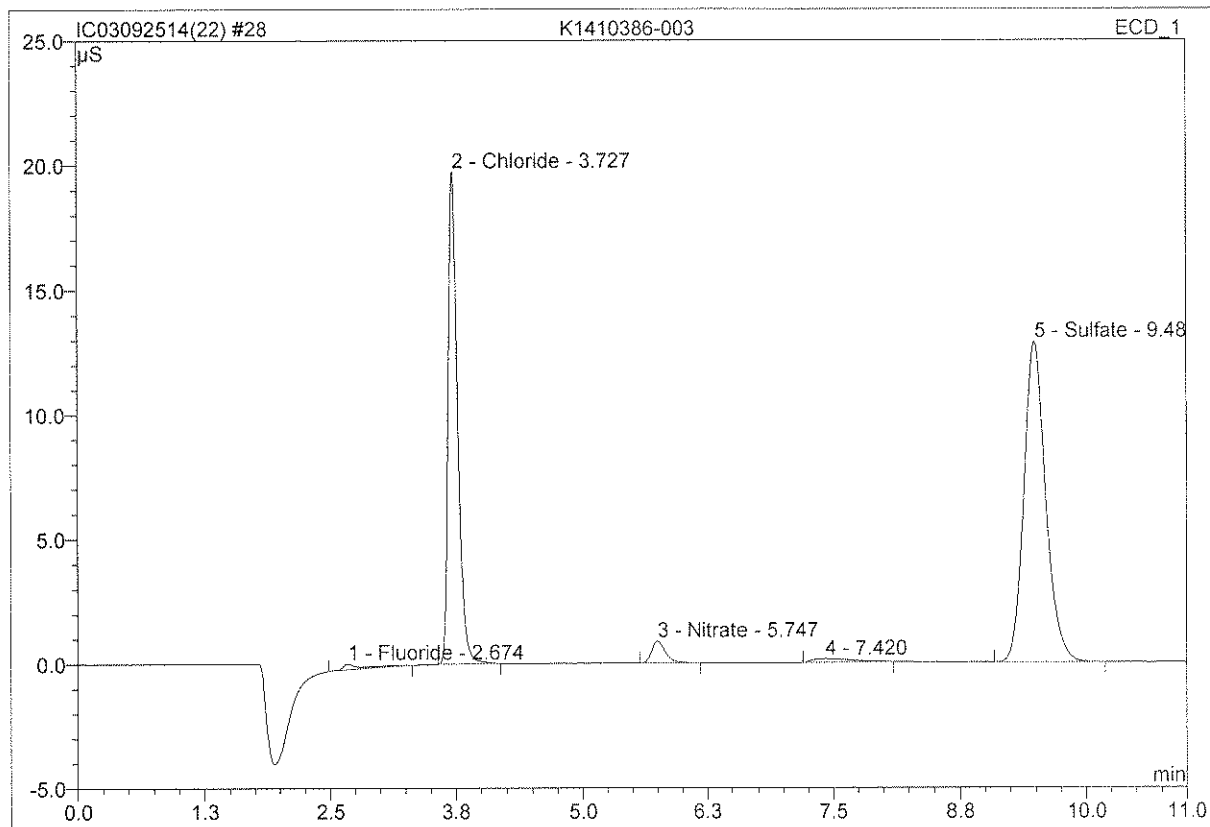
41 K1410386-002			
Sample Name:	K1410386-002	Injection Volume:	200.0
Vial Number:	27	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 17:19	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.74	Chloride	2.085	0.231	16.39	3.341	BMB
2	5.78	Nitrate	0.479	0.073	5.15	0.420	BMB
3	9.43	Sulfate	4.492	1.105	78.45	25.015	BMB
Total:			7.055	1.409	100.00	28.777	

28 K1410386-003

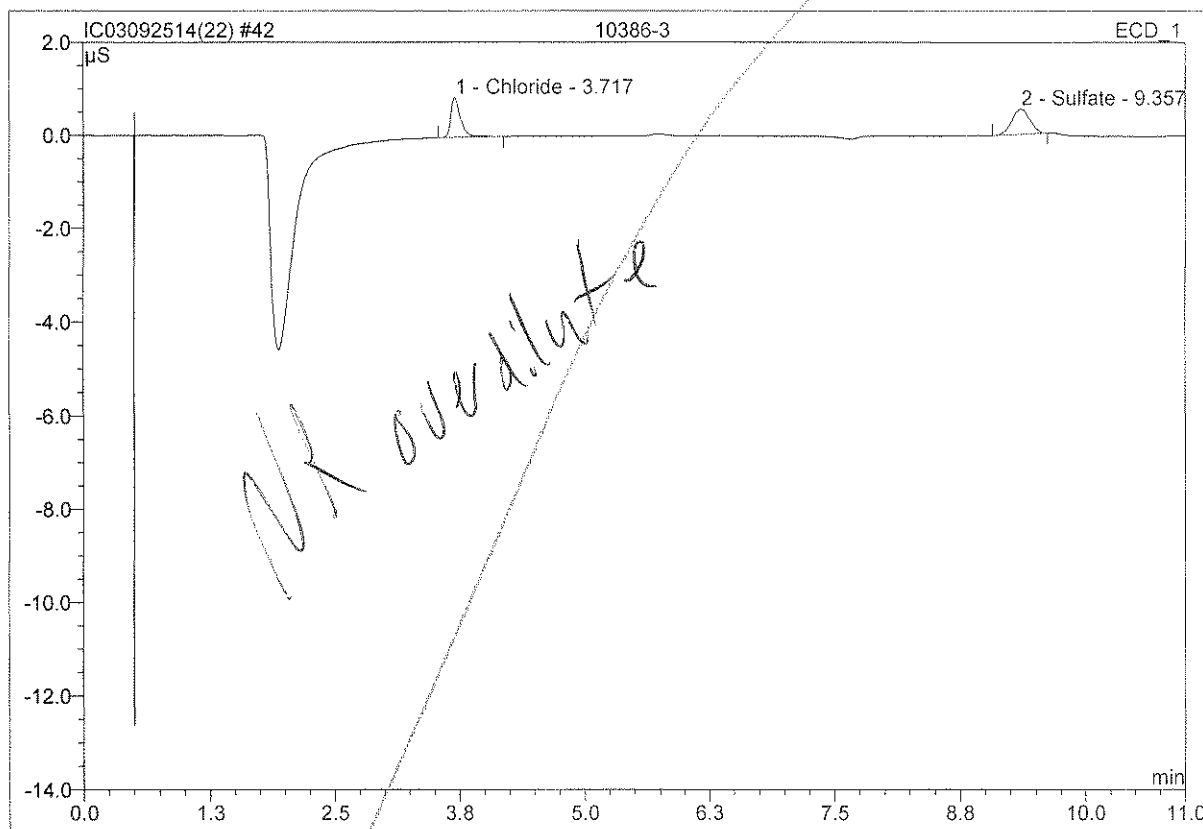
Sample Name:	K1410386-003	Injection Volume:	200.0
Vial Number:	23	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 14:13	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	0.239	0.055	0.98	0.031	BMB
2	3.73	Chloride	19.724	2.151	38.44	1.556	BMB
3	5.75	Nitrate	0.873	0.137	2.45	0.040	BMB
4	7.42	n.a.	0.152	0.068	1.22	n.a.	BMB
5	9.49	Sulfate	12.869	3.185	56.91	3.603	BMB
Total:			33.857	5.596	100.00	5.230	

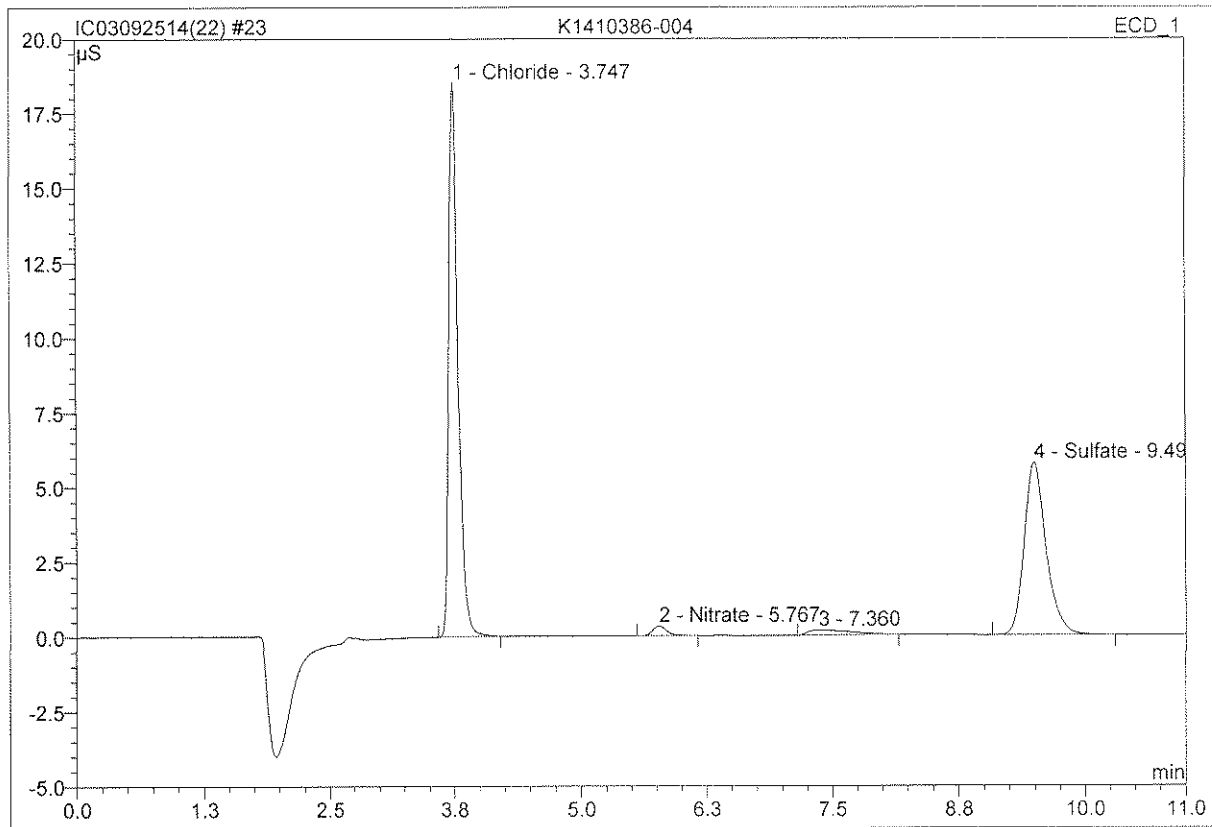
42 10386-3

Sample Name:	10386-3	Injection Volume:	200.0
Vial Number:	28	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 17:33	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.72	Chloride	0.854	0.098	46.51	1.410	BMB
2	9.36	Sulfate	0.540	0.112	53.49	2.538	BMB
Total:			1.394	0.210	100.00	3.948	

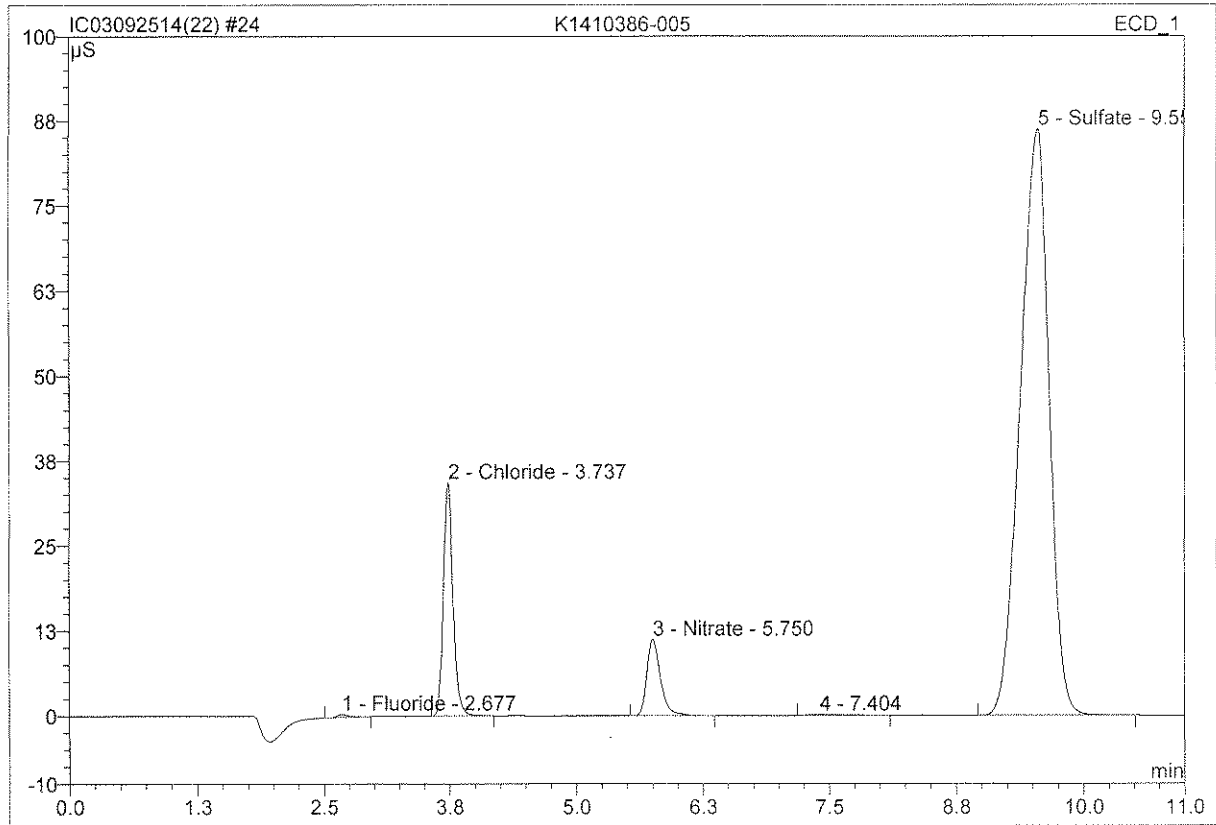
23 K1410386-004			
Sample Name:	K1410386-004	Injection Volume:	200.0
Vial Number:	11	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 12:48	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	3.75	Chloride	18.524	2.017	56.26	1.459	BMB
2	5.77	Nitrate	0.322	0.052	1.46	0.015	BMB
3	7.36	n.a.	0.172	0.086	2.39	n.a.	BMB
4	9.49	Sulfate	5.763	1.430	39.89	1.618	BMB
Total:			24.781	3.585	100.00	3.092	

24 K1410386-005

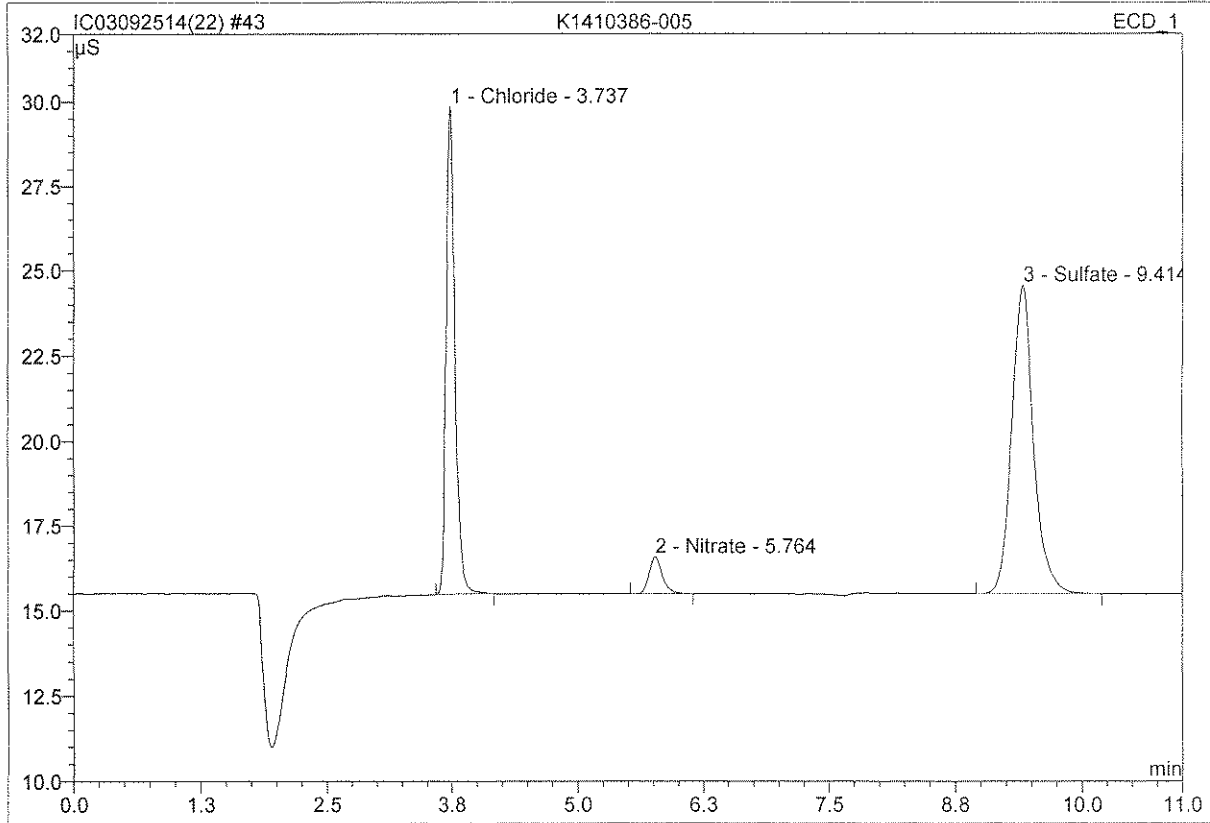
Sample Name:	K1410386-005	Injection Volume:	200.0
Vial Number:	12	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 13:02	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.424	0.053	0.16	0.030	BMB
2	3.74	Chloride	34.242	3.767	11.13	2.724	BMB
3	5.75	Nitrate	11.159	1.744	5.15	0.505	BMB
4	7.40	n.a.	0.146	0.066	0.19	n.a.	BMB
5	9.55	Sulfate	86.223	28.226	83.37	31.935	BMB
Total:			132.194	33.856	100.00	35.195	

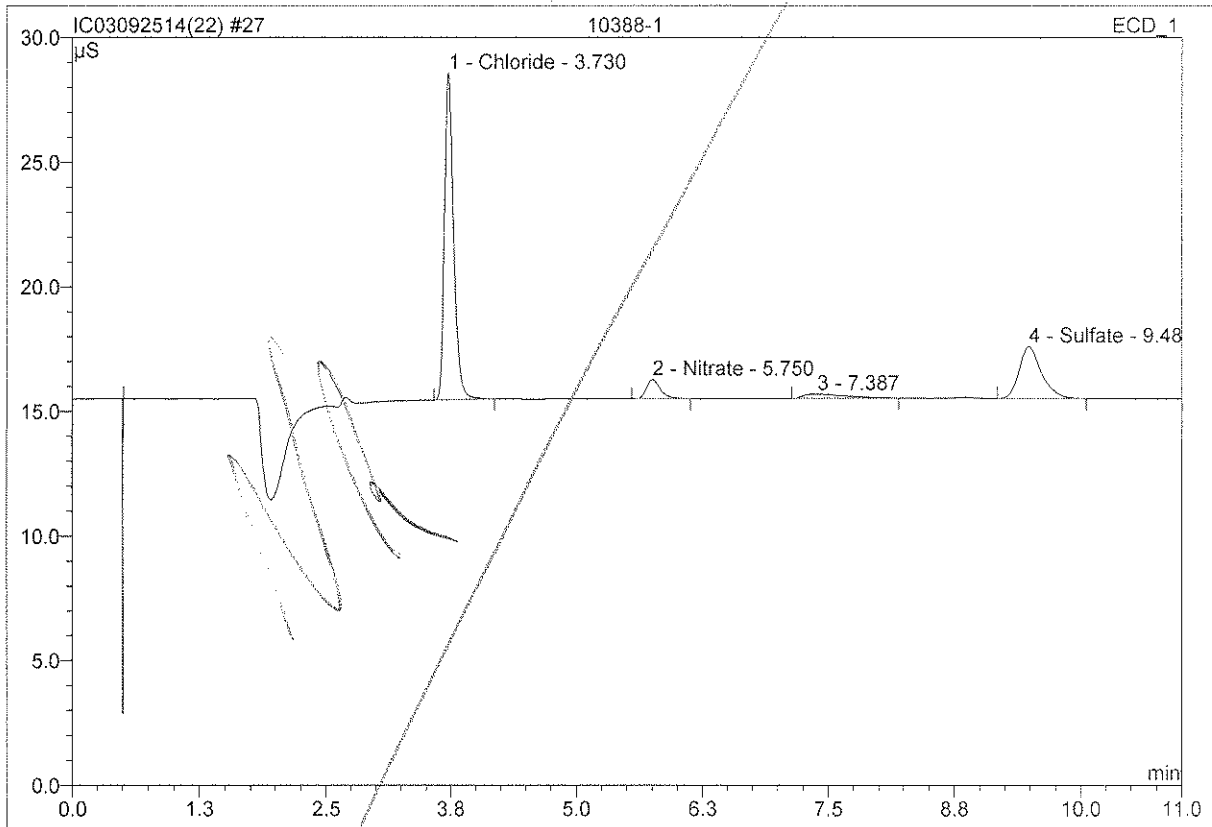
43 K1410386-005

Sample Name:	K1410386-005	Injection Volume:	200.0
Vial Number:	29	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	10.0000
Recording Time:	9/25/2014 17:47	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



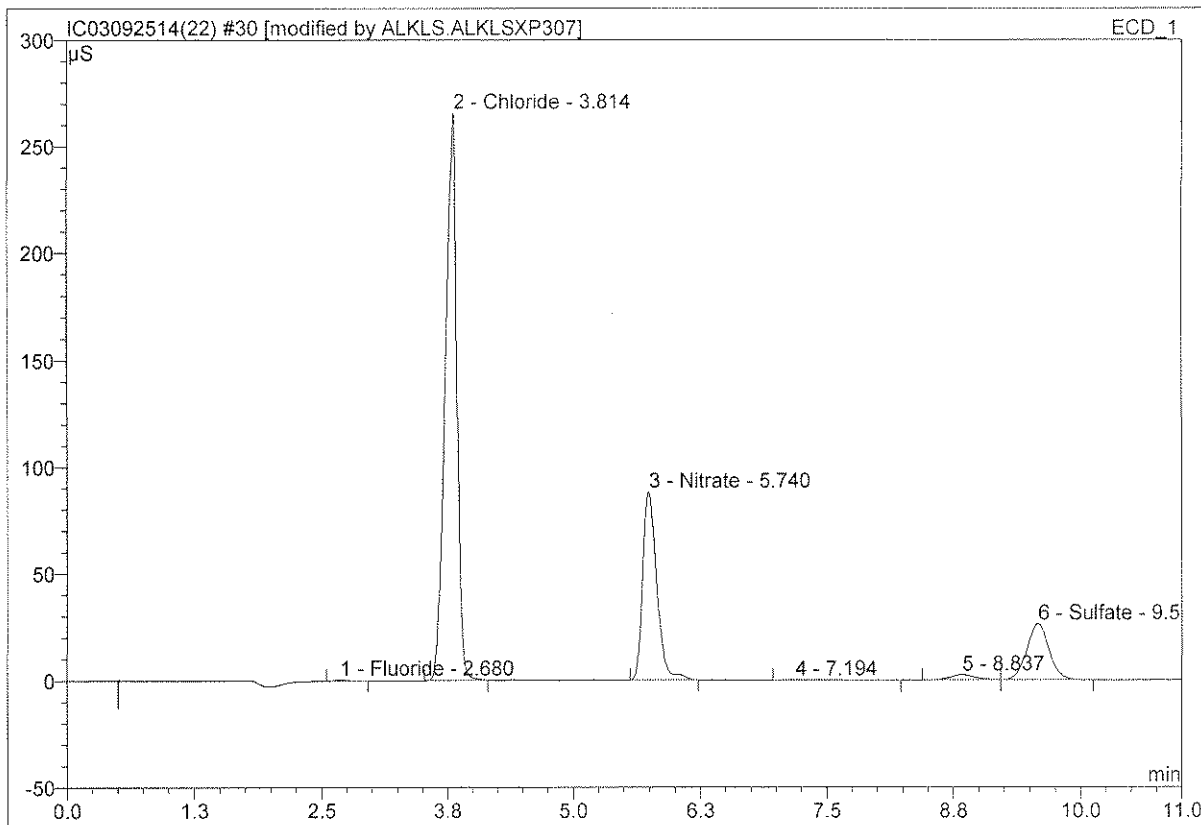
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.74	Chloride	14.365	1.482	38.07	10.719	BMB
2	5.76	Nitrate	1.080	0.162	4.16	0.469	BMB
3	9.41	Sulfate	9.049	2.249	57.77	25.450	BMB
Total:			24.493	3.894	100.00	36.637	

27 10388-1			
Sample Name:	10388-1	Injection Volume:	200.0
Vial Number:	16	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 13:59	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.73	Chloride	13.110	1.421	65.67	2.056	BMB
2	5.75	Nitrate	0.766	0.121	5.58	0.070	BMB
3	7.39	n.a.	0.173	0.088	4.05	n.a.	BMB
4	9.48	Sulfate	2.089	0.534	24.69	1.209	BMB
Total:			16.138	2.164	100.00	3.335	

30 K1410396-001			
Sample Name:	K1410396-001	Injection Volume:	200.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 14:42	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.550	0.073	0.13	0.084	BMB
2	3.81	Chloride	265.599	35.523	62.37	51.377	BMB
3	5.74	Nitrate	88.149	13.990	24.56	8.100	BMB*
4	7.19	n.a.	0.252	0.152	0.27	n.a.	BMB
5	8.84	n.a.	2.377	0.661	1.16	n.a.	BMB
6	9.58	Sulfate	26.186	6.553	11.51	14.828	bMB
Total:			383.113	56.951	100.00	74.388	

NO₃-N, 10

After Initials BIT

Handwritten signature
9/26/14

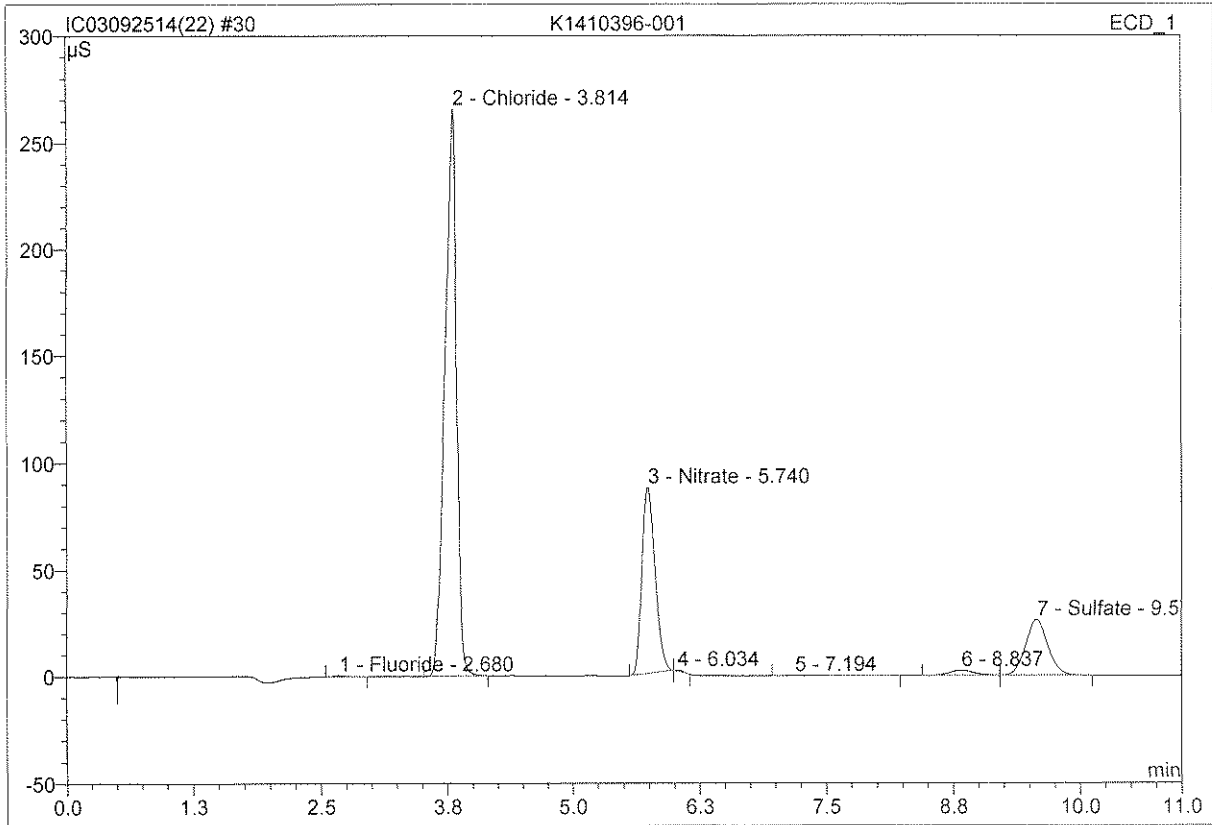
SEP 25 2014

default/Integration

Wrong Peak/Peak not Found
 Baseline/shoulder Incorrect
 Other _____
 131

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

30 K1410396-001			
Sample Name:	K1410396-001	Injection Volume:	200.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 14:42	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.550	0.073	0.13	0.084	BMB
2	3.81	Chloride	265.599	35.523	63.24	51.377	BMB
3	5.74	Nitrate	87.139	13.152	23.42	7.615	BMb
4	6.03	n.a.	0.549	0.057	0.10	n.a.	bMB
5	7.19	n.a.	0.252	0.152	0.27	n.a.	BMB
6	8.84	n.a.	2.377	0.661	1.18	n.a.	BMb
7	9.58	Sulfate	26.186	6.553	11.67	14.828	bMB
Total:			382.652	56.171	100.00	73.904	

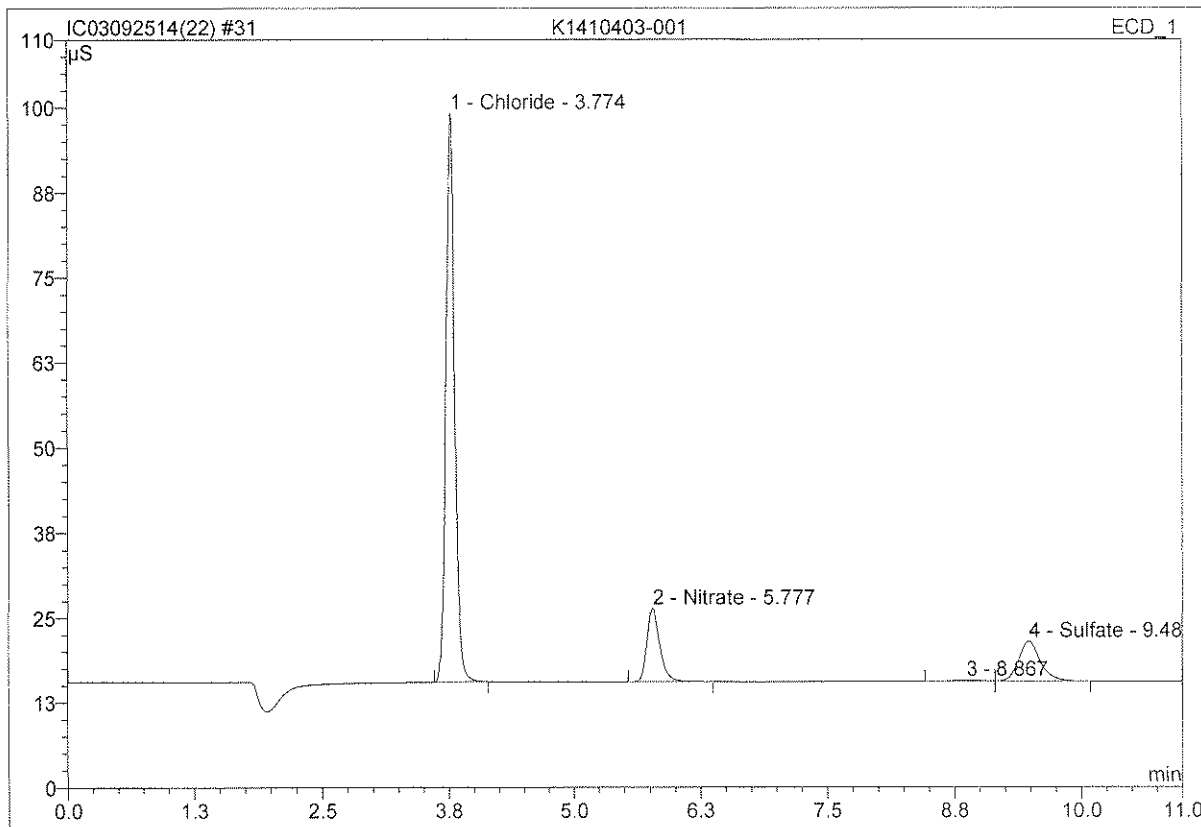
Below:

SEP 25 2014

HT
9/25/14

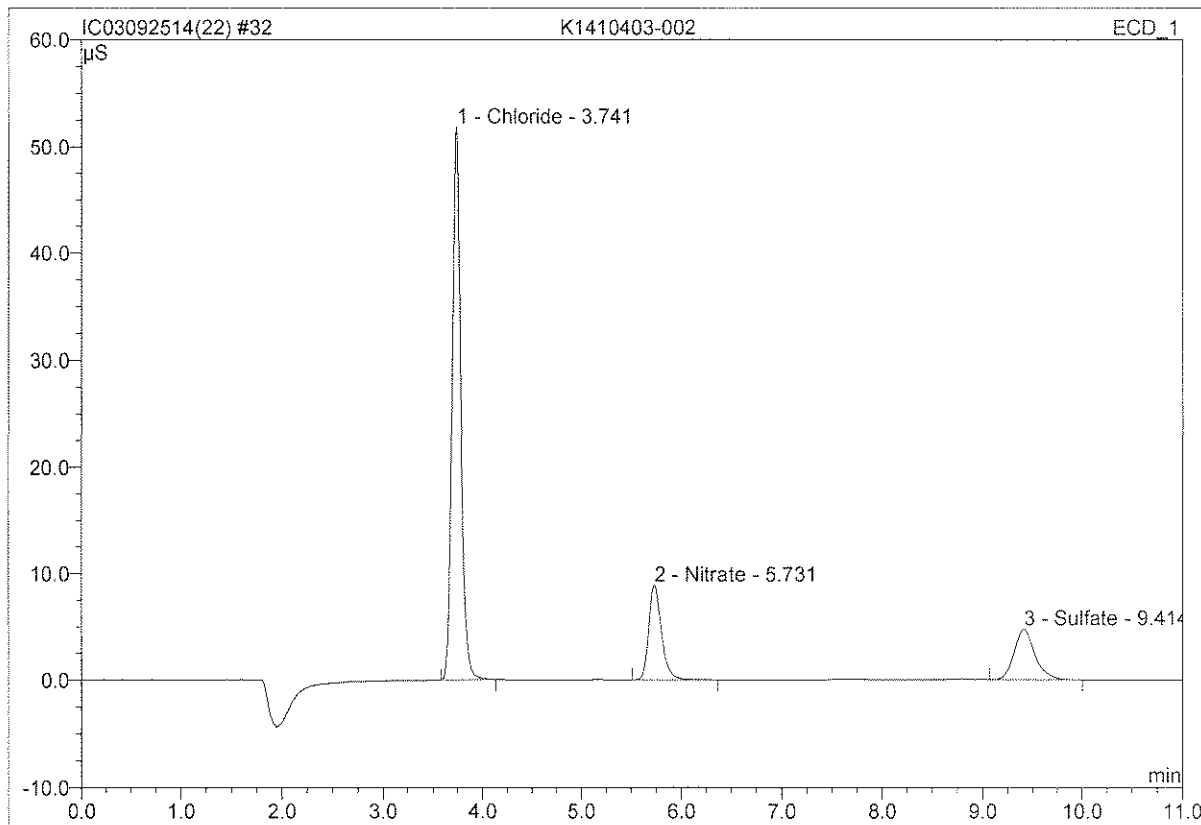
31 K1410403-001

Sample Name:	K1410403-001	Injection Volume:	200.0
Vial Number:	19	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 14:56	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



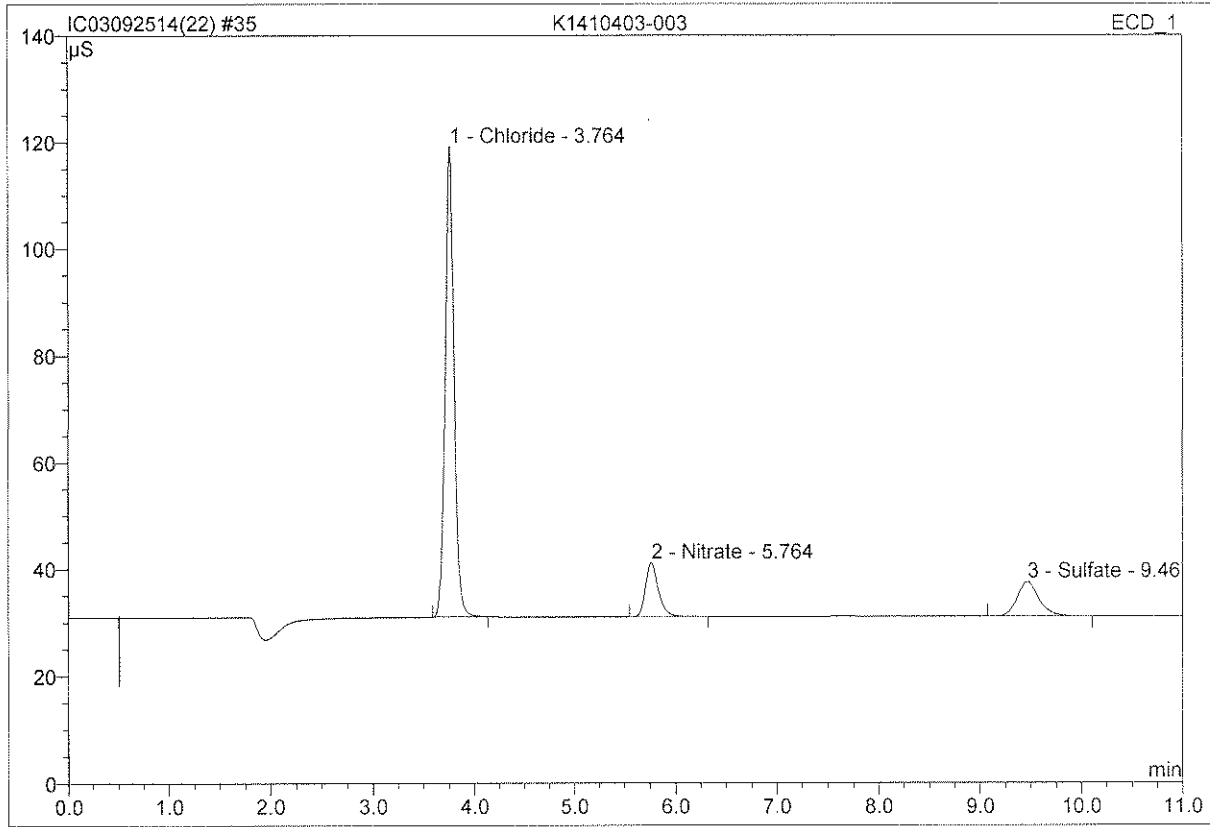
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount	Type
1	3.77	Chloride	83.618	8.490	73.39	122.786	BMB
2	5.78	Nitrate	10.831	1.597	13.81	9.249	BMB
3	8.87	n.a.	0.156	0.042	0.36	n.a.	BMB
4	9.49	Sulfate	5.886	1.439	12.44	32.570	bMB
Total:			100.491	11.568	100.00	164.605	

32 K1410403-002			
Sample Name:	K1410403-002	Injection Volume:	200.0
Vial Number:	20	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 15:10	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



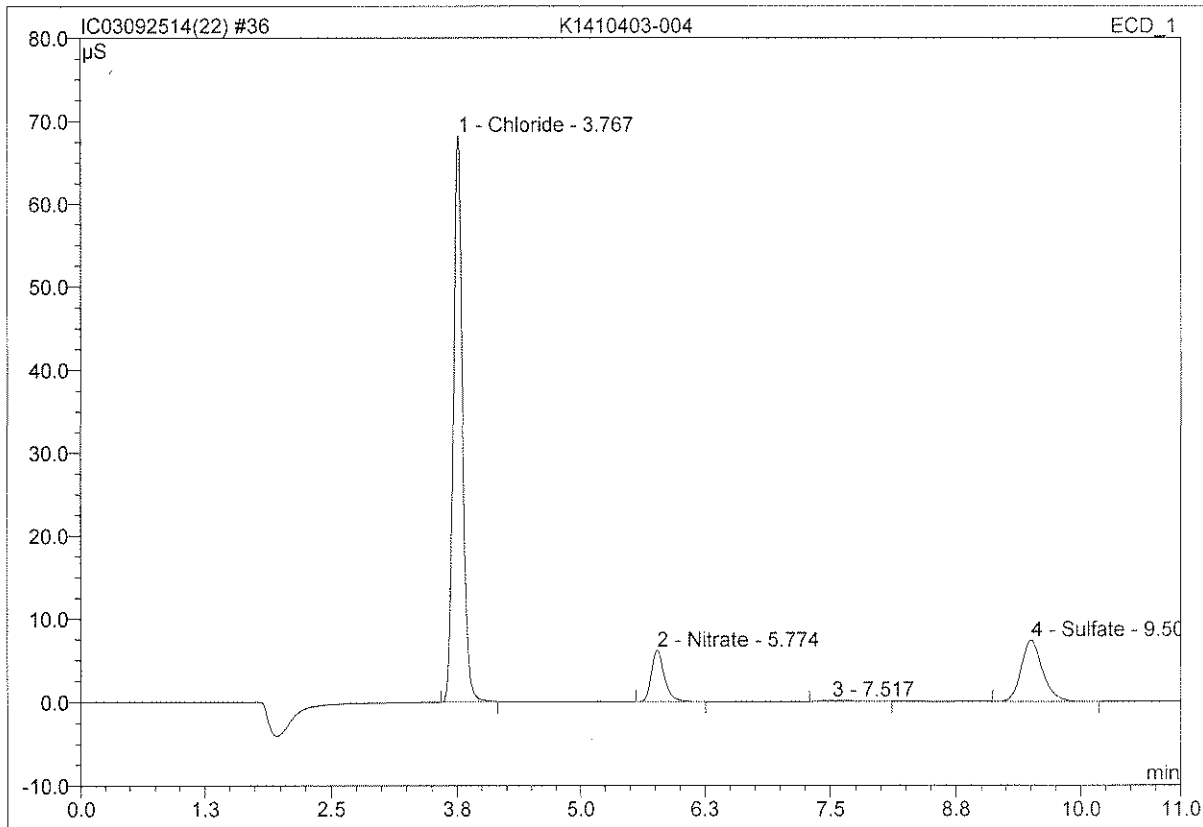
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.74	Chloride	51.827	5.233	67.97	75.682	BMB
2	5.73	Nitrate	8.877	1.309	17.00	7.578	BMB
3	9.41	Sulfate	4.731	1.157	15.03	26.181	BMB
Total:			65.434	7.698	100.00	109.441	

35 K1410403-003			
Sample Name:	K1410403-003	Injection Volume:	200.0
Vial Number:	21	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 15:53	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.76	Chloride	88.103	9.008	74.75	130.280	BMB
2	5.76	Nitrate	10.000	1.471	12.21	8.518	BMB
3	9.47	Sulfate	6.379	1.572	13.04	35.567	BMB
Total:			104.482	12.051	100.00	174.365	

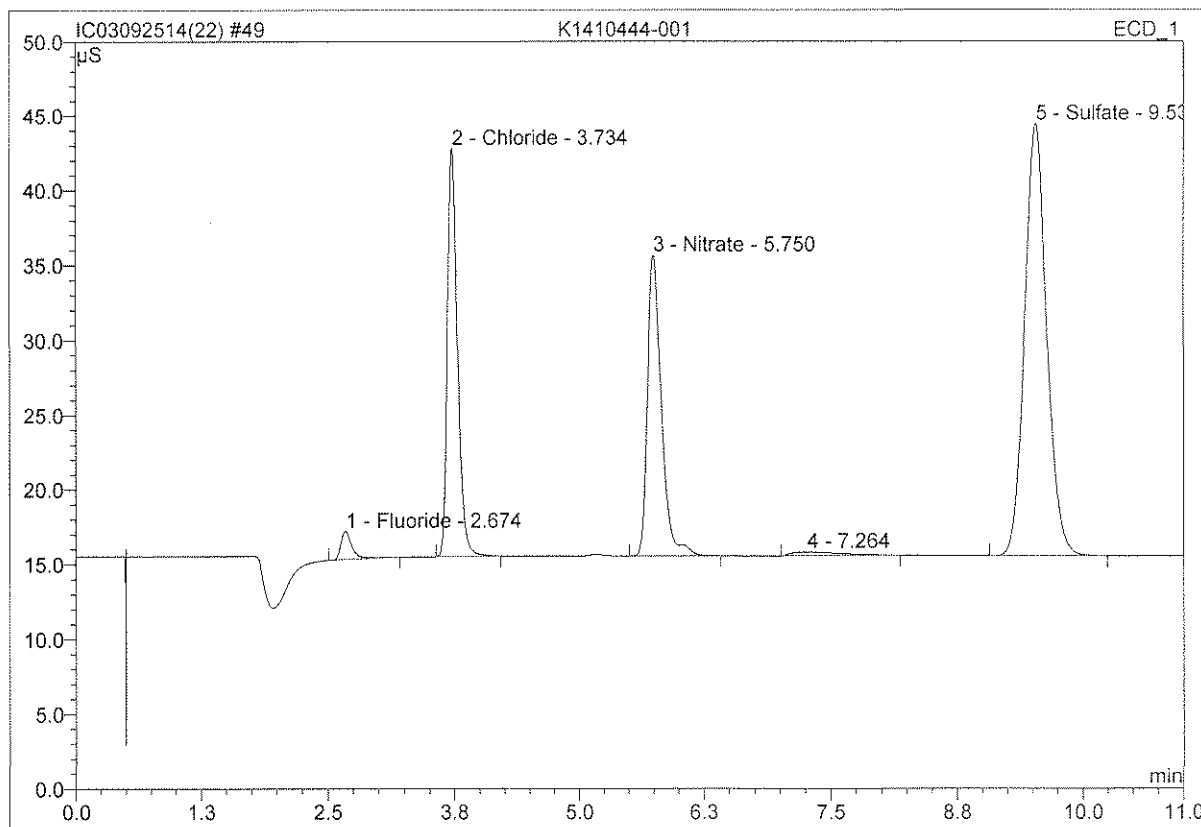
36 K1410403-004			
Sample Name:	K1410403-004	Injection Volume:	200.0
Vial Number:	22	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	9/25/2014 16:08	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.77	Chloride	68.249	7.188	71.93	103.966	BMB
2	5.77	Nitrate	6.155	0.938	9.39	5.433	BMB
3	7.52	n.a.	0.134	0.059	0.59	n.a.	BMB
4	9.50	Sulfate	7.356	1.809	18.10	40.926	BMB
Total:			81.894	9.994	100.00	150.324	

49 K1410444-001

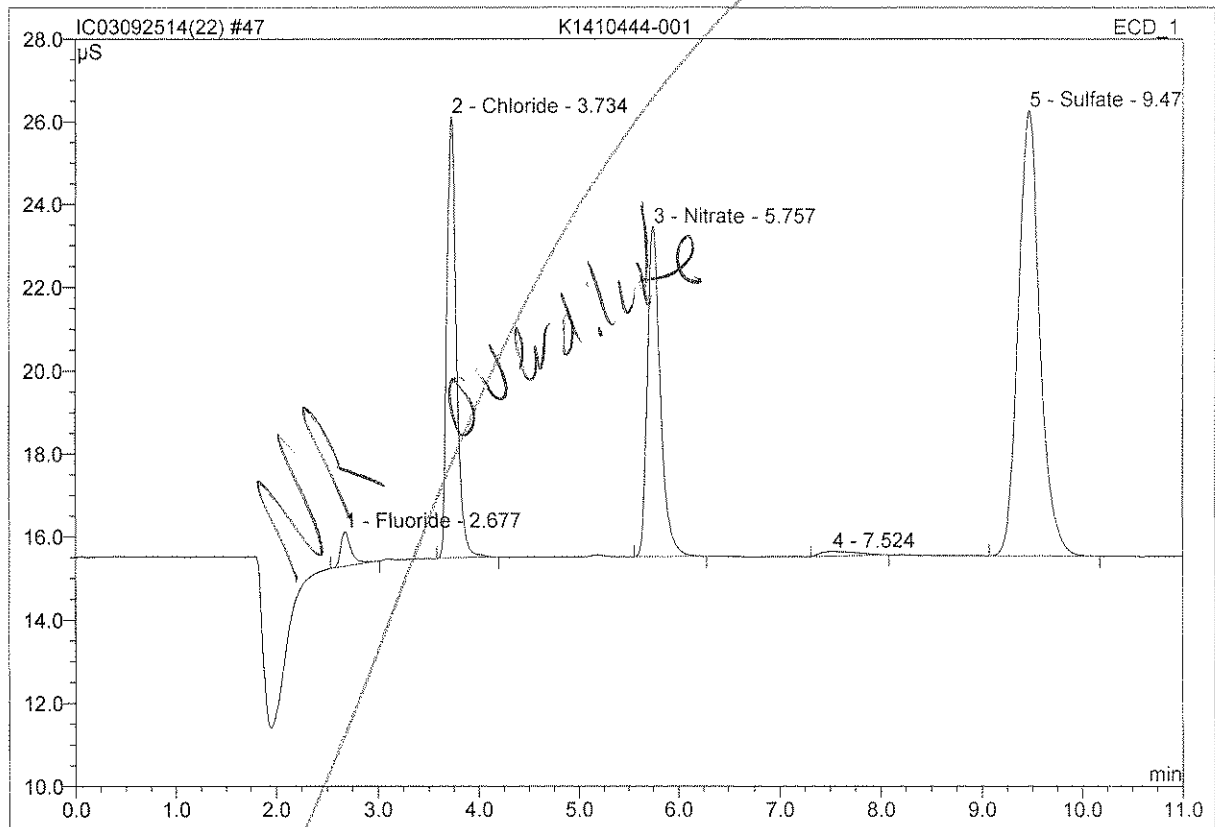
Sample Name:	K1410444-001	Injection Volume:	200.0
Vial Number:	33	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 19:15	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	1.861	0.235	1.67	0.269	BMB
2	3.73	Chloride	27.262	3.194	22.62	4.619	BMB
3	5.75	Nitrate	20.100	3.226	22.85	1.868	BMB
4	7.26	n.a.	0.250	0.149	1.05	n.a.	BMB
5	9.53	Sulfate	28.894	7.315	51.81	16.552	BMB
Total:			78.367	14.118	100.00	23.308	

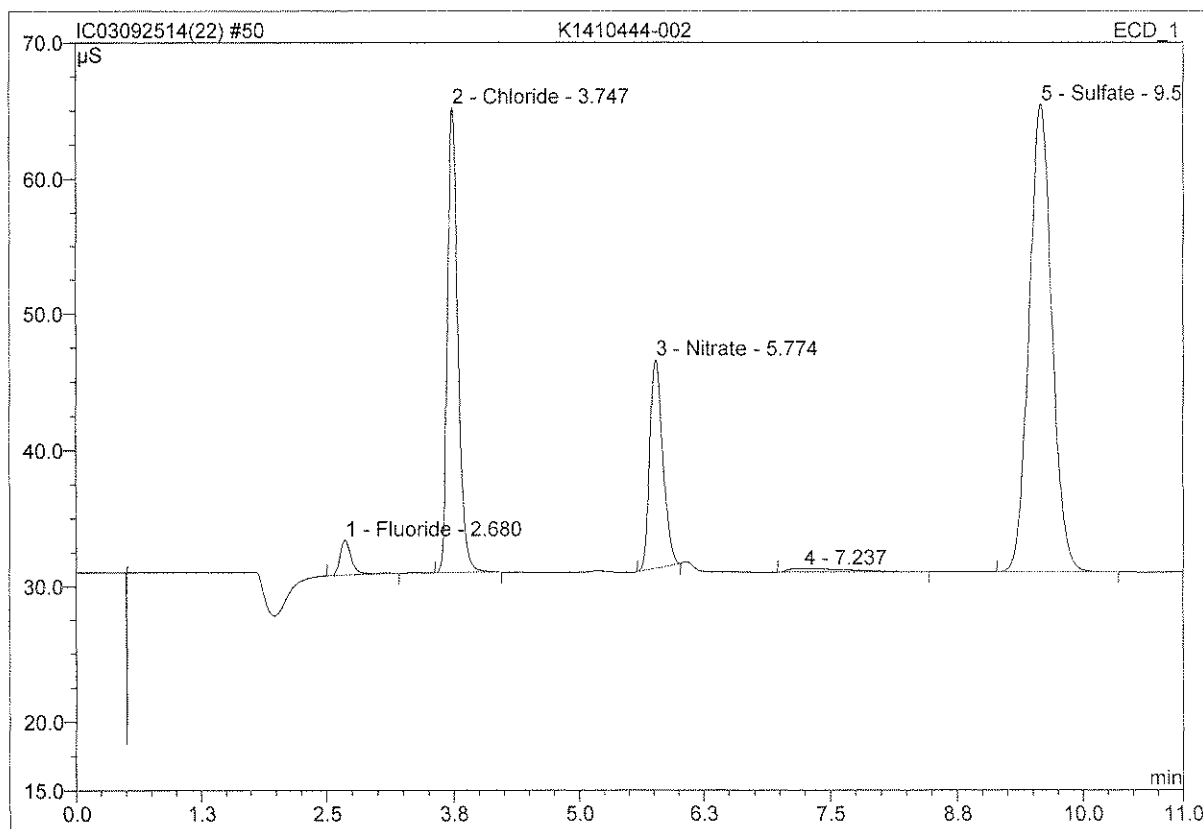
NO₃ < 0.10

47 K1410444-001			
Sample Name:	K1410444-001	Injection Volume:	200.0
Vial Number:	31	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 18:46	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.830	0.095	1.84	0.272	BMB
2	3.73	Chloride	10.635	1.168	22.58	4.222	BMB
3	5.76	Nitrate	7.938	1.194	23.10	1.729	BMB
4	7.52	n.a.	0.118	0.050	0.97	n.a.	BMB
5	9.47	Sulfate	10.737	2.663	51.51	15.068	BMB
Total:			30.258	5.171	100.00	21.291	

50 K1410444-002			
Sample Name:	K1410444-002	Injection Volume:	200.0
Vial Number:	34	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	9/25/2014 19:29	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000

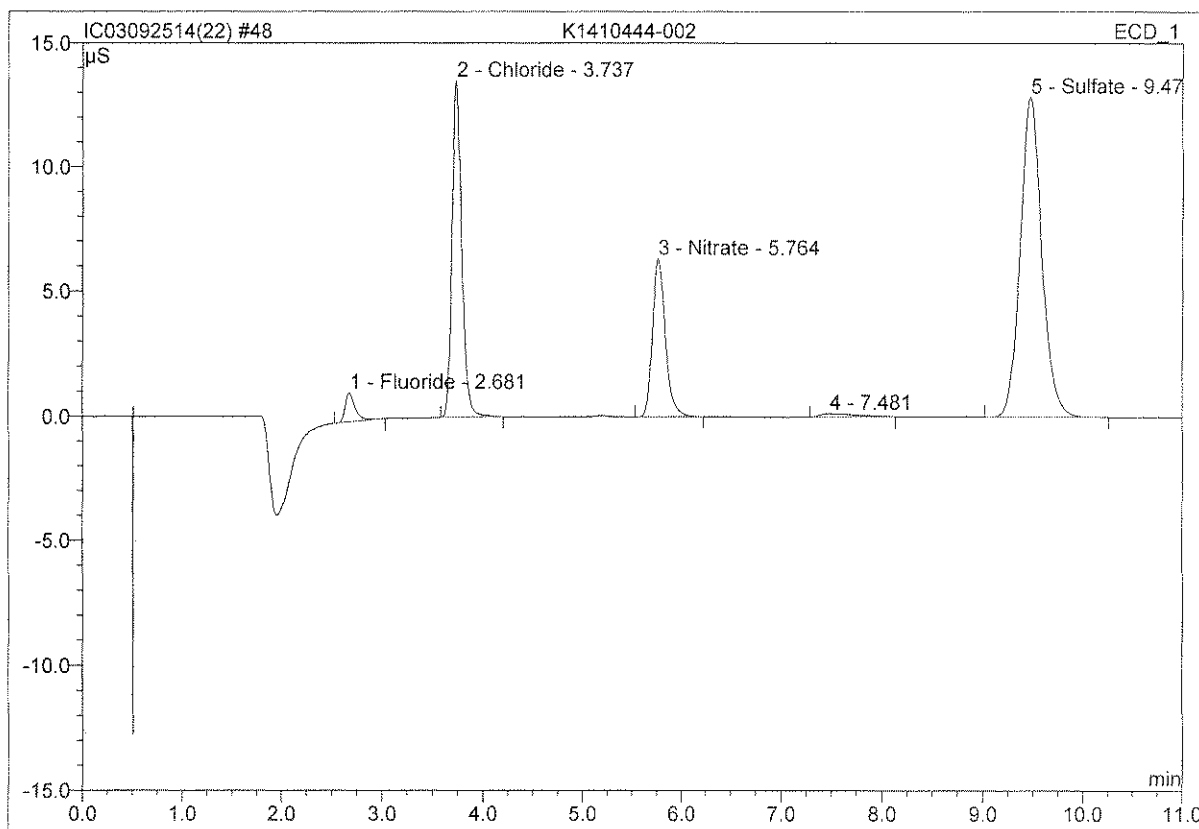


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	2.578	0.333	2.09	0.381	BMB
2	3.75	Chloride	34.192	4.134	25.97	5.979	BMB
3	5.77	Nitrate	15.279	2.340	14.70	1.355	BMB
4	7.24	n.a.	0.268	0.186	1.17	n.a.	BMB
5	9.58	Sulfate	34.413	8.923	56.06	20.192	BMB
Total:			86.730	15.916	100.00	27.906	

NO₃ 10

48 K1410444-002

Sample Name:	K1410444-002	Injection Volume:	200.0
Vial Number:	32	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	9/25/2014 19:01	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S} \cdot \text{min}$	Rel.Area %	Amount	Type
1	2.68	Fluoride	1.149	0.130	2.23	0.372	BMB
2	3.74	Chloride	13.521	1.491	25.55	5.390	BMB
3	5.76	Nitrate	6.309	0.962	16.49	1.393	BMB
4	7.48	n.a.	0.134	0.056	0.96	n.a.	BMB
5	9.47	Sulfate	12.841	3.195	54.76	18.072	BMB
Total:			33.954	5.833	100.00	25.226	

Sequence # IC03040514 (22)

Ion Chromatography Data Quality Report
Inorganics

Run # 413402

- 1. Holding times met for all samples analyzed? 16444-1,2 held Analyzed past hold
- 2. Are dilutions within upper limits of the curve?
- 3. Were peaks manually integrated?
a.) Does DOD QUAPP apply?
- 4. Are detection limits reported correctly?
- 5. Are all quality control criteria met?
 - a. Method Blanks, CCV's, CCB's, LCS's, Dups, and Spikes analyzed at the proper frequency?
 - b. Are CCV's and CCB's all within acceptance limits?
 - c. Are results for Method Blanks all ND?
 - d. Are all QC samples within acceptance criteria? (LCS% rec, MS% rec, Duplicate RPD's, etc.)
 - e. Are all exceptions explained?
- 6. Are all samples labelled correctly?

yes/no/NA

yes/no/NA

yes/no/NA

yes/no/NA

yes/no/NA

yes/no/NA

yes/no/NA

yes/no/NA

yes/no/NA

yes/no/NA 6/4/26/04

yes/no/NA

CAS Standard Identification Codes and Abbreviated Footnotes for Chromatograms

- G1 Sample was analyzed past the end of recommended holding time. See Nonconformity sheet.
- G2 Sample was reanalyzed past holding time. Initial analysis was performed within recommended holding time.
- G4 Sample was received past the end of recommended holding time.
- R1 High RPD is because the duplicate sample results are less than three times the method reporting limit.
- i MRL is elevated because of matrix interferences and the sample required diluting.
- F Sample filtered primary to analysis.

LCS	CAS ID# = <u>AN13-1-88-F</u>	Expires <u>9.25.14</u>	
Fluoride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-U</u>	Expires: <u>12.27.14</u>
Chloride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-V</u>	Expires: <u>I</u>
Nitrite	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-S</u>	Expires: <u>12.13.14</u>
Bromide	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-W</u>	Expires: <u>12.27.14</u>
Nitrate	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-X</u>	Expires: <u>I</u>
Sulfate	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-Y</u>	Expires: <u>I</u>

CCV	CAS ID# = <u>AN13-1-23-F</u>	Expires <u>9.25.14</u>	
Fluoride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-m</u>	Expires: <u>10.18.14</u>
Chloride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-Z</u>	Expires: <u>2.5.15</u>
Nitrite	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-an1-1-T</u>	Expires: <u>12.13.14</u>
Bromide	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-R</u>	Expires: <u>I</u>
Nitrate	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-Q</u>	Expires: <u>I</u>
Sulfate	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-DD</u>	Expires: <u>3.2.15</u>

Spike			
2.0ppm X dilution factor	CAS ID# = <u>AN13-1-56-F</u>	Expires <u>9.25.14</u>	
Fluoride	10K CAS ID # = <u>13-Gen-an1-1-m</u>	Expires: <u>CCV</u>	
Chloride	10K CAS ID # = <u>13-Gen-an1-1-Z</u>	Expires: <u>I</u>	
Nitrite	10K CAS ID # = <u>13-Gen-an1-1-T</u>	Expires: <u>I</u>	
Bromide	10K CAS ID # = <u>13-Gen-AN1-1-R</u>	Expires: <u>I</u>	
Nitrate	10K CAS ID # = <u>13-Gen-AN1-1-Q</u>	Expires: <u>I</u>	
Sulfate	10K CAS ID # = <u>13-Gen-an1-1-DD</u>	Expires: <u>I</u>	

Analyst: BH Date: 9.25.14

First Review: BH Date: 9.26.14

Final Review: [Signature] Date: 9/26/14
t:\wetlic\cdqs.xls

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot: 413402

Method/Testcode: 300.0/SO4

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
K1410335-003	Nitrate as Nitrogen	N/A	N/A	Water	0.26 mg/L	5 mL	0.26 mg/L	2	0.01	0.10			9/25/14 10:26:00	N II
K1410335-004	Nitrate as Nitrogen	N/A	N/A	Water	0.15 mg/L	5 mL	0.15 mg/L	2	0.01	0.10			9/25/14 11:23:00	N II
K1410375-001	Chloride	N/A	N/A	Drinking Water	2.31 mg/L	5 mL	2.31 mg/L	2	0.06	0.40			9/25/14 14:27:00	N I
K1410375-001	Nitrate as Nitrogen	N/A	N/A	Drinking Water	0.11 mg/L	5 mL	0.11 mg/L	2	0.01	0.10			9/25/14 14:27:00	N I
K1410375-001	Sulfate	N/A	N/A	Drinking Water	0.54 mg/L	5 mL	0.54 mg/L	2	0.02	0.20			9/25/14 14:27:00	N I
K1410386-001	Chloride	N/A	N/A	Water	2.54 mg/L	5 mL	2.5 mg/L	2	0.06	2.0			9/25/14 13:17:00	N V
K1410386-001	Nitrate as Nitrogen	N/A	N/A	Water	0.49 mg/L	5 mL	0.49 mg/L	2	0.01	0.10			9/25/14 13:17:00	N V
K1410386-001	Sulfate	N/A	N/A	Water	24.30 mg/L	5 mL	24.3 mg/L	20	0.2	2.0			9/25/14 17:05:00	N V
K1410386-002	Chloride	N/A	N/A	Water	3.15 mg/L	5 mL	3.2 mg/L	2	0.06	2.0			9/25/14 13:31:00	N V
K1410386-002	Nitrate as Nitrogen	N/A	N/A	Water	0.43 mg/L	5 mL	0.43 mg/L	2	0.01	0.10			9/25/14 13:31:00	N V
K1410386-002	Sulfate	N/A	N/A	Water	25.02 mg/L	5 mL	25.0 mg/L	20	0.2	2.0			9/25/14 17:19:00	N V
K1410386-003	Chloride	N/A	N/A	Water	1.56 mg/L	5 mL	1.6 mg/L	1	0.03	1.0			9/25/14 14:13:00	N V
K1410386-003	Nitrate as Nitrogen	N/A	N/A	Water	0.04 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 14:13:00	N V
K1410386-003	Sulfate	N/A	N/A	Water	3.60 mg/L	5 mL	3.60 mg/L	1	0.01	0.10			9/25/14 14:13:00	N V
K1410386-004	Chloride	N/A	N/A	Water	1.46 mg/L	5 mL	1.5 mg/L	1	0.03	1.0			9/25/14 12:48:00	N V
K1410386-004	Nitrate as Nitrogen	N/A	N/A	Water	0.02 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 12:48:00	N V
K1410386-004	Sulfate	N/A	N/A	Water	1.62 mg/L	5 mL	1.62 mg/L	1	0.01	0.10			9/25/14 12:48:00	N V
K1410386-005	Chloride	N/A	N/A	Water	2.72 mg/L	5 mL	2.7 mg/L	1	0.03	1.0			9/25/14 13:02:00	N V
K1410386-005	Nitrate as Nitrogen	N/A	N/A	Water	0.51 mg/L	5 mL	0.505 mg/L	1	0.005	0.050			9/25/14 13:02:00	N V
K1410386-005	Sulfate	N/A	N/A	Water	25.45 mg/L	5 mL	25.4 mg/L	10	0.1	1.0			9/25/14 17:47:00	N V
K1410396-001	Nitrate as Nitrogen	N/A	N/A	Water	8.10 mg/L	5 mL	8.10 mg/L	2	0.01	0.10			9/25/14 14:42:00	N I
K1410396-001	Nitrite as Nitrogen	N/A	N/A	Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 14:42:00	N I
K1410403-001	Chloride	N/A	N/A	Water	122.79 mg/L	5 mL	123 mg/L	20	0.6	4.0			9/25/14 14:56:00	N I
K1410403-001	Nitrate as Nitrogen	N/A	N/A	Water	9.25 mg/L	5 mL	9.2 mg/L	20	0.1	1.0			9/25/14 14:56:00	N I
K1410403-001	Sulfate	N/A	N/A	Water	32.57 mg/L	5 mL	32.6 mg/L	20	0.2	2.0			9/25/14 14:56:00	N I
K1410403-002	Chloride	N/A	N/A	Water	75.68 mg/L	5 mL	75.7 mg/L	20	0.6	4.0			9/25/14 15:10:00	N I
K1410403-002	Nitrate as Nitrogen	N/A	N/A	Water	7.58 mg/L	5 mL	7.6 mg/L	20	0.1	1.0			9/25/14 15:10:00	N I
K1410403-002	Sulfate	N/A	N/A	Water	26.18 mg/L	5 mL	26.2 mg/L	20	0.2	2.0			9/25/14 15:10:00	N I
K1410403-003	Chloride	N/A	N/A	Water	130.28 mg/L	5 mL	130 mg/L	20	0.6	4.0			9/25/14 15:53:00	N I
K1410403-003	Nitrate as Nitrogen	N/A	N/A	Water	8.52 mg/L	5 mL	8.5 mg/L	20	0.1	1.0			9/25/14 15:53:00	N I
K1410403-003	Sulfate	N/A	N/A	Water	35.57 mg/L	5 mL	35.6 mg/L	20	0.2	2.0			9/25/14 15:53:00	N I

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot: 413402

Method/Testcode: 300.0/Chloride

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1410403-004	Chloride	N/A		Water	103.97 mg/L	5 mL	104 mg/L	20	0.6	4.0			9/25/14 16:08:00	N I
<Q1410403-004	Nitrate as Nitrogen	N/A		Water	5.43 mg/L	5 mL	5.4 mg/L	20	0.1	1.0			9/25/14 16:08:00	N I
<Q1410403-004	Sulfate	N/A		Water	40.93 mg/L	5 mL	40.9 mg/L	20	0.2	2.0			9/25/14 16:08:00	N I
<Q1410444-001	Chloride, Dissolved	N/A		Water	4.62 mg/L	5 mL	4.62 mg/L	2	0.06	0.40			9/25/14 19:15:00	N V
<Q1410444-001	Nitrate as Nitrogen	N/A		Water	1.87 mg/L	5 mL	1.87 mg/L	2	0.01	0.10			9/25/14 19:15:00	N V
<Q1410444-001	Nitrite as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 19:15:00	N V
<Q1410444-001	Sulfate, Dissolved	N/A		Water	16.55 mg/L	5 mL	16.6 mg/L	2	0.02	0.40			9/25/14 19:15:00	N V
<Q1410444-002	Chloride, Dissolved	N/A		Water	5.98 mg/L	5 mL	5.98 mg/L	2	0.06	0.40			9/25/14 19:29:00	N V
<Q1410444-002	Nitrate as Nitrogen	N/A		Water	1.35 mg/L	5 mL	1.35 mg/L	2	0.01	0.10			9/25/14 19:29:00	N V
<Q1410444-002	Nitrite as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 19:29:00	N V
<Q1410444-002	Sulfate, Dissolved	N/A		Water	18.07 mg/L	5 mL	18.1 mg/L	5	0.05	1.0			9/25/14 19:01:00	N V
<Q1411991-01	Nitrate as Nitrogen	MB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 09:58:00	N II
<Q1411991-01	Nitrite as Nitrogen	MB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 09:58:00	N II
<Q1411991-02	Nitrate as Nitrogen	LCS		Water	2.37 mg/L	5 mL	2.37 mg/L	1	0.005	0.050			9/25/14 10:12:00	N II
<Q1411991-02	Nitrite as Nitrogen	LCS		Water	2.42 mg/L	5 mL	2.42 mg/L	1	0.002	0.050			9/25/14 10:12:00	N II
<Q1411991-03	Nitrate as Nitrogen	N/A		Water	0.26 mg/L	5 mL	0.26 mg/L	2	0.01	0.10			9/25/14 10:26:00	N II
<Q1411991-03	Nitrite as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10			9/25/14 10:26:00	N II
<Q1411991-04	Nitrate as Nitrogen	MS	KQ1411991-03	Water	9.52 mg/L	5 mL	9.52 mg/L	5	0.03	0.25			9/25/14 10:55:00	N II
<Q1411991-04	Nitrite as Nitrogen	MS	KQ1411991-03	Water	10.34 mg/L	5 mL	10.3 mg/L	5	0.01	0.25			9/25/14 10:55:00	N II
<Q1411991-05	Nitrate as Nitrogen	DMS	KQ1411991-03	Water	9.61 mg/L	5 mL	9.61 mg/L	5	0.03	0.25			9/25/14 11:09:00	N II
<Q1411991-05	Nitrite as Nitrogen	DMS	KQ1411991-03	Water	10.42 mg/L	5 mL	10.4 mg/L	5	0.01	0.25			9/25/14 11:09:00	N II
<Q1411991-06	Nitrate as Nitrogen	DUP	KQ1411991-03	Water	0.25 mg/L	5 mL	0.25 mg/L	2	0.01	0.10			9/25/14 10:41:00	N II
<Q1411991-06	Nitrite as Nitrogen	DUP	KQ1411991-03	Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.004	0.10		NC	9/25/14 10:41:00	N II
<Q1411991-07	Nitrate as Nitrogen	MS	K1410335-003	Water	9.52 mg/L	5 mL	9.52 mg/L	5	0.03	0.25			9/25/14 10:55:00	N II
<Q1411991-08	Nitrate as Nitrogen	DMS	K1410335-003	Water	9.61 mg/L	5 mL	9.61 mg/L	5	0.03	0.25			9/25/14 11:09:00	N II
<Q1411991-09	Nitrate as Nitrogen	DUP	K1410335-003	Water	0.25 mg/L	5 mL	0.25 mg/L	2	0.01	0.10			9/25/14 10:41:00	N II
<Q1411991-10	Nitrate as Nitrogen	MS	K1410335-004	Water	9.43 mg/L	5 mL	9.43 mg/L	5	0.03	0.25			9/25/14 11:51:00	N II
<Q1411991-11	Nitrate as Nitrogen	DMS	K1410335-004	Water	9.47 mg/L	5 mL	9.47 mg/L	5	0.03	0.25			9/25/14 12:06:00	N II
<Q1411991-12	Nitrate as Nitrogen	DUP	K1410335-004	Water	0.15 mg/L	5 mL	0.15 mg/L	2	0.01	0.10			9/25/14 11:37:00	N II
<Q1411992-01	Chloride	MB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:58:00	N V
<Q1411992-01	Chloride, Dissolved	MB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:58:00	N V
<Q1411992-01	Sulfate	MB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 09:58:00	N V
<Q1411992-01	Sulfate, Dissolved	MB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 09:58:00	N V
<Q1411992-02	Chloride	LCS		Water	4.92 mg/L	5 mL	4.92 mg/L	1	0.03	0.20			9/25/14 10:12:00	N V

L indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03 Analyst: BHETLAND Analysis Lot: 413402 Method/Testcode: 300.0/ClD

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1411992-02	Chloride, Dissolved	LCS		Water	4.92 mg/L	5 mL	4.92 mg/L	1	0.03	0.20	98		9/25/14 10:12:00	N V
<Q1411992-02	Sulfate, Dissolved	LCS		Water	4.87 mg/L	5 mL	4.87 mg/L	1	0.01	0.10	97		9/25/14 10:12:00	N V
<Q1411992-03	Chloride	N/A		Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:26:00	N V
<Q1411992-03	Chloride, Dissolved	N/A		Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:26:00	N V
<Q1411992-03	Sulfate	N/A		Water	7.01 mg/L	5 mL	7.01 mg/L	2	0.02	0.20			9/25/14 10:26:00	N V
<Q1411992-03	Sulfate, Dissolved	N/A		Water	7.01 mg/L	5 mL	7.01 mg/L	2	0.02	0.40			9/25/14 10:26:00	N V
<Q1411992-04	Chloride	MS	KQ1411992-03	Water	13.60 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92		9/25/14 10:55:00	N V
<Q1411992-04	Chloride, Dissolved	MS	KQ1411992-03	Water	13.60 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92		9/25/14 10:55:00	N V
<Q1411992-04	Sulfate	MS	KQ1411992-03	Water	16.28 mg/L	5 mL	16.3 mg/L	5	0.05	0.50	93		9/25/14 10:55:00	N V
<Q1411992-04	Sulfate, Dissolved	MS	KQ1411992-03	Water	16.28 mg/L	5 mL	16.3 mg/L	5	0.05	1.0	93		9/25/14 10:55:00	N V
<Q1411992-05	Chloride	DMS	KQ1411992-03	Water	13.62 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92	<1	9/25/14 11:09:00	N V
<Q1411992-05	Chloride, Dissolved	DMS	KQ1411992-03	Water	13.62 mg/L	5 mL	13.6 mg/L	5	0.2	1.0	92	<1	9/25/14 11:09:00	N V
<Q1411992-05	Sulfate	DMS	KQ1411992-03	Water	16.32 mg/L	5 mL	16.3 mg/L	5	0.05	0.50	93	<1	9/25/14 11:09:00	N V
<Q1411992-05	Sulfate, Dissolved	DMS	KQ1411992-03	Water	16.32 mg/L	5 mL	16.3 mg/L	5	0.05	1.0	93	<1	9/25/14 11:09:00	N V
<Q1411992-06	Chloride	DUP	KQ1411992-03	Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:41:00	N V
<Q1411992-06	Chloride, Dissolved	DUP	KQ1411992-03	Water	4.41 mg/L	5 mL	4.41 mg/L	2	0.06	0.40			9/25/14 10:41:00	N V
<Q1411992-06	Sulfate	DUP	KQ1411992-03	Water	6.89 mg/L	5 mL	6.89 mg/L	2	0.02	0.20			9/25/14 10:41:00	N V
<Q1411992-06	Sulfate, Dissolved	DUP	KQ1411992-03	Water	6.89 mg/L	5 mL	6.89 mg/L	2	0.02	0.40			9/25/14 10:41:00	N V
<Q1411998-01	Chloride	CCV		Water	4.88 mg/L	5 mL	4.88 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Chloride, Dissolved	CCV		Water	4.88 mg/L	5 mL	4.88 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Nitrate as Nitrogen	CCV		Water	2.37 mg/L	5 mL	2.37 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Nitrate as Nitrogen	CCV		Water	2.41 mg/L	5 mL	2.41 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Sulfate	CCV		Water	4.88 mg/L	5 mL	4.88 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-01	Sulfate, Dissolved	CCV		Water	4.88 mg/L	5 mL	4.88 mg/L	1					9/25/14 09:30:00	N II
<Q1411998-02	Chloride	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Chloride, Dissolved	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Nitrate as Nitrogen	CCV		Water	2.36 mg/L	5 mL	2.36 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Nitrate as Nitrogen	CCV		Water	2.40 mg/L	5 mL	2.40 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Sulfate	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-02	Sulfate, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 12:20:00	N II
<Q1411998-03	Chloride	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Chloride, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Nitrate as Nitrogen	CCV		Water	2.36 mg/L	5 mL	2.36 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Nitrate as Nitrogen	CCV		Water	2.41 mg/L	5 mL	2.41 mg/L	1					9/25/14 15:24:00	N II

/ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot: 413402

Method/Testcode: 300.0/SO4

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1411998-03	Sulfate	CCV		Water	4.83 mg/L	5 mL	4.83 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-03	Sulfate, Dissolved	CCV		Water	4.83 mg/L	5 mL	4.83 mg/L	1					9/25/14 15:24:00	N II
<Q1411998-04	Chloride	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Chloride, Dissolved	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Nitrate as Nitrogen	CCV		Water	2.37 mg/L	5 mL	2.37 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Nitrite as Nitrogen	CCV		Water	2.42 mg/L	5 mL	2.42 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Sulfate	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-04	Sulfate, Dissolved	CCV		Water	4.87 mg/L	5 mL	4.87 mg/L	1					9/25/14 18:16:00	N II
<Q1411998-05	Chloride	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Chloride, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Nitrate as Nitrogen	CCV		Water	2.35 mg/L	5 mL	2.35 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Nitrite as Nitrogen	CCV		Water	2.40 mg/L	5 mL	2.40 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Sulfate	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-05	Sulfate, Dissolved	CCV		Water	4.85 mg/L	5 mL	4.85 mg/L	1					9/25/14 19:58:00	N II
<Q1411998-06	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:44:00	N II
<Q1411998-06	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 09:44:00	N II
<Q1411998-06	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 12:34:00	N II
<Q1411998-06	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 09:44:00	N II
<Q1411998-06	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 09:44:00	N II
<Q1411998-06	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 09:44:00	N II
<Q1411998-07	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 12:34:00	N II
<Q1411998-07	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 12:34:00	N II
<Q1411998-07	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 12:34:00	N II
<Q1411998-07	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 12:34:00	N II
<Q1411998-07	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 12:34:00	N II
<Q1411998-07	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 12:34:00	N II
<Q1411998-08	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 15:39:00	N II
<Q1411998-08	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 15:39:00	N II
<Q1411998-08	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 15:39:00	N II
<Q1411998-08	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.002	0.050			9/25/14 15:39:00	N II
<Q1411998-08	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			9/25/14 15:39:00	N II
<Q1411998-08	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.01	0.20			9/25/14 15:39:00	N II
<Q1411998-09	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 18:31:00	N II
<Q1411998-09	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			9/25/14 18:31:00	N II
<Q1411998-09	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			9/25/14 18:31:00	N II

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHETLAND

Analysis Lot: 413402

Method/Testcode: 300.0/NO2

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1411998-09	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.002	0.050			9/25/14 18:31:00	N II
<Q1411998-09	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			9/25/14 18:31:00	N II
<Q1411998-09	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			9/25/14 18:31:00	N II
<Q1411998-10	Chloride	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			9/25/14 20:12:00	N II
<Q1411998-10	Chloride, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			9/25/14 20:12:00	N II
<Q1411998-10	Nitrate as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.005	0.050			9/25/14 20:12:00	N II
<Q1411998-10	Nitrite as Nitrogen	CCB		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.002	0.050			9/25/14 20:12:00	N II
<Q1411998-10	Sulfate	CCB		Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			9/25/14 20:12:00	N II
<Q1411998-10	Sulfate, Dissolved	CCB		Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			9/25/14 20:12:00	N II

* indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Title:
 Datasource: ACQWET10_local
 Location: DX120A
 Timebase: DX120
 #Samples: 54
 Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
 Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time	Dil. Factor
1	STD2/LVL2	epa300	Standard	1	200.0	seth_test	Finished	7/30/2014 11:01:20 AM	1.0000
2	STD3/LVL3	epa300	Standard	2	200.0	seth_test	Finished	7/30/2014 11:17:02 AM	1.0000
3	STD4/LVL4	epa300	Standard	3	200.0	seth_test	Finished	7/30/2014 11:32:41 AM	1.0000
4	STD5/LVL5	epa300	Standard	4	200.0	seth_test	Finished	7/30/2014 11:48:20 AM	1.0000
5	STD6/LVL6	epa300	Standard	5	200.0	seth_test	Finished	7/30/2014 12:04:00 PM	1.0000
6	STD7/LVL7	epa300	Standard	6	200.0	seth_test	Finished	7/30/2014 12:19:40 PM	1.0000
7	STD8/LVL8	epa300	Standard	7	200.0	seth_test	Finished	7/30/2014 12:35:19 PM	1.0000
8	STD1/LVL1	epa300	Standard	8	200.0	seth_test	Finished	7/30/2014 12:50:58 PM	1.0000
9	CCV1	epa300	Unknown	48	200.0	seth_test	Finished	9/25/2014 9:30:22 AM	1.0000
10	CCB1	epa300	Unknown	49	200.0	seth_test	Finished	9/25/2014 9:44:45 AM	1.0000
11	MB	epa300	Unknown	1	200.0	seth_test	Finished	9/25/2014 9:58:37 AM	1.0000
12	LCS	epa300	Unknown	2	200.0	seth_test	Finished	9/25/2014 10:12:46 AM	1.0000
13	K1410335-003	epa300	Unknown	3	200.0	seth_test	Finished	9/25/2014 10:26:56 AM	2.0000
14	10335-3D	epa300	Unknown	4	200.0	seth_test	Finished	9/25/2014 10:41:06 AM	2.0000
15	10335-3MS	epa300	Unknown	5	200.0	seth_test	Finished	9/25/2014 10:55:16 AM	5.0000
16	10335-3MSD	epa300	Unknown	6	200.0	seth_test	Finished	9/25/2014 11:09:26 AM	5.0000
17	K1410335-004	epa300	Unknown	7	200.0	seth_test	Finished	9/25/2014 11:23:35 AM	2.0000
18	10335-4D	epa300	Unknown	8	200.0	seth_test	Finished	9/25/2014 11:37:44 AM	2.0000
19	10335-4MS	epa300	Unknown	9	200.0	seth_test	Finished	9/25/2014 11:51:55 AM	5.0000
20	10335-4MSD	epa300	Unknown	10	200.0	seth_test	Finished	9/25/2014 12:06:05 PM	5.0000
21	CCV2	epa300	Unknown	46	200.0	seth_test	Finished	9/25/2014 12:20:15 PM	1.0000
22	CCB2	epa300	Unknown	47	200.0	seth_test	Finished	9/25/2014 12:34:30 PM	1.0000
23	K1410386-004	epa300	Unknown	11	200.0	seth_test	Finished	9/25/2014 12:48:39 PM	1.0000
24	K1410386-005	epa300	Unknown	12	200.0	seth_test	Finished	9/25/2014 1:02:54 PM	1.0000
25	K1410386-001	epa300	Unknown	13	200.0	seth_test	Finished	9/25/2014 1:17:04 PM	2.0000
26	K1410386-002	epa300	Unknown	14	200.0	seth_test	Finished	9/25/2014 1:31:14 PM	2.0000
27	10388-1	epa300	Unknown	16	200.0	seth_test	Finished	9/25/2014 1:59:33 PM	2.0000
28	K1410386-003	epa300	Unknown	23	200.0	seth_test	Finished	9/25/2014 2:13:43 PM	1.0000
29	K1410375-001	epa300	Unknown	17	200.0	seth_test	Finished	9/25/2014 2:27:55 PM	2.0000
30	K1410396-001	epa300	Unknown	18	200.0	seth_test	Finished	9/25/2014 2:42:06 PM	2.0000
31	K1410403-001	epa300	Unknown	19	200.0	seth_test	Finished	9/25/2014 2:56:15 PM	20.0000
32	K1410403-002	epa300	Unknown	20	200.0	seth_test	Finished	9/25/2014 3:10:25 PM	20.0000
33	CCV3	epa300	Unknown	48	200.0	seth_test	Finished	9/25/2014 3:24:34 PM	1.0000
34	CCB3	epa300	Unknown	49	200.0	seth_test	Finished	9/25/2014 3:39:15 PM	1.0000
35	K1410403-003	epa300	Unknown	21	200.0	seth_test	Finished	9/25/2014 3:53:55 PM	20.0000
36	K1410403-004	epa300	Unknown	22	200.0	seth_test	Finished	9/25/2014 4:08:19 PM	20.0000
37	K1409995-003	epa300	Unknown	23	200.0	seth_test	Finished	9/25/2014 4:22:28 PM	5.0000
38	K1409995-006	epa300	Unknown	24	200.0	seth_test	Finished	9/25/2014 4:37:01 PM	5.0000
39	K1410111-001	epa300	Unknown	25	200.0	seth_test	Finished	9/25/2014 4:51:18 PM	2.0000
40	K1410386-001	epa300	Unknown	26	200.0	seth_test	Finished	9/25/2014 5:05:29 PM	20.0000
41	K1410386-002	epa300	Unknown	27	200.0	seth_test	Finished	9/25/2014 5:19:39 PM	20.0000
42	10386-3	epa300	Unknown	28	200.0	seth_test	Finished	9/25/2014 5:33:48 PM	20.0000

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 54

Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

No.	Name	Comment
1	STD2/LVL2	
2	STD3/LVL3	
3	STD4/LVL4	
4	STD5/LVL5	
5	STD6/LVL6	
6	STD7/LVL7	
7	STD8/LVL8	
8	STD1/LVL1	
9	CCV1	
10	CCB1	
11	MB	
12	LCS	
13	K1410335-003	
14	10335-3D	D
15	10335-3MS	MS
16	10335-3MSD	MSD
17	K1410335-004	
18	10335-4D	D
19	10335-4MS	MS
20	10335-4MSD	MSD
21	CCV2	CCV2
22	CCB2	CCB2
23	K1410386-004	
24	K1410386-005	
25	K1410386-001	
26	K1410386-002	
27	10388-1	
28	K1410386-003	
29	K1410375-001	
30	K1410396-001	
31	K1410403-001	
32	K1410403-002	
33	CCV3	CCV3
34	CCB3	CCB3
35	K1410403-003	
36	K1410403-004	
37	K1409995-003	
38	K1409995-006	
39	K1410111-001	
40	K1410386-001	
41	K1410386-002	
42	10386-3	

Sequence: IC03092514(22)
Operator: ALKLS.ALKLSXP307

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Printed: 9/26/2014 11:50:31 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 54
Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time	Dil. Factor
43	K1410386-005	epa300	Unknown	29	200.0	seth_test	Finished	9/25/2014 5:47:57 PM	10.0000
44	RB	epa300	Unknown	30	200.0	seth_test	Finished	9/25/2014 6:02:06 PM	1.0000
45	CCV4	epa300	Unknown	48	200.0	seth_test	Finished	9/25/2014 6:16:17 PM	1.0000
46	CCB4	epa300	Unknown	49	200.0	seth_test	Finished	9/25/2014 6:31:21 PM	1.0000
47	K1410444-001	epa300	Unknown	31	200.0	seth_test	Finished	9/25/2014 6:46:32 PM	5.0000
48	K1410444-002	epa300	Unknown	32	200.0	seth_test	Finished	9/25/2014 7:01:01 PM	5.0000
49	K1410444-001	epa300	Unknown	33	200.0	seth_test	Finished	9/25/2014 7:15:11 PM	2.0000
50	K1410444-002	epa300	Unknown	34	200.0	seth_test	Finished	9/25/2014 7:29:21 PM	2.0000
51	RB	epa300	Unknown	30	200.0	seth_test	Finished	9/25/2014 7:43:31 PM	1.0000
52	CCV5	epa300	Unknown	46	200.0	seth_test	Finished	9/25/2014 7:58:05 PM	1.0000
53	CCB5	epa300	Unknown	47	200.0	seth_test	Finished	9/25/2014 8:12:50 PM	1.0000
54	STOP	epa300	Unknown	50	200.0	stop	Finished	9/25/2014 8:27:30 PM	1.0000

Sequence: IC03092514(22)
Operator: ALKLS.ALKLSXP307

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Printed: 9/26/2014 11:50:31 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 54

Created: 9/24/2014 11:30:36 AM by ALKLS.ALKLSXP307
Last Update: 9/26/2014 9:06:23 AM by ALKLS.ALKLSXP307

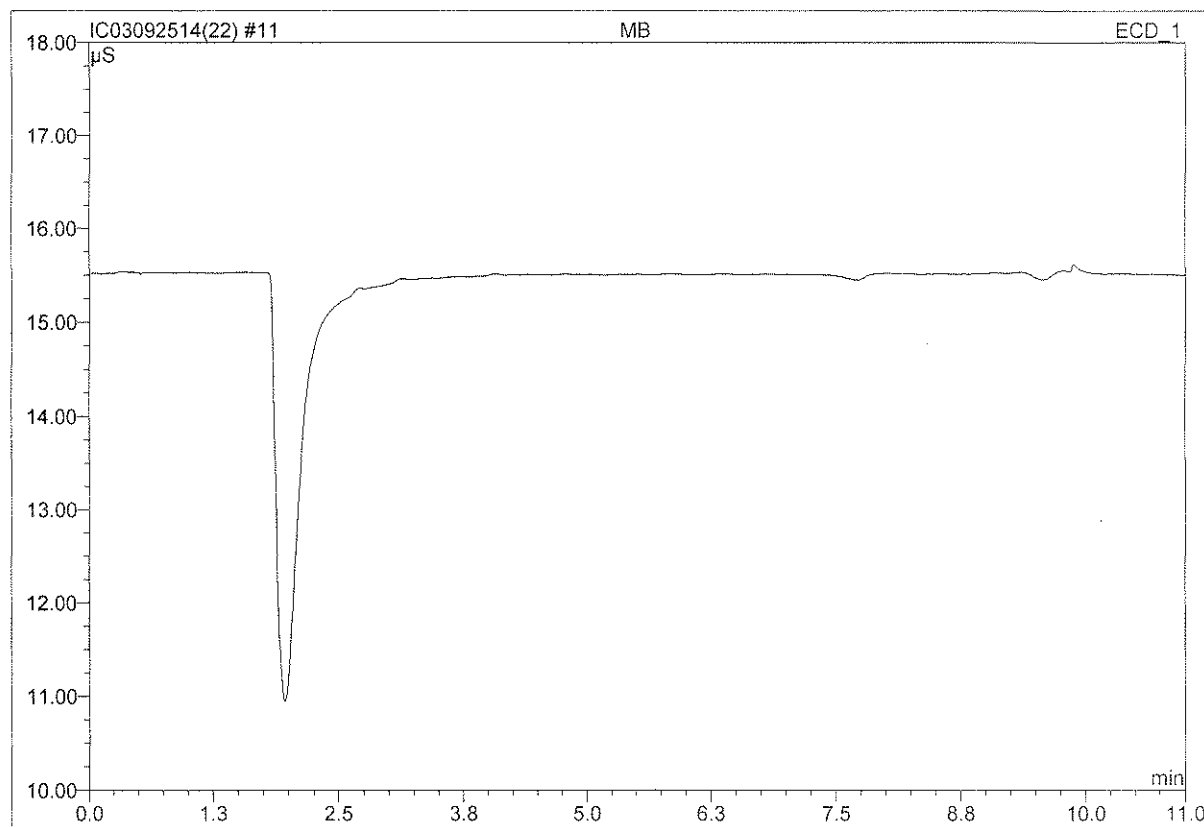
No.	Name	Comment
43	K1410386-005	
44	RB	
45	CCV4	CCV4
46	CCB4	CCB4
47	K1410444-001	
48	K1410444-002	
49	K1410444-001	
50	K1410444-002	
51	RB	
52	CCV5	CCV5
53	CCB5	CCB5
54	STOP	

Service Request	Her	QC	Hold Time	Due Date	Anions	Initial	Final	Done?
10335-3	X	X	9.26	10.10	F			
					Cl			
					NO2			
					Br			
					NO3	2x		✓
					SO4			
					F			
					Cl			
					NO2			
					Br			
					NO3	2x		✓
					SO4			
10386-1	I		9.26	10.6	F			
					Cl	2x		✓
					NO2			
					Br			
					NO3	2x		✓
					SO4	2x	20x	✓
					F			
					Cl			✓
					NO2			
					Br			
					NO3			✓
					SO4		20x	✓
					F			
					Cl			✓
					NO2			
					Br			
					NO3			✓
					SO4			✓
					F			
					Cl	1x		✓
					NO2			
					Br			
					NO3	1x		✓
					SO4	1x		✓
					F			
					Cl			✓
					NO2			
					Br			
					NO3			✓
					SO4		10x	✓
* 10388-1 *	I		9.27	10.16	F			
					Cl			
					NO2			
					Br			
					NO3	2x		
					SO4			
10375-1	I		9.26	10.3	F			
					Cl	2x		✓
					NO2			
					Br			
					NO3	2x		✓
					SO4	2x		✓
10346-1	I		9.26	10.6	F			
					Cl			
					NO2	2x		✓
					Br			
					NO3	2x		✓
					SO4			

PN# 219019
 PO# 219036

Service Request	Tier	QC	Hold Time	Due Date	Anions	Initial	Final	Done?
10403-1	I		9.26	10.10	F Cl NO2 Br NO3 SO4	Det		✓
-2					F Cl NO2 Br NO3 SO4	Det		✓
					✓			
					✓			
					✓			
-3					F Cl NO2 Br NO3 SO4			✓
					✓			
					✓			
					✓			
-7					F Cl NO2 Br NO3 SO4			✓
					✓			
					✓			
					✓			
10444-1	III		9.25	10.0	F Cl NO2 Br NO3 SO4	Det		✓
-2					F Cl NO2 Br NO3 SO4	Det		✓
					✓			
					✓			
					✓			
					F Cl NO2 Br NO3 SO4			✓
					✓			
					✓			
					✓			
					F Cl NO2 Br NO3 SO4			✓
					✓			
					✓			
					✓			
					F Cl NO2 Br NO3 SO4			✓
					✓			
					✓			
					✓			
					F Cl NO2 Br NO3 SO4			✓
					✓			
					✓			
					✓			

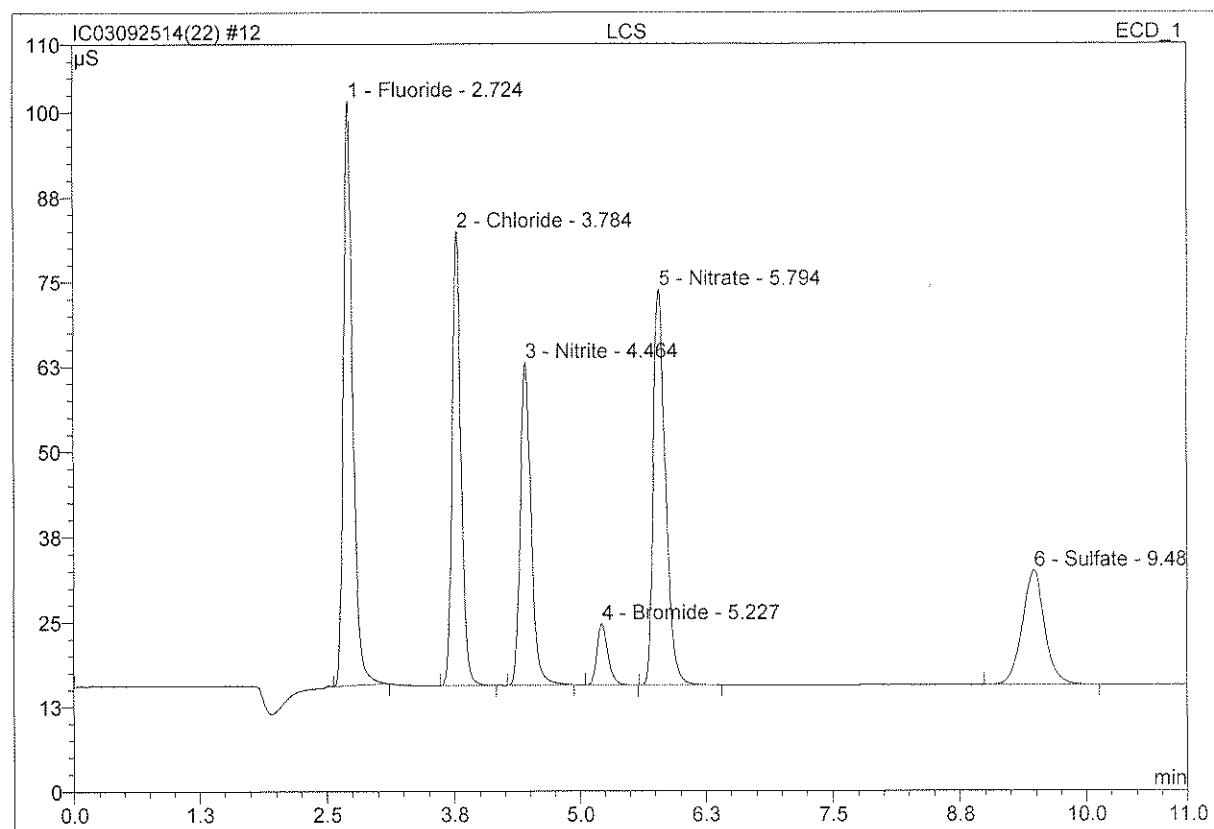
11 MB			
Sample Name:	MB	Injection Volume:	200.0
Vial Number:	1	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:58	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

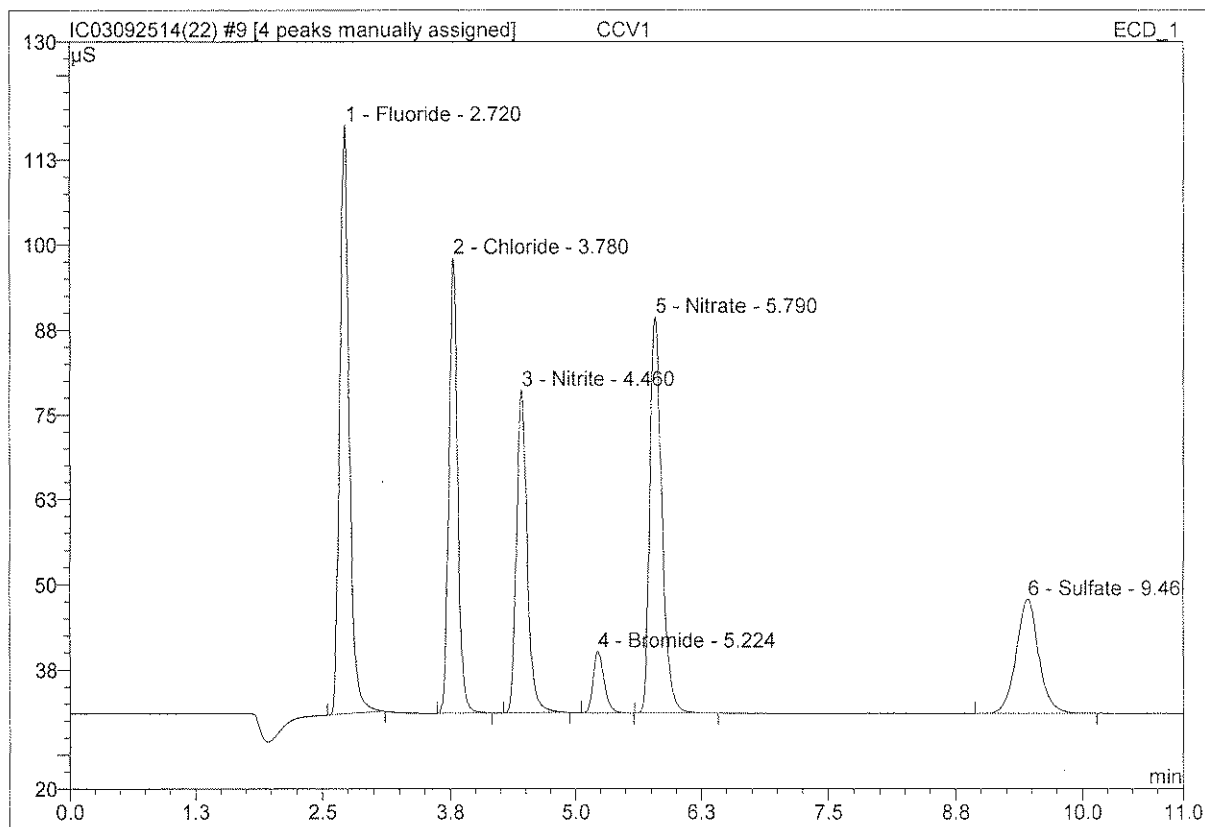
12 LCS

Sample Name:	LCS	Injection Volume:	200.0
Vial Number:	2	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 10:12	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.72	Fluoride	85.988	9.193	25.86	5.254	BMB
2	3.78	Chloride	66.825	6.802	19.13	4.919	BMB
3	4.46	Nitrite	47.448	5.896	16.59	2.418	BMB
4	5.23	Bromide	9.036	1.166	3.28	2.401	BMB
5	5.79	Nitrate	58.223	8.183	23.02	2.369	BMB
6	9.48	Sulfate	16.816	4.306	12.12	4.872	BMB
Total:			284.335	35.546	100.00	22.233	

9 CCV1			
Sample Name:	CCV1	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:30	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.72	Fluoride	86.628	9.208	25.92	10.5 5.263	BMB
2	3.78	Chloride	66.957	6.751	19.00	48 4.882	BMB
3	4.46	Nitrite	47.501	5.888	16.57	97 2.415	BMB^
4	5.22	Bromide	9.046	1.163	3.27	96 2.396	BMB^
5	5.79	Nitrate	58.274	8.203	23.09	95 2.375	BMB^
6	9.46	Sulfate	16.771	4.316	12.15	78 4.883	BMB^
Total:			285.177	35.529	100.00	22.213	

After Initials br

9/25/14

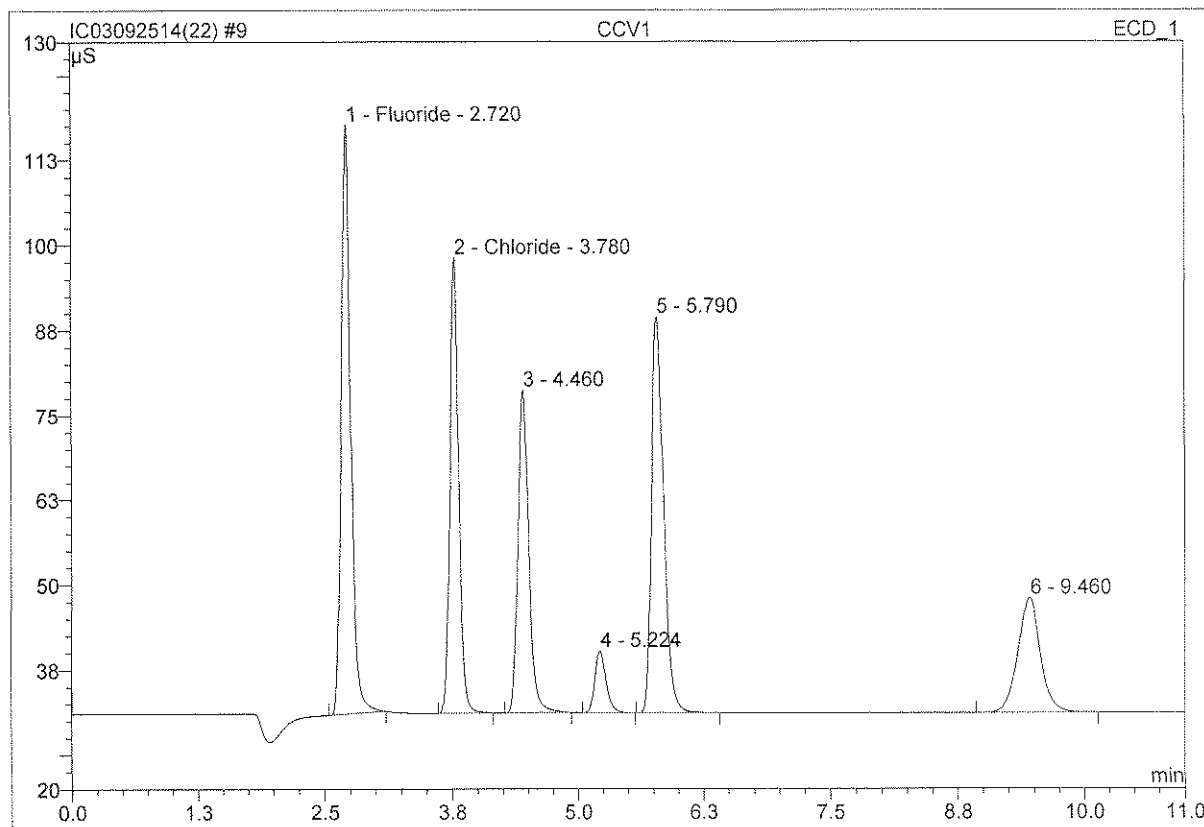
default/Integration

SEP 25 2014

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

Wrong Peak/Peak not Found
 Baseline/shoulder Inc 155
 Other

9 CCV1			
Sample Name:	CCV1	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:30	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.72	Fluoride	86.628	9.208	25.92	5.263	BMB
2	3.78	Chloride	66.957	6.751	19.00	4.882	BMB
3	4.46	n.a.	47.501	5.888	16.57	n.a.	BMB
4	5.22	n.a.	9.046	1.163	3.27	n.a.	BMB
5	5.79	n.a.	58.274	8.203	23.09	n.a.	BMB
6	9.46	n.a.	16.771	4.316	12.15	n.a.	BMB
Total:			285.177	35.529	100.00	10.144	

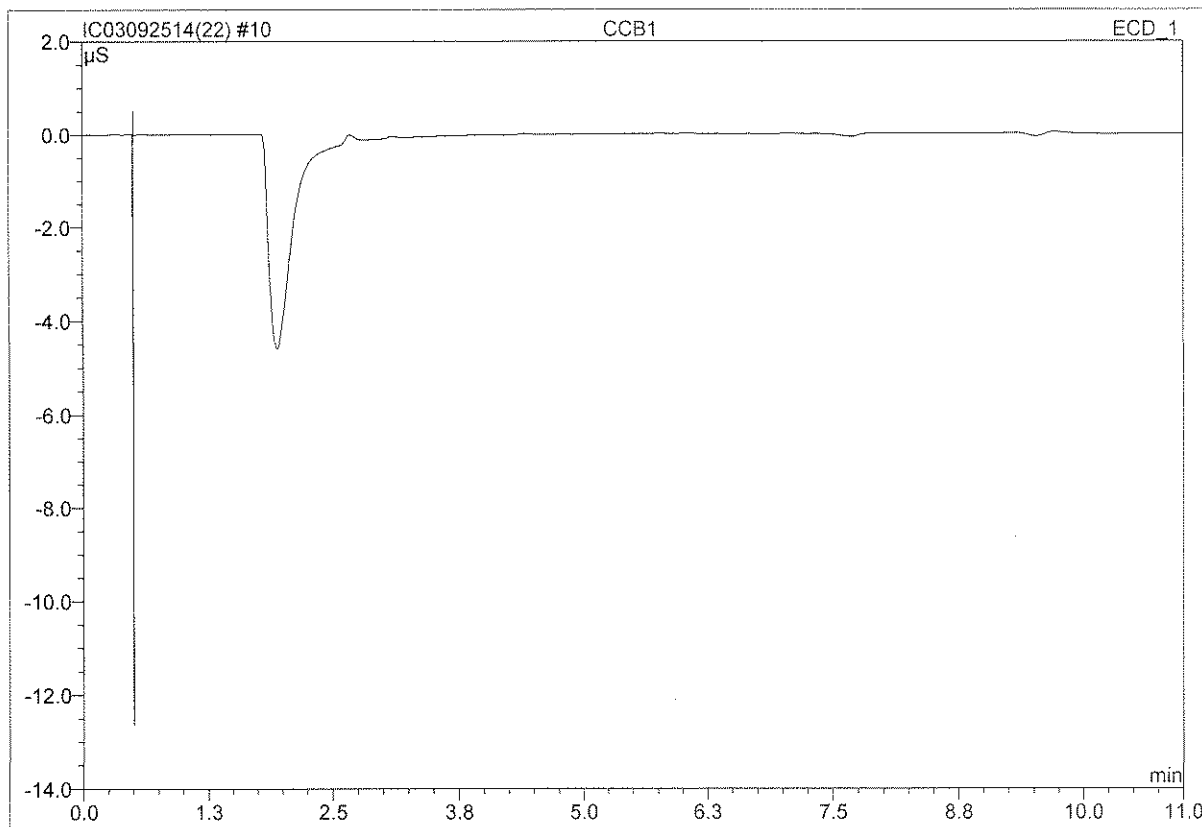
Before

OK

SEP 25 2014

Handwritten signature

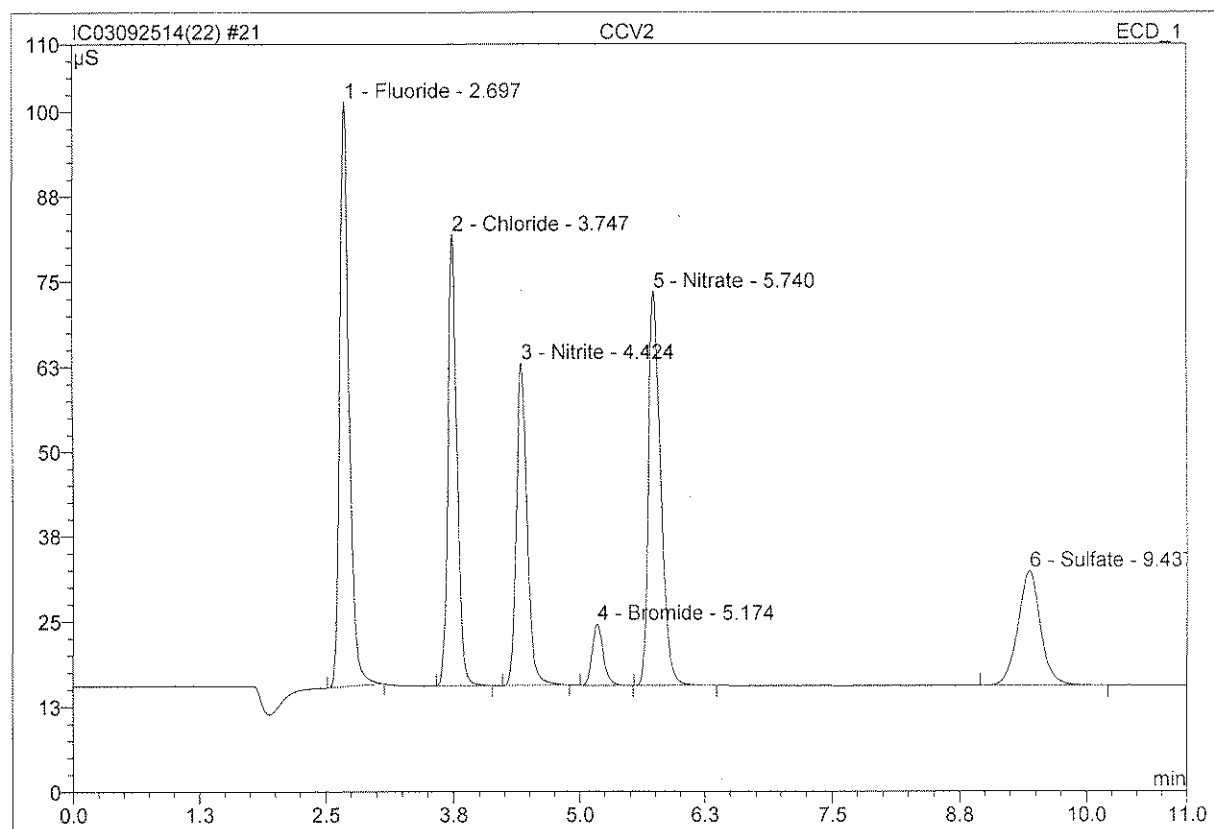
10 CCB1			
Sample Name:	CCB1	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 9:44	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

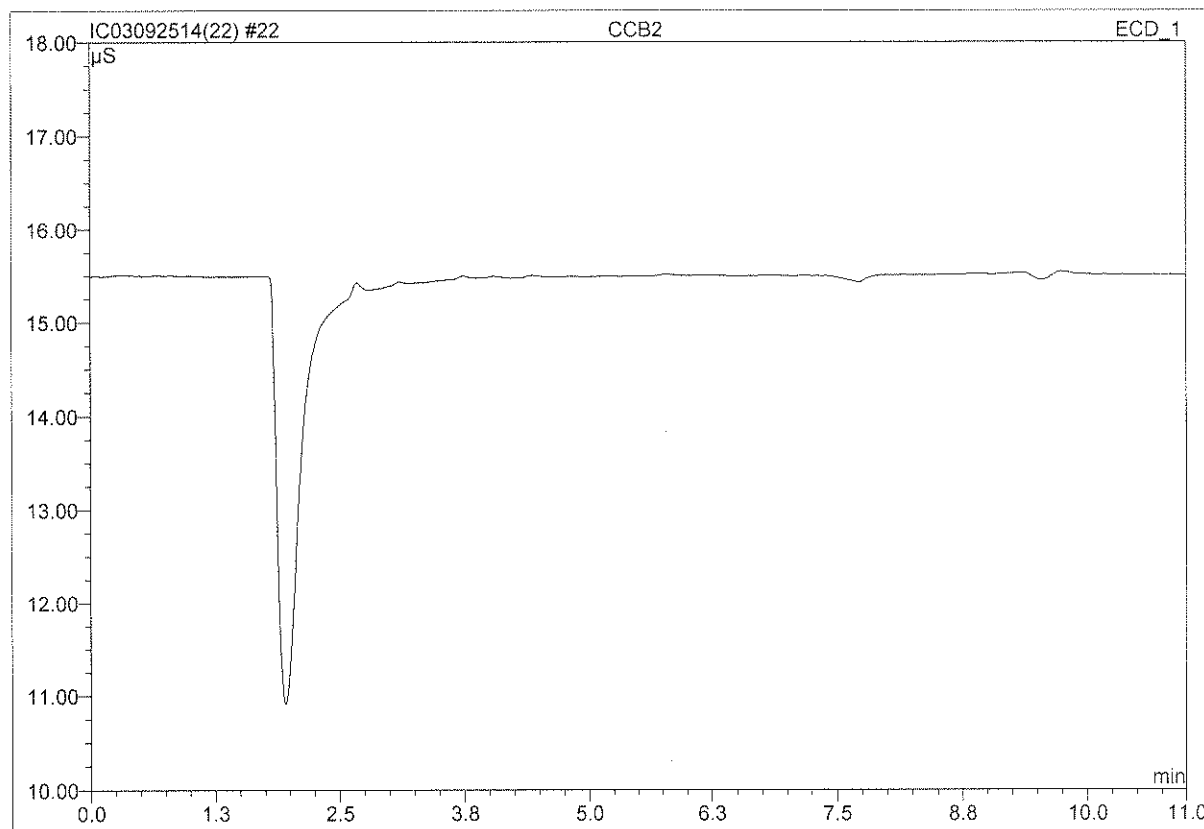
21 CCV2**CCV2**

Sample Name:	CCV2	Injection Volume:	200.0
Vial Number:	46	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 12:20	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



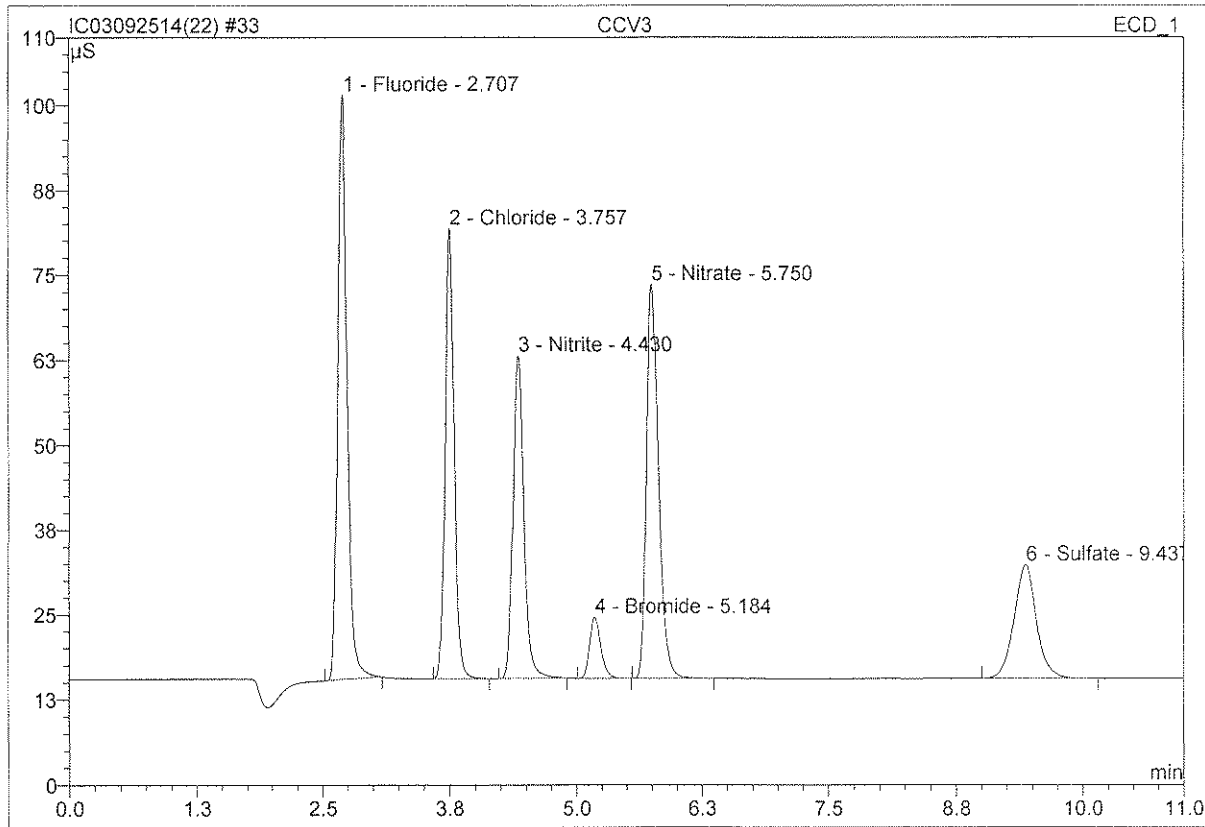
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S} \cdot \text{min}$	Rel.Area %	Amount	Type
1	2.70	Fluoride	86.023	9.147	25.89	16.5 5.228	BMB
2	3.75	Chloride	66.300	6.734	19.06	17 4.869	BMB
3	4.42	Nitrite	47.461	5.857	16.57	16 2.402	BMB
4	5.17	Bromide	8.987	1.155	3.27	15 2.379	BMB
5	5.74	Nitrate	57.897	8.161	23.09	14 2.363	BMB
6	9.44	Sulfate	16.749	4.283	12.12	11 4.846	BMB
Total:			283.417	35.335	100.00	22.086	

22 CCB2			
CCB2			
Sample Name:	CCB2	Injection Volume:	200.0
Vial Number:	47	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 12:34	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

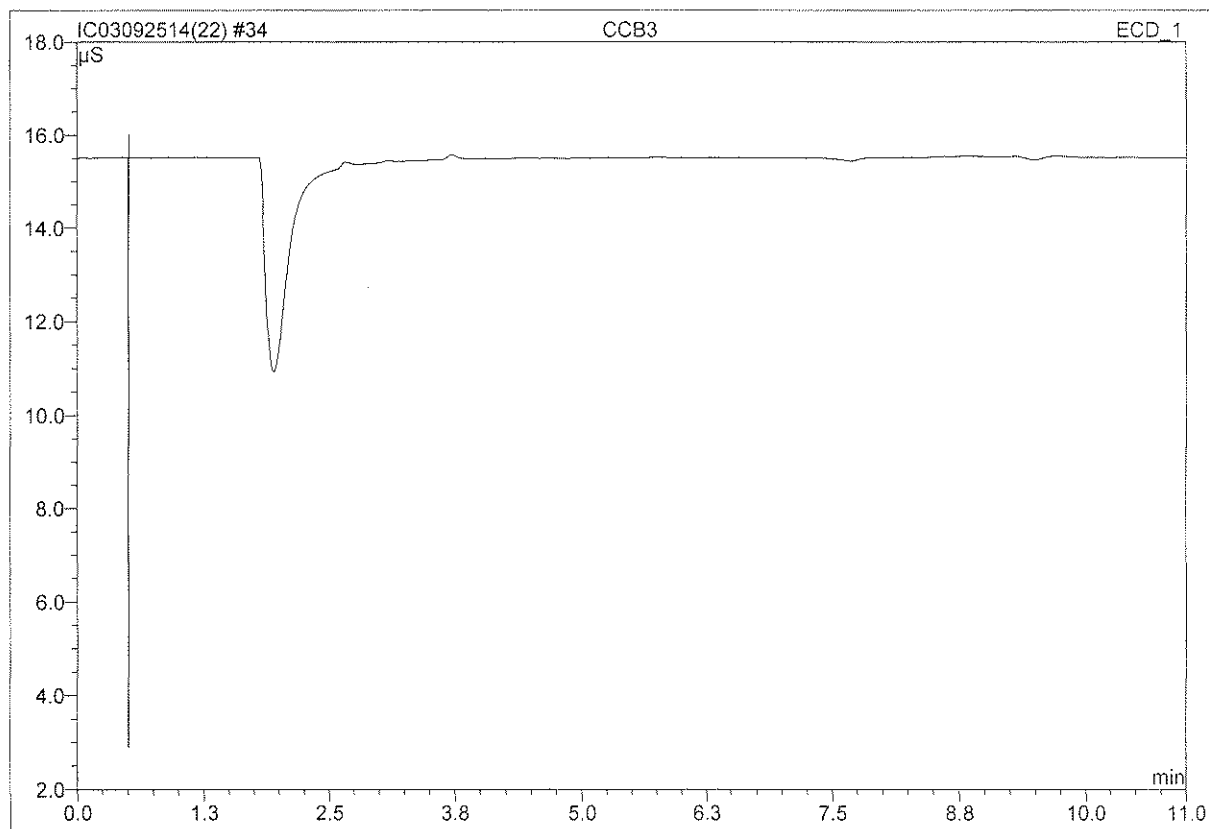
33 CCV3			
CCV3			
Sample Name:	CCV3	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 15:24	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	86.054	9.185	25.99	10.5: 5.249	BMB
2	3.76	Chloride	66.273	6.708	18.98	9.7: 4.851	BMB
3	4.43	Nitrite	47.572	5.874	16.62	9.6: 2.409	BMB
4	5.18	Bromide	9.001	1.163	3.29	9.6: 2.395	BMB
5	5.75	Nitrate	58.038	8.143	23.04	9.7: 2.358	BMB
6	9.44	Sulfate	16.723	4.272	12.09	9.7: 4.833	BMB
Total:			283.661	35.344	100.00	22.094	

34 CCB3**CCB3**

Sample Name:	CCB3	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 15:39	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000

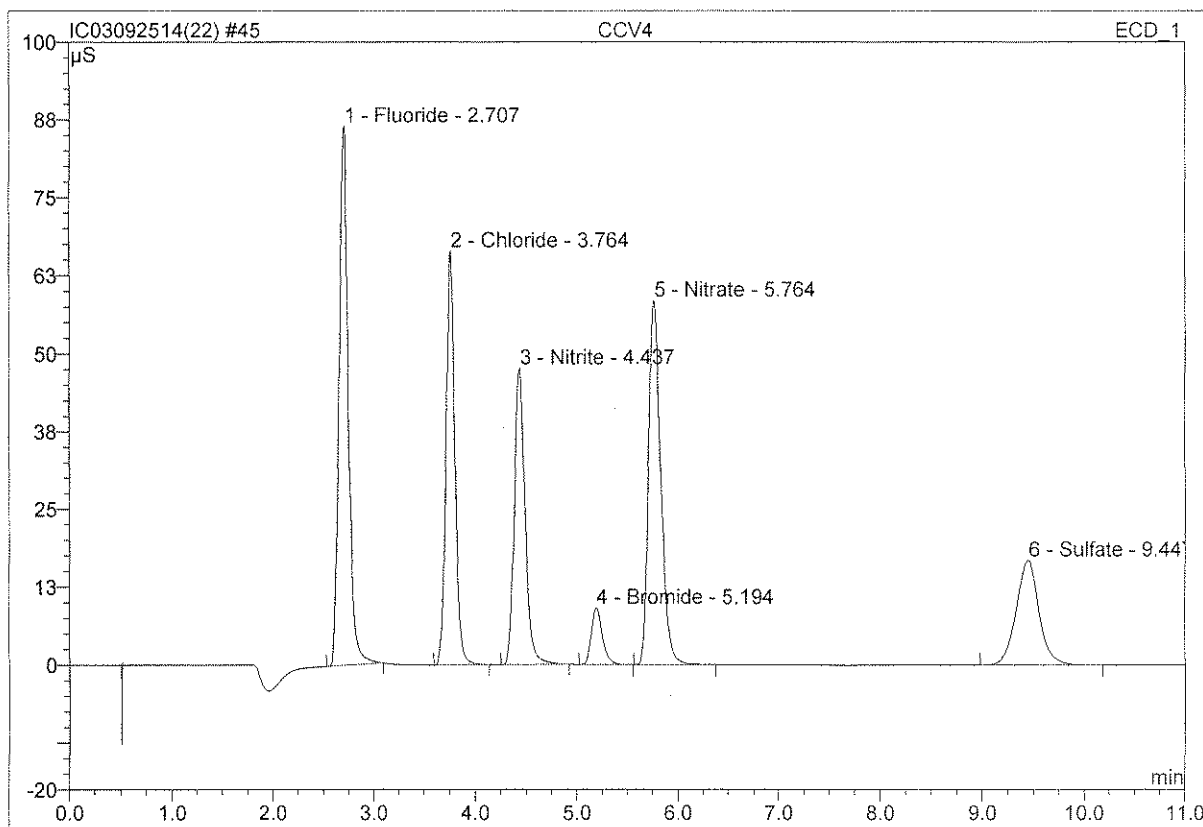


No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

45 CCV4

CCV4

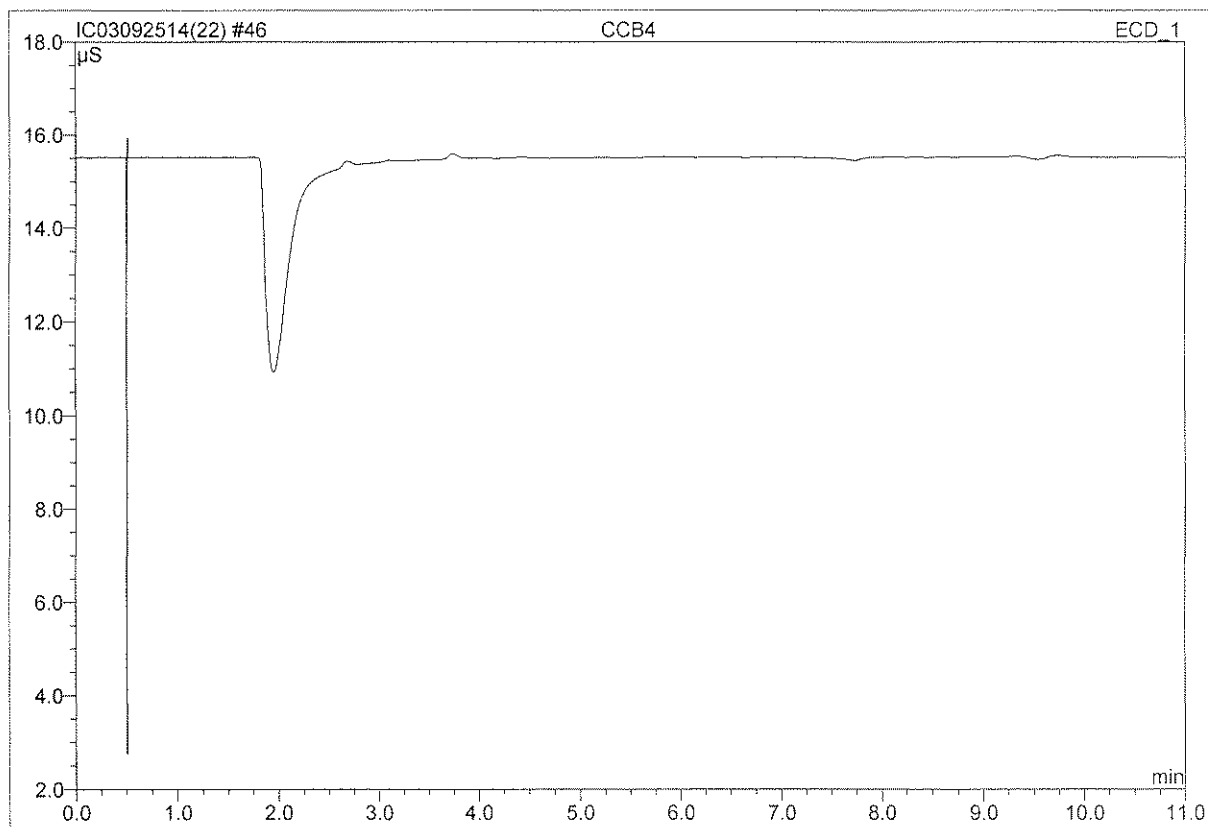
Sample Name:	CCV4	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 18:16	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	86.524	9.218	25.96	105, 5.269	BMB
2	3.76	Chloride	66.365	6.728	18.95	97, 4.865	BMB
3	4.44	Nitrite	47.591	5.890	16.59	97, 2.415	BMB
4	5.19	Bromide	9.039	1.163	3.27	96, 2.394	BMB
5	5.76	Nitrate	58.444	8.200	23.09	95, 2.374	BMB
6	9.45	Sulfate	16.724	4.307	12.13	97, 4.873	BMB
Total:			284.687	35.505	100.00	22.190	

46 CCB4**CCB4**

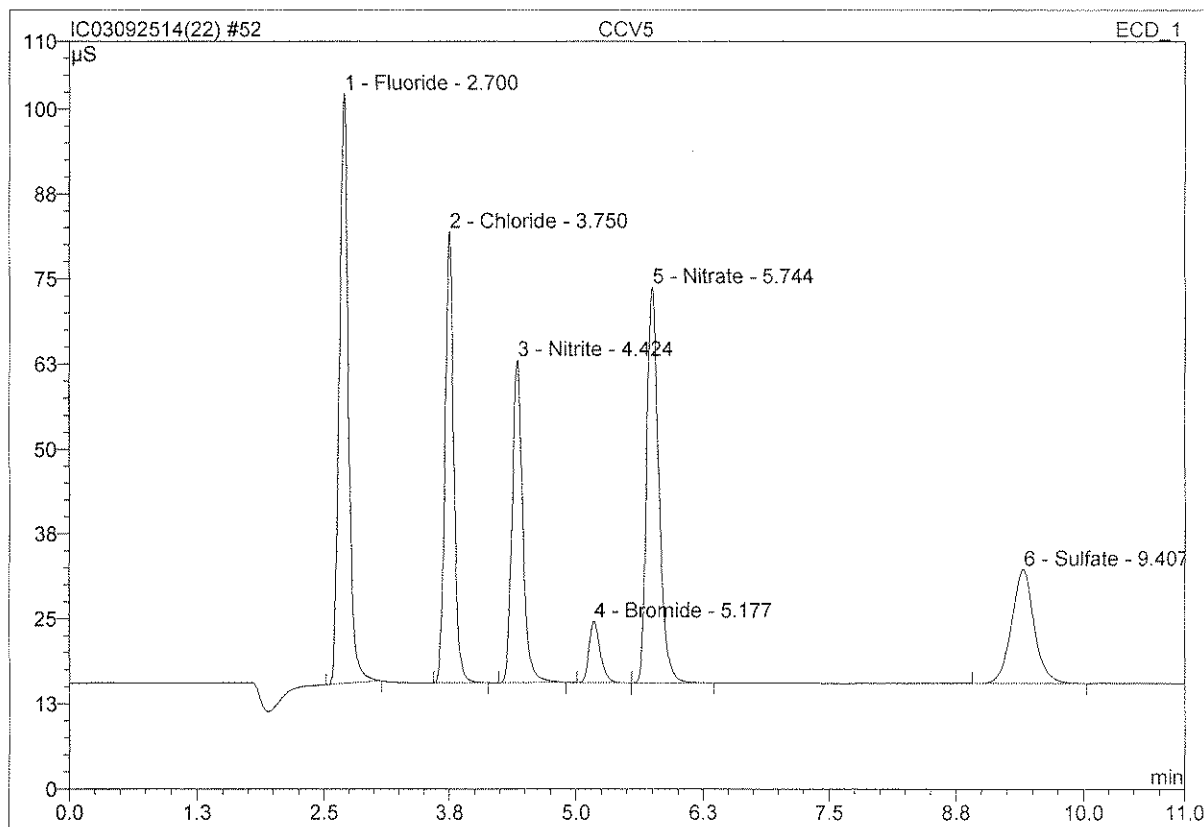
Sample Name:	CCB4	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 18:31	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

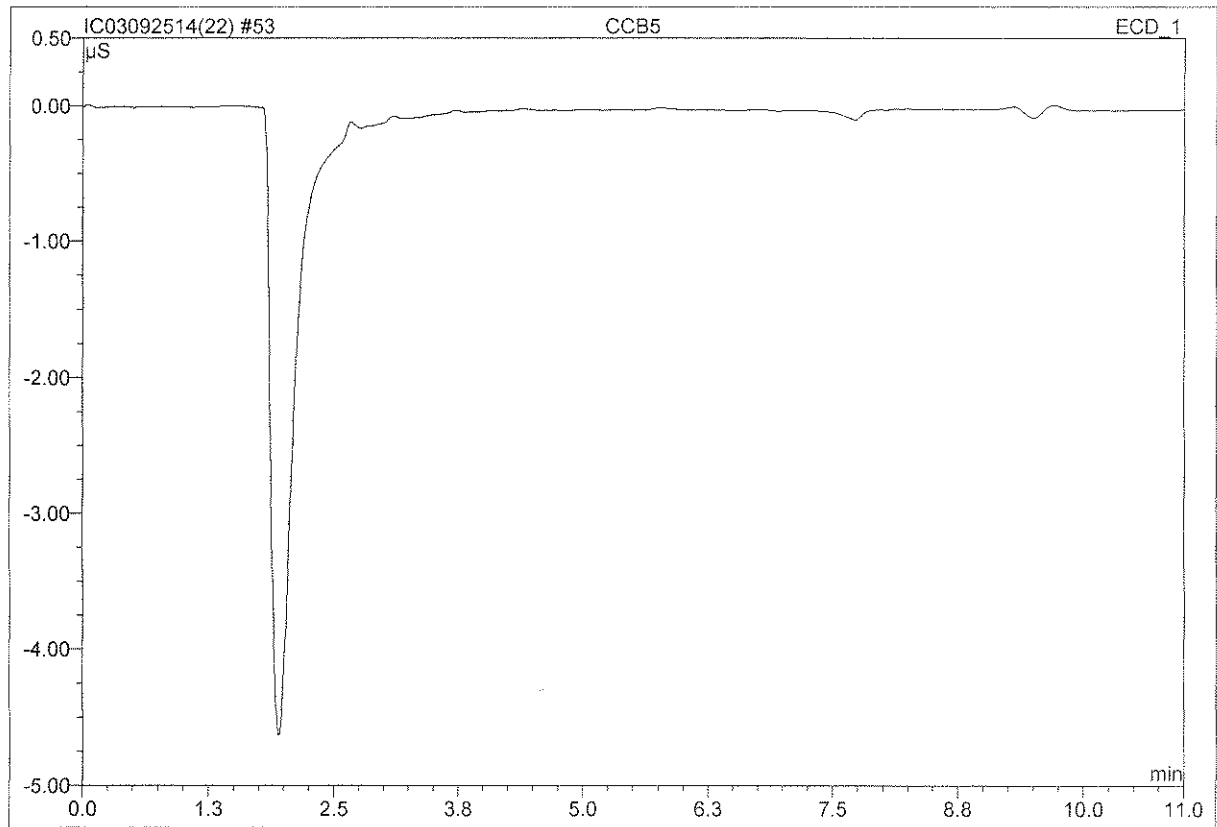
52 CCV5**CCV5**

Sample Name:	CCV5	Injection Volume:	200.0
Vial Number:	46	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 19:58	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}^*\text{min}$	Rel.Area %	Amount	Type
1	2.70	Fluoride	86.791	9.198	26.04	105.5.257	BMB
2	3.75	Chloride	66.346	6.706	18.99	97.4.849	BMB
3	4.42	Nitrite	47.529	5.843	16.54	96.2.396	BMB
4	5.18	Bromide	9.012	1.152	3.26	95.2.372	BMB
5	5.74	Nitrate	58.196	8.133	23.03	94.2.355	BMB
6	9.41	Sulfate	16.704	4.286	12.14	97.4.849	BMB
Total:			284.578	35.319	100.00	22.079	

53 CCB5			
CCB5			
Sample Name:	CCB5	Injection Volume:	200.0
Vial Number:	47	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	9/25/2014 20:12	Sample Weight:	1.0000
Run Time (min):	11.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run: 219668 **Prep Workflow:** MetDigAqICP **Status:** Prepped **Prep Date:** 10/02/2014
Team: Metals **Prep Method:** METALS **Current Step:** Digestion **Due Date:** 10/12/2014
Analyst: Anna Cheatley **Rush/NPDES:** N/A **Hold Date:** 03/22/2015

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1412263-01	Method Blank		50 mL	50 mL			Metals D	1%HNO3,5%HCl
KQ1412263-02	Lab Control Sample		50 mL	50 mL	0.25 mL 0.25 mL 0.125 mL 0.5 mL	66705 66708 74038 74138	Metals D	1%HNO3,5%HCl
K1410444-001	MW-4	.01	50 mL	50 mL			Metals D	1%HNO3,5%HCl
K1410444-001: KQ1412263-03	Matrix Spike	.01	50 mL	50 mL	0.5 mL 0.5 mL 0.5 mL 0.5 mL	74138 74821 75333 75334	Metals D	1%HNO3,5%HCl
K1410444-001: KQ1412263-04	Duplicate Matrix Spike	.01	50 mL	50 mL	0.5 mL 0.5 mL 0.5 mL 0.5 mL	74138 74821 75333 75334	Metals D	1%HNO3,5%HCl
K1410444-002	MW-6	.01	50 mL	50 mL			Metals D	1%HNO3,5%HCl

6 Total Samples consisting of 2 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
Antimony 1000 ug/mL Sb	Spike	74038	9/1/2015	K-MET SS4	Spike	74138	2/24/2015
K-MET QCP-CICV-1	Spike	66705	2/1/2015	K-MET SS5	Spike	75334	12/1/2014
K-MET QCP-CICV-3	Spike	66708	2/1/2015	K-MET-SS1	Spike	74821	2/8/2015
K-MET SS3	Spike	75333	1/24/2015				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET HCL	74685	Digestion	K-MET 50ml Centrifuge Tube	75044
Digestion	K-MET HNO3	75020			

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value	
Digestion	K-BlockDigester-05	Corrected Temperature	96	deg C	Digestion	K-BlockDigester-05	Thermometer ID 1133904	NONE
Digestion	K-BlockDigester-05	Correction Factor	0	deg C	Digestion	K-BlockDigester-05	Thermometer Location	53
Digestion	K-BlockDigester-05	Observed Temperature	96	deg C				
		211918066						

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	02-OCT-14 17:04	02-OCT-14 19:18	Anna Cheatley		N	

Comments

Review

Reviewed by: EJS Date: 10/2/14

Service Request # K1410444
Instrument ID# K-ICP-AES-04

ICP-OES 200.7 Data Review Form

	Yes	No
1. Standardization completed	<u>X</u>	<u> </u>
2. ICV within 5 % of true value	<u>X</u>	<u> </u>
3. ICB below MRL	<u>X</u>	<u> </u>
4. CRI/LLICV standard analyzed.	<u>X</u>	<u> </u>
5. ICS standards within 20% of true value	<u>X</u>	<u> </u>
6. All preceding CCVs within 10 % of true value	<u>X</u>	<u> </u>
7. Following CCV within 10 % of true value	<u>X</u>	<u> </u>
8. Bracketing CCBs below MRL	<u>X</u>	<u> </u>
9. Method Blank below MRL	<u>X</u>	<u> </u>
10. MS (70-130), Dup (20) and LCS (85-115) within control limits	<u>X</u>	<u> </u>
11. All analytes within instrument linear range	<u>X</u>	<u> </u>
12. Adequate rinse out time allowed between samples to eliminate memory effect	<u>X</u>	<u> </u>
13. Run terminated early	<u> </u>	<u>X</u>

Comments:

StarLIMS Run # 415138 Saved under 100814AICP04
200.7: NR Mg2790.

Primary Review by gmm Date 10/8/14

Secondary Review by gmm Date 10/9/14

Data Review Form

Service Request #: K1410444
Instrument ID#: K-ICP-AES-04
DataFile Name: R:\ICP\WIP\DATA\K-ICP-AES-04\100814AICP04.txt

There are no issues to report.

Primary Approver: AMM 10/8/14
Secondary Approver: _____

Sample Name: BLK Acquired: 10/8/2014 8:36:24 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0024	-48.67	.0378	-.7000	.0130	4.2917	-1.620
Stddev	.0001	3.00	.0220	.5562	.0004	1.6288	1.656
%RSD	4.808	6.157	58.23	79.47	3.262	37.953	102.2

#1	.0024	-46.55	.0222	-1.093	.0127	3.1400	-2.791
#2	.0025	-50.79	.0533	-.3066	.0133	5.4435	-.4495

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0005	-.0004	.0001	.2006	.0004	-.0010	.0007
Stddev	.0003	.0000	.0004	.0025	.0001	.0004	.0001
%RSD	60.46	.7990	556.5	1.264	15.69	36.72	13.85

#1	.0003	-.0004	.0004	.1988	.0003	-.0008	.0006
#2	.0007	-.0004	-.0002	.2024	.0004	-.0013	.0008

Elem	Cu3273	Fe2599	Pb2203	Li6707	Mg2790	Mg2795	Mg2852
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-36.07	-.0002	-.0006	-3.650	.0005	-.0001	1.650
Stddev	3.93	.0005	.0003	15.56	.0005	.0004	1.626
%RSD	10.90	199.9	49.83	426.4	85.68	309.3	98.57

#1	-33.29	-.0006	-.0004	7.354	.0002	-.0004	.5000
#2	-38.85	.0001	-.0009	-14.65	.0009	.0002	2.800

Elem	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0000	.0000	-.0003	-.0009	.0000	-13.87	-1.230
Stddev	.0000	.000	.0000	.0003	.0000	5.50	.014
%RSD	50.48	519.3	4.951	36.82	40.21	39.62	1.150

#1	.0000	-.0001	-.0003	-.0007	.0000	-17.75	-1.220
#2	.0001	.0000	-.0003	-.0012	.0000	-9.983	-1.240

Sample Name: BLK Acquired: 10/8/2014 8:36:24 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.646	-20.62	-21.09	-.01503	-.0007	-.0003	.0021
Stddev	2.522	7.06	26.05	.00162	.0002	.0000	.0001
%RSD	95.32	34.24	123.5	10.775	23.11	5.970	6.866
#1	.8625	-25.62	-2.668	-.01388	-.0008	-.0002	.0020
#2	4.429	-15.63	-39.51	-.01617	-.0006	-.0003	.0022

Elem	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0003	.0001	1.592	.0008	13.30
Stddev	.0002	.0001	.438	.0001	.40
%RSD	67.60	46.02	27.50	10.19	2.991
#1	-.0004	.0001	1.283	.0007	13.58
#2	-.0001	.0002	1.902	.0009	13.02

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2490.4	40344.	3645.3
Stddev	5.4	186.	9.3
%RSD	.21779	.46122	.25573
#1	2486.6	40476.	3651.8
#2	2494.3	40213.	3638.7

am
 10/8/14

Sample Name: STD A Acquired: 10/8/2014 8:38:51 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-19-D

Elem	Al1670	Sb2068	Be2348	B_2496	Cd2144	Cd2265	Ca3933	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.2246	190.6	14541.	1658.	2.346	1.609	35.03	.1053
Stddev	.0007	.9	74.	11.	.003	.005	.04	.0003
%RSD	.3223	.4724	.50989	.6651	.1267	.2963	.1184	.2527

#1	.2251	190.0	14593.	1666.	2.348	1.605	35.00	.1055
#2	.2241	191.3	14488.	1650.	2.343	1.612	35.06	.1051

Elem	Co2307	Cu2247	Cu3273	Pb2203	Mg2795	Mn2576	Mo2020	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.7594	.4360	5863.	.1328	3.311	.6922	.4549	.7389
Stddev	.0007	.0016	5.	.0001	.005	.0016	.0005	.0003
%RSD	.0919	.3779	.0900	.0591	.1408	.2326	.1072	.0354

#1	.7599	.4349	5859.	.1328	3.308	.6911	.4546	.7390
#2	.7589	.4372	5867.	.1329	3.315	.6933	.4552	.7387

Elem	Se1960	Ag3280	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	97.33	5556.	.0817	.1586	.6376	.1465	.7010	3109.
Stddev	.59	19.	.0004	.0003	.0020	.0002	.0031	7.
%RSD	.6049	.3508	.4367	.1801	.3064	.1533	.4473	.2198

#1	96.91	5542.	.0820	.1584	.6362	.1463	.7032	3104.
#2	97.75	5570.	.0814	.1588	.6390	.1466	.6988	3113.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2505.6	40803.	3690.6
Stddev	1.3	37.	1.4
%RSD	.05257	.09143	.03908

#1	2504.7	40830.	3691.7
#2	2506.5	40777.	3689.6

Sample Name: STD B Acquired: 10/8/2014 8:41:04 Type: Cal
 Method: 2014B-ICP04(v50) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-12-D

Elem	Al3944	As1890	Ba4554	Ca3158	Fe2599	Li6707	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137300.	543.6	277.5	2.393	3.981	26740.	.5147
Stddev	51.	1.2	.7	.011	.033	143.	.0048
%RSD	.0374	.2260	.2583	.4496	.8361	.5356	.9371

#1	137300.	544.5	278.1	2.400	4.004	26840.	.5181
#2	137300.	542.7	277.0	2.385	3.957	26640.	.5113

Elem	Mg2852	Mn2605	P_1782	K_7664	Si2516	Na5895	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	43220.	.1515	1.976	9771.	5318.	35110.	40.182
Stddev	76.	.0008	.002	1.	9.	127.	.361
%RSD	.1750	.5509	.1221	.0103	.1640	.3606	.89831

#1	43280.	.1521	1.974	9772.	5324.	35200.	40.437
#2	43170.	.1509	1.977	9771.	5311.	35020.	39.926

Elem	Bi2230	S_1820
Units	Cts/S	Cts/S
Avg	.5336	359.1
Stddev	.0002	1.0
%RSD	.0309	.2791

#1	.5335	359.9
#2	.5337	358.4

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2453.3	39447.	3656.2
Stddev	.2	120.	18.9
%RSD	.00929	.30453	.51828

#1	2453.2	39362.	3642.8
#2	2453.5	39532.	3669.6

Sample Name: ICVB Acquired: 10/8/2014 8:43:57 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9827	1.030	.0019	-.0022	.0012	-.00004	2.012	.0001
Stddev	.0018	.001	.0005	.0001	.0004	.00017	.008	.0000
%RSD	.1878	.1207	25.71	4.046	31.03	459.73	.3831	10.99
#1	.9813	1.029	.0015	-.0021	.0010	-.00016	2.007	.0001
#2	.9840	1.031	.0022	-.0023	.0015	.00008	2.018	.0002

Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	4.965	4.911	-.0012	.0000	-.0001	-.0001	10.05
Stddev	.0001	.047	.024	.0009	.0004	.0002	.0003	.05
%RSD	70.52	.9514	.4817	73.01	2312.	183.0	306.1	.4945
#1	.0001	4.931	4.894	-.0018	-.0002	-.0002	-.0003	10.02
#2	.0002	4.998	4.928	-.0006	.0003	.0000	.0001	10.09

Check ?	None	None	Chk Pass	None	None	None	None	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	1.991	4.968	4.954	5.059	9.723	9.964	-.0003
Stddev	.0008	.016	.035	.013	.025	.036	.038	.0003
%RSD	72.99	.8043	.7055	.2555	.4912	.3744	.3771	105.4
#1	.0005	2.003	4.943	4.945	5.076	9.698	9.991	-.0001
#2	.0017	1.980	4.992	4.963	5.041	9.749	9.938	-.0005

Check ?	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	None
Value Range								

Sample Name: ICVB Acquired: 10/8/2014 8:43:57 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-A

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	4.984	-.0095	.0013	5.015	-.0012	14.38	2.0218
Stddev	.0003	.008	.0032	.0032	.005	.0007	.08	.0038
%RSD	77.15	.1581	33.76	243.9	.1097	63.23	.5850	.18729
#1	.0002	4.990	-.0118	.0036	5.019	-.0006	14.44	2.0245
#2	.0005	4.979	-.0072	-.0010	5.011	-.0017	14.32	2.0192

Check ?	None	Chk Pass	None	None	Chk Pass	None	None	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0010	4.914	.0001	.0086	.0004	.0005	5.099	4.980
Stddev	.0009	.011	.0000	.0000	.0001	.0000	.003	.003
%RSD	86.69	.2312	14.55	.4024	24.42	5.285	.0567	.0587
#1	-.0017	4.906	.0001	.0086	.0005	.0005	5.101	4.978
#2	-.0004	4.922	.0001	.0086	.0004	.0005	5.097	4.982

Check ?	None	Chk Pass	None	None	None	None	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2466.9	39768.	3650.4
Stddev	2.7	61.	17.9
%RSD	.10752	.15250	.48943
#1	2465.0	39725.	3663.0
#2	2468.7	39811.	3637.7

Sample Name: ICV Acquired: 10/8/2014 8:46:26 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-19-E

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.274	5.037	2.381	2.502	5.000	.12429	.0034	1.240
Stddev	.023	.003	.005	.003	.012	.00001	.0013	.002
%RSD	.5479	.0592	.2012	.1085	.2387	.00533	37.10	.1275
#1	4.257	5.039	2.385	2.500	5.009	.12429	.0043	1.239
#2	4.290	5.035	2.378	2.504	4.992	.12428	.0025	1.241

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass None Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.232	12.45	11.88	.5021	1.229	.6131	.6029	2.473
Stddev	.004	.01	.08	.0005	.000	.0036	.0042	.007
%RSD	.3525	.1119	.7039	.0939	.0154	.5949	.6890	.2722
#1	1.229	12.46	11.82	.5024	1.229	.6105	.6058	2.468
#2	1.235	12.44	11.94	.5017	1.230	.6157	.5999	2.478

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.401	.0009	12.36	12.01	12.47	1.236	1.232	1.997
Stddev	.011	.0014	.09	.07	.05	.000	.012	.004
%RSD	.4512	162.3	.7086	.5928	.3845	.0118	1.009	.1986
#1	2.393	.0019	12.43	11.96	12.50	1.236	1.241	1.999
#2	2.408	-.0001	12.30	12.06	12.43	1.236	1.223	1.994

Check ? Chk Pass None Chk Pass None Chk Pass Chk Pass None Chk Pass
 Value
 Range

Sample Name: ICV Acquired: 10/8/2014 8:46:26 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-19-E

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.218	.0002	12.35	2.431	.0085	.6010	12.43	.00069
Stddev	.002	.0049	.13	.005	.0081	.0014	.10	.00007
%RSD	.1594	2782.	1.058	.2134	95.27	.2358	.8112	10.589
#1	1.216	.0036	12.45	2.428	.0142	.6020	12.50	.00074
#2	1.219	-.0033	12.26	2.435	.0028	.6000	12.36	.00064

Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.427	.0021	2.024	1.261	1.255	1.229	.0030	-.0009
Stddev	.012	.0002	.002	.006	.004	.000	.0028	.0007
%RSD	.4980	9.240	.1007	.4452	.3222	.0179	93.15	79.55
#1	2.418	.0022	2.023	1.265	1.252	1.229	.0049	-.0004
#2	2.435	.0020	2.026	1.257	1.258	1.229	.0010	-.0015

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2474.1	40210.	3668.7
Stddev	3.1	30.	8.7
%RSD	.12390	.07556	.23751
#1	2476.2	40232.	3674.8
#2	2471.9	40189.	3662.5

Sample Name: ICB Acquired: 10/8/2014 8:48:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0013	.0036	.0019	.0003	-.00008	.0006	.0001
Stddev	.0011	.0010	.0002	.0003	.0002	.00003	.0030	.0001
%RSD	113.8	71.52	5.582	18.39	61.44	38.936	512.6	142.4
#1	.0018	.0007	.0037	.0016	.0005	-.00005	-.0015	.0002
#2	.0002	.0020	.0035	.0021	.0002	-.00010	.0027	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0147	.0011	-.0005	.0000	-.0001	-.0001	.0025
Stddev	.0000	.0034	.0003	.0000	.0000	.0004	.0012	.0043
%RSD	64.97	23.26	25.86	1.630	47.27	293.5	2031.	172.4
#1	.0000	.0123	.0012	-.0004	.0000	-.0004	-.0009	-.0005
#2	.0001	.0171	.0009	-.0005	.0000	.0001	.0008	.0055

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	-.0003	-.0111	.0011	-.0009	.0002	.0002	.0019
Stddev	.0003	.0010	.0169	.0003	.0010	.0000	.0009	.0000
%RSD	13.42	358.5	153.0	24.74	112.1	11.84	407.3	2.024
#1	.0026	-.0010	-.0230	.0012	-.0002	.0002	-.0004	.0018
#2	.0022	.0004	.0009	.0009	-.0016	.0002	.0008	.0019

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 High Limit
 Low Limit

Sample Name: ICB Acquired: 10/8/2014 8:48:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0004	.0190	.0051	-.0048	.0001	.0068	.00007
Stddev	.0001	.0011	.0018	.0017	.0052	.0005	.0062	.00000
%RSD	21.81	245.4	9.367	34.42	107.2	379.3	92.08	2.0606
#1	.0003	.0012	.0203	.0038	-.0085	.0005	.0112	.00006
#2	.0004	-.0003	.0178	.0063	-.0012	-.0002	.0024	.00007

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0004	.0004	-.0002	.0003	.0001	-.0007	-.0033
Stddev	.0003	.0002	.0000	.0004	.0001	.0000	.0005	.0035
%RSD	474.1	44.26	9.408	184.1	21.82	45.43	71.28	105.5
#1	-.0003	.0005	.0005	.0001	.0002	.0001	-.0003	-.0057
#2	.0002	.0003	.0004	-.0005	.0003	.0001	-.0010	-.0008

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2515.2	40794.	3661.5
Stddev	2.1	37.	5.6
%RSD	.08496	.08991	.15305
#1	2516.7	40768.	3665.5
#2	2513.7	40820.	3657.6

Sample Name: LLICV Acquired: 10/8/2014 8:51:10 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106	F .0134	.0217	.0105	.0046	.00114	.0201	.0010
Stddev	.0003	.0042	.0016	.0020	.0002	.00003	.0007	.0000
%RSD	2.669	31.33	7.227	19.03	3.538	2.3531	3.297	1.807
#1	.0104	.0105	.0206	.0091	.0045	.00116	.0205	.0010
#2	.0108	.0164	.0228	.0119	.0048	.00112	.0196	.0010

Check ?	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100						
Range		20.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3278	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	F .0373	.0212	.0036	.0022	.0039	F .0049	F .0261
Stddev	.0000	.0139	.0001	.0004	.0004	.0003	.0001	.0008
%RSD	2.476	37.23	.5662	9.674	16.53	8.455	1.530	3.006
#1	.0012	.0275	.0213	.0034	.0024	.0036	.0048	.0267
#2	.0011	.0471	.0211	.0039	.0019	.0041	.0049	.0255

Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value		.0200					.0040	.0200
Range		20.00%					20.00%	20.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0114	.0186	.0001	.0057	.0040	.0011	.0010	.0044
Stddev	.0008	.0000	.0347	.0001	.0001	.0000	.0003	.0003
%RSD	6.570	.2275	28640.	1.556	2.890	2.933	25.89	7.849
#1	.0109	.0186	-.0244	.0056	.0039	.0011	.0008	.0046
#2	.0120	.0186	.0246	.0057	.0040	.0011	.0012	.0041

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

*re-run
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 10/8/14

Sample Name: LLICV Acquired: 10/8/2014 8:51:10 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	.0425	.2132	F .0251	.1965	.0045	.2068	.00107
Stddev	.0001	.0052	.0243	.0022	.0074	.0004	.0051	.00005
%RSD	2.501	12.33	11.40	8.850	3.757	8.984	2.486	4.3488
#1	.0043	.0388	.2304	.0267	.2017	.0043	.2031	.00104
#2	.0042	.0462	.1960	.0236	.1912	.0048	.2104	.00110

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				.0200				
Range				20.00%				

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0102	.0216	.0024	.0037	.0042	.0041	.0212	.0357
Stddev	.0013	.0002	.0001	.0001	.0001	.0001	.0021	.0006
%RSD	12.94	.9973	3.588	2.865	3.499	1.764	10.07	1.671
#1	.0092	.0214	.0023	.0036	.0043	.0041	.0227	.0361
#2	.0111	.0217	.0024	.0038	.0041	.0042	.0197	.0353

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2521.4	40848.	3657.9
Stddev	3.3	67.	1.1
%RSD	.13249	.16451	.02972
#1	2523.7	40896.	3657.1
#2	2519.0	40801.	3658.7

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 10/8/14

Sample Name: LLICV Acquired: 10/8/2014 8:53:37 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0110	F .0151	.0206	F .0129	.0044	.00102	.0206	.0010
Stddev	.0000	.0026	.0008	.0012	.0002	.00001	.0005	.0000
%RSD	.1161	16.90	4.002	9.122	3.460	.56483	2.222	1.636
#1	.0110	.0133	.0212	.0121	.0043	.00101	.0209	.0010
#2	.0110	.0169	.0200	.0137	.0045	.00102	.0202	.0010

Check ?	None	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100		.0100				
Range		20.00%		20.00%				

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	F .0270	.0206	.0040	.0021	.0040	.0043	.0219
Stddev	.0000	.0051	.0001	.0005	.0001	.0004	.0003	.0040
%RSD	2.567	18.92	.6000	11.39	3.392	9.435	7.136	18.19
#1	.0011	.0306	.0207	.0037	.0022	.0042	.0046	.0247
#2	.0011	.0234	.0205	.0043	.0021	.0037	.0041	.0191

Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0200						
Range		20.00%						

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0128	.0201	-.0241	.0054	.0035	.0012	.0011	.0041
Stddev	.0010	.0006	.0294	.0001	.0003	.0002	.0000	.0003
%RSD	7.538	2.912	121.9	1.840	9.824	13.00	1.812	6.883
#1	.0121	.0206	-.0033	.0055	.0033	.0013	.0011	.0039
#2	.0135	.0197	-.0449	.0053	.0037	.0011	.0011	.0043

Check ?	Chk Fail	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value	.0100							
Range	20.00%							

Sample Name: LLICV Acquired: 10/8/2014 8:53:37 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 0.5/50mL DOD CHECK TABLE RERUN

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041	.0409	.2157	.0218	.1954	.0042	.1993	.00104
Stddev	.0001	.0006	.0481	.0009	.0045	.0002	.0143	.00001
%RSD	2.073	1.384	22.29	4.159	2.313	5.130	7.176	1.2517
#1	.0041	.0413	.1817	.0212	.1922	.0040	.1892	.00103
#2	.0040	.0405	.2497	.0225	.1986	.0043	.2094	.00105

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107	.0208	.0023	.0044	.0044	.0041	.0221	.0357
Stddev	.0024	.0009	.0001	.0001	.0001	.0002	.0000	.0003
%RSD	22.02	4.281	2.255	3.289	2.575	5.533	.1936	.8953
#1	.0124	.0214	.0022	.0043	.0044	.0043	.0222	.0354
#2	.0091	.0202	.0023	.0045	.0043	.0040	.0221	.0359

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2525.0	41052.	3696.4
Stddev	.1	109.	2.0
%RSD	.00311	.26480	.05540
#1	2525.0	41129.	3697.8
#2	2524.9	40975.	3694.9

Sample Name: LLICV,0.5 Acquired: 10/8/2014 8:56:03 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-13-D 1/50mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0080	.0804	.4067	.0449	.3957	.0077	.4011	.00208
Stddev	.0001	.0044	.0163	.0038	.0032	.0001	.0093	.00007
%RSD	1.482	5.528	4.013	8.357	.8131	1.516	2.313	3.2026
#1	.0080	.0835	.3951	.0423	.3980	.0078	.3945	.00203
#2	.0079	.0772	.4182	.0476	.3934	.0076	.4076	.00212

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0204	.0410	.0044	.0083	.0081	.0082	.0434	.0746
Stddev	.0011	.0009	.0000	.0003	.0001	.0000	.0007	.0062
%RSD	5.312	2.286	.6657	3.966	.8356	.2498	1.648	8.265
#1	.0196	.0417	.0044	.0086	.0081	.0082	.0429	.0790
#2	.0212	.0403	.0044	.0081	.0082	.0082	.0439	.0702

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2529.1	40927.	3692.5
Stddev	2.7	69.	2.0
%RSD	.10512	.16754	.05338
#1	2527.2	40878.	3691.1
#2	2531.0	40975.	3693.9

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Sample Name: CCVB1 Acquired: 10/8/2014 8:59:47 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.283	10.22	-.0006	1.018	10.05	-.00002	.0001	.0000
Stddev	.004	.04	.0010	.003	.03	.00007	.0010	.000
%RSD	.0500	.3636	169.7	.2576	.3222	312.61	1295.	1500.
#1	7.278	10.17	-.0009	1.014	10.02	-.00010	.0012	.0000
#2	7.283	10.26	-.0018	1.019	10.08	-.00004	.0005	.0000
#3	7.285	10.23	.0004	1.018	10.02	.00007	-.0003	.0000
#4	7.286	10.22	-.0001	1.020	10.07	-.00002	-.0011	.0000

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	9.979	9.782	-.0002	-.0003	-.0004	.0005	10.08
Stddev	.000	.069	.059	.0004	.0004	.0006	.0009	.04
%RSD	177.7	.6880	.5990	156.1	138.2	175.0	178.0	.4033
#1	.0000	10.07	9.696	.0000	.0000	.0005	.0018	10.04
#2	.0000	9.899	9.824	-.0005	-.0004	-.0004	.0001	10.06
#3	-.0001	9.988	9.814	.0002	-.0008	-.0010	.0002	10.14
#4	.0000	9.963	9.794	-.0006	.0001	-.0005	-.0001	10.09

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Sample Name: CCVB1 Acquired: 10/8/2014 8:59:47 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.9948	F 9.402	9.761	10.08	1.001	1.001	.0000
Stddev	.0008	.0014	* .062	.065	.03	.001	.003	.000
%RSD	52.94	.1426	.6595	.6611	.2556	.0574	.3170	611.1
#1	.0010	.9951	9.460	9.710	10.08	1.001	.9961	-0.003
#2	.0023	.9942	9.314	9.705	10.10	1.001	1.001	.0002
#3	.0007	.9934	9.418	9.838	10.05	1.001	1.003	-0.003
#4	.0020	.9967	9.418	9.791	10.10	.9999	1.003	.0002

Check ?	None	Chk Pass	Chk Fail	None	Chk Pass	None	Chk Pass	None
Value			10.00					
Range			-5.440%					

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	9.986	9.947	.0042	10.03	.0001	10.00	1.0036
Stddev	.0001	.010	.022	.0025	.06	.0008	.02	.0062
%RSD	283.7	.0964	.2183	60.74	.6409	998.6	.2194	.61742
#1	.0000	9.986	9.964	.0050	9.947	-0.0003	9.976	.99906
#2	-0.0001	9.989	9.950	.0036	10.10	-0.0002	9.995	.99750
#3	.0002	9.973	9.957	.0070	10.03	.0013	10.02	1.0100
#4	.0001	9.997	9.915	.0010	10.06	-0.0006	10.02	1.0076

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

*NR for 200.7
 ok for 6010
 Ann
 10/8/14

Sample Name: CCVB1 Acquired: 10/8/2014 8:59:47 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0013	.0005	.0014	.0001	.0002	1.021	1.008
Stddev	.0024	.0004	.0001	.0005	.0002	.0001	.001	.004
%RSD	853.8	26.23	11.39	34.92	154.0	40.61	.1249	.3547
#1	.0023	.0017	.0005	.0012	.0000	.0003	1.022	1.007
#2	.0008	.0013	.0004	.0014	.0004	.0002	1.020	1.013
#3	-.0033	.0015	.0005	.0020	-.0001	.0003	1.021	1.008
#4	-.0010	.0009	.0004	.0009	.0002	.0001	1.022	1.005

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2484.9	39960.	3670.9
Stddev	4.7	71.	17.5
%RSD	.18756	.17692	.47635
#1	2484.8	39907.	3678.7
#2	2491.2	39936.	3687.9
#3	2480.0	39933.	3647.1
#4	2483.6	40064.	3669.9

Sample Name: CCVA1 Acquired: 10/8/2014 9:05:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2525	.2676	.2482	.2579	.2512	.24994	.2545	.2520
Stddev	.0013	.0036	.0024	.0014	.0005	.00081	.0019	.0005
%RSD	.5166	1.337	.9752	.5456	.1934	.32542	.7603	.1930
#1	.2536	.2626	.2481	.2598	.2512	.24971	.2521	.2522
#2	.2521	.2709	.2456	.2565	.2514	.25004	.2549	.2524
#3	.2534	.2694	.2476	.2573	.2505	.25098	.2542	.2520
#4	.2508	.2674	.2514	.2578	.2516	.24903	.2568	.2513

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2494	.5104	.5021	.2516	.2504	.2514	.2499	.2593
Stddev	.0003	.0096	.0009	.0007	.0005	.0004	.0015	.0021
%RSD	.1156	1.888	.1745	.2588	.2010	.1600	.6080	.8042
#1	.2494	.5170	.5030	.2512	.2511	.2519	.2479	.2581
#2	.2495	.4961	.5026	.2509	.2501	.2510	.2496	.2571
#3	.2497	.5155	.5014	.2518	.2506	.2515	.2513	.2613
#4	.2490	.5129	.5013	.2524	.2500	.2512	.2508	.2609

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Sample Name: CCVA1 Acquired: 10/8/2014 9:05:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2501	.0000	.2380	.2540	.2529	.2538	.2464	.2506
Stddev	.0017	.0012	.0179	.0004	.0013	.0004	.0015	.0006
%RSD	.6727	2797.	7.504	.1687	.5094	.1715	.5907	.2518
#1	.2512	.0008	.2255	.2534	.2521	.2539	.2460	.2506
#2	.2495	-.0005	.2538	.2543	.2539	.2541	.2448	.2499
#3	.2517	-.0014	.2529	.2542	.2515	.2531	.2466	.2514
#4	.2481	.0013	.2198	.2541	.2541	.2541	.2483	.2506

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2499	.0019	2.431	.2559	.1243	.2549	.2528	.00009
Stddev	.0005	.0016	.022	.0020	.0051	.0014	.0078	.00003
%RSD	.1952	80.22	.9251	.7986	4.073	.5625	3.078	36.051
#1	.2502	.0021	2.428	.2585	.1202	.2535	.2623	.00006
#2	.2501	-.0002	2.422	.2541	.1316	.2540	.2494	.00008
#3	.2499	.0024	2.411	.2567	.1218	.2567	.2443	.00013
#4	.2492	.0035	2.463	.2544	.1236	.2555	.2554	.00007

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: CCVA1 Acquired: 10/8/2014 9:05:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2516	.2489	.2518	.2492	.2526	.2523	.0005	-.0051
Stddev	.0008	.0012	.0004	.0004	.0009	.0006	.0023	.0021
%RSD	.3132	.4888	.1535	.1454	.3448	.2273	466.0	40.32
#1	.2510	.2485	.2514	.2489	.2535	.2514	.0007	-.0039
#2	.2508	.2494	.2516	.2494	.2517	.2524	-.0023	-.0080
#3	.2524	.2474	.2518	.2496	.2531	.2526	.0033	-.0054
#4	.2521	.2503	.2523	.2489	.2520	.2526	.0003	-.0033

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2518.7	40739.	3671.8
Stddev	5.3	121.	15.8
%RSD	.21057	.29747	.43079
#1	2510.9	40700.	3668.2
#2	2521.0	40733.	3690.6
#3	2520.1	40905.	3675.8
#4	2522.6	40617.	3652.6

Sample Name: CCB Acquired: 10/8/2014 9:11:27 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0003	-.0006	-.0012	.0000	-.00001	.0009	.0000
Stddev	.0005	.0013	.0012	.0004	.000	.00001	.0007	.0000
%RSD	121.6	426.3	207.1	32.86	1026.	90.025	74.41	85.80

#1	.0007	-.0013	-.0014	-.0009	.0002	.00000	.0013	.0000
#2	.0001	.0006	.0003	-.0015	-.0003	-.00002	.0004	.0000

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0110	.0004	-.0007	.0001	.0000	.0000	.0028
Stddev	.0001	.0092	.0002	.0004	.0001	.000	.0001	.0048
%RSD	63.02	83.07	70.48	59.57	94.58	573.3	371.0	171.7

#1	.0001	.0046	.0005	-.0010	.0000	.0001	.0001	-.0006
#2	.0002	.0175	.0002	-.0004	.0002	-.0002	-.0001	.0062

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	-.0003	-.0212	.0003	.0019	.0000	.0005	.0005
Stddev	.0007	.0000	.0075	.0001	.0000	.0000	.0004	.0001
%RSD	52.51	7.410	35.44	19.27	1.670	606.7	75.30	15.27

#1	.0018	-.0003	-.0159	.0003	.0019	.0000	.0008	.0005
#2	.0008	-.0003	-.0265	.0004	.0019	.0000	.0002	.0006

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 10/8/2014 9:11:27 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0011	.0164	.0022	-.0054	.0007	.0006	.00003
Stddev	.0002	.0025	.0245	.0032	.0080	.0001	.0073	.00009
%RSD	69.55	218.4	149.5	144.6	148.6	15.40	1235.	268.33
#1	.0004	.0029	-.0009	.0044	-.0111	.0008	-.0046	-.00003
#2	.0001	-.0006	.0337	.0000	.0003	.0006	.0057	.00009

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0009	.0002	.0005	.0002	.0000	-.0002	-.0027
Stddev	.0004	.0003	.0000	.0000	.0002	.0000	.0009	.0026
%RSD	250.1	28.88	10.39	9.737	106.5	65.76	529.9	95.73
#1	.0001	.0011	.0001	.0005	.0001	.0000	-.0008	-.0009
#2	-.0005	.0007	.0002	.0005	.0004	.0000	.0005	-.0045

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2523.2	40749.	3615.6
Stddev	1.2	82.	95.1
%RSD	.04602	.20100	2.6301
#1	2522.4	40691.	3548.4
#2	2524.0	40807.	3682.9

Sample Name: ICSA Acquired: 10/8/2014 9:13:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-B

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.76	434.1	-.0013	-.0005	.0009	-.00043	.0072	.0002
Stddev	.01	6.8	.0045	.0057	.0004	.00019	.0011	.0000
%RSD	.0628	1.561	349.7	1186.	39.03	42.761	15.50	13.42
#1	22.75	438.9	.0019	-.0045	.0007	-.00030	.0080	.0001
#2	22.77	429.4	-.0044	.0036	.0012	-.00056	.0064	.0002
Check ?	None	None	None	None	None	None	None	None

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	478.6	*****	.0023	-.0019	-.0024	-.0018	186.0
Stddev	.0002	.5	----	.0001	.0005	.0005	.0002	.3
%RSD	73.65	.1142	----	3.014	24.49	19.83	11.69	.1796
#1	-.0004	478.9	----	.0023	-.0022	-.0020	-.0020	186.3
#2	-.0001	478.2	----	.0022	-.0016	-.0027	-.0017	185.8

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030	.0040	526.7	184.1	436.9	-.0014	-.0032	-.0024
Stddev	.0003	.0004	.8	.5	2.9	.0001	.0006	.0002
%RSD	8.350	10.40	.1597	.2593	.6696	10.84	20.33	9.785
#1	.0028	.0043	527.3	184.4	438.9	-.0015	-.0027	-.0026
#2	.0032	.0037	526.2	183.8	434.8	-.0013	-.0036	-.0022

Check ?	None	None	Chk Pass	None	None	None	None	None
Value Range								

Sample Name: ICSA Acquired: 10/8/2014 9:13:52 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-B

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037	.0039	.0044	-.0177	.0102	-.0014	.0242	.00340
Stddev	.0004	.0009	.0539	.0052	.0001	.0004	.0060	.00006
%RSD	10.70	22.38	1237.	29.14	1.162	26.02	24.77	1.8483
#1	.0040	.0033	.0424	-.0214	.0102	-.0011	.0200	.00335
#2	.0034	.0045	-.0337	-.0141	.0103	-.0017	.0285	.00344
Check ?	None	None	None	None	None	None	None	None

Value
Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0106	.0027	-.0005	.0016	.0020	.0006	.0146	-.0047
Stddev	.0045	.0001	.0001	.0006	.0000	.0002	.0007	.0020
%RSD	42.33	4.503	14.85	39.01	2.122	26.21	4.988	41.39
#1	-.0138	.0026	-.0005	.0021	.0020	.0005	.0141	-.0061
#2	-.0075	.0028	-.0006	.0012	.0020	.0007	.0151	-.0033
Check ?	None	None	None	None	None	None	None	None

Value
Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2181.5	34862.	3475.7
Stddev	2.0	5.	12.3
%RSD	.09381	.01533	.35357
#1	2183.0	34858.	3467.0
#2	2180.1	34866.	3484.3

Sample Name: ICSAB Acquired: 10/8/2014 9:16:35 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-C

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.88	435.2	.8555	-.0056	.5157	.46373	.0014	.9177
Stddev	.01	.6	.0040	.0024	.0012	.00046	.0008	.0020
%RSD	.0639	.1478	.4688	42.80	.2257	.09922	59.28	.2128
#1	22.87	435.7	.8583	-.0073	.5165	.46405	.0008	.9163
#2	22.89	434.8	.8527	-.0039	.5149	.46340	.0020	.9191

Check ?	None	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9035	482.0	*****	.5024	.4522	.4570	.4514	186.7
Stddev	.0003	.4	----	.0021	.0011	.0008	.0018	.2
%RSD	.0361	.0753	----	.4103	.2440	.1814	.4024	.0929
#1	.9032	481.7	----	.5010	.4530	.4576	.4527	186.8
#2	.9037	482.2	----	.5039	.4514	.4565	.4501	186.5

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8735	.0046	526.8	183.7	434.5	.4899	.5258	-.0028
Stddev	.0044	.0001	.2	.1	.7	.0027	.0002	.0005
%RSD	.4987	1.539	.0328	.0552	.1689	.5548	.0408	16.73
#1	.8766	.0045	526.7	183.6	435.0	.4880	.5260	-.0032
#2	.8704	.0046	526.9	183.8	434.0	.4918	.5257	-.0025

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	None
Value Range								

Sample Name: ICSAB Acquired: 10/8/2014 9:16:35 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-7-C

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8869	.0041	-.0113	-.0037	.0109	.9154	.0148	.00339
Stddev	.0014	.0015	.0134	.0007	.0057	.0010	.0031	.00010
%RSD	.1590	35.67	118.7	20.29	52.62	.1103	20.77	2.8636
#1	.8879	.0031	-.0018	-.0032	.0149	.9147	.0170	.00346
#2	.8859	.0052	-.0208	-.0042	.0068	.9161	.0127	.00332

Check ?	Chk Pass	None	None	None	None	Chk Pass	None	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0122	.0018	-.0003	.5181	.9077	.8570	.0141	-.0096
Stddev	.0058	.0003	.0003	.0032	.0003	.0011	.0016	.0042
%RSD	47.52	13.66	112.3	.6141	.0286	.1302	11.17	43.66
#1	-.0081	.0017	-.0005	.5158	.9075	.8578	.0152	-.0126
#2	-.0163	.0020	-.0001	.5203	.9079	.8562	.0129	-.0066

Check ?	None	None	None	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2168.2	34845.	3473.5
Stddev	3.3	177.	6.7
%RSD	.15176	.50779	.19237
#1	2170.5	34970.	3478.2
#2	2165.9	34720.	3468.8

Sample Name: KQ1412512-02 Acquired: 10/8/2014 9:26:11 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410531-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044	.0011	-.0015	-.0001	-.00009	-.0002	-.0001	.0001

#1	.0046	.0010	-.0024	.0001	-.00005	.0007	-.0001	.0001
#2	.0042	.0012	-.0006	-.0003	-.00014	-.0011	.0000	.0001

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051	-.0016	-.0002	-.0003	-.0002	.0032	.0021	-.0002

#1	.0050	-.0018	-.0004	-.0001	.0000	.0041	.0020	-.0014
#2	.0052	-.0014	.0000	-.0005	-.0004	.0023	.0023	.0010

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0000	.0001	.0002	.0026	.0166	.0027	.0026

#1	.0039	.0000	.0000	.0002	.0021	.0468	.0008	.0084
#2	.0040	.0000	.0003	.0002	.0031	-.0135	.0045	-.0031

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0081	-.00007	-.0006	.0006	.0002	.0001	.0000

#1	.0000	.0132	-.00006	-.0001	.0001	.0002	.0001	.0001
#2	-.0001	.0030	-.00008	-.0010	.0012	.0001	.0001	-.0001

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0001	-.0007	-.0078

#1	.0000	-.0008	-.0090
#2	.0003	-.0006	-.0065

Sample Name: KQ1412512-02 Acquired: 10/8/2014 9:26:11 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410531-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2514.6	40797.	3675.6
#1	2509.8	40812.	3662.8
#2	2519.3	40781.	3688.5

Sample Name: KQ1412512-01 Acquired: 10/8/2014 9:28:37 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410531-LCSW

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.005	2.343	2.519	4.991	.12145	.9908	1.231	1.212

#1	5.024	2.349	2.517	4.989	.12180	.9914	1.232	1.211
#2	4.985	2.337	2.521	4.994	.12110	.9901	1.231	1.213

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.35	.5022	1.229	.6108	.6025	2.448	2.380	-.0012

#1	12.38	.5031	1.227	.6095	.6045	2.447	2.376	-.0012
#2	12.33	.5013	1.231	.6121	.6005	2.450	2.385	-.0013

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.33	1.245	1.001	1.206	.0032	12.30	2.415	-.0013

#1	12.34	1.245	1.001	1.206	.0037	12.30	2.413	-.0151
#2	12.32	1.246	1.001	1.206	.0027	12.31	2.418	.0124

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6074	12.50	.00047	2.421	.0010	.0004	1.247	1.247

#1	.6096	12.48	.00046	2.419	.0007	.0004	1.249	1.248
#2	.6052	12.51	.00048	2.424	.0014	.0005	1.245	1.247

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.218	.0010	-.0051

#1	1.219	.0012	-.0035
#2	1.218	.0007	-.0066

Sample Name: KQ1412512-01 Acquired: 10/8/2014 9:28:37 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410531-LCSW

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2472.8	39844.	3664.0
#1	2474.3	39930.	3666.0
#2	2471.2	39758.	3662.0

Sample Name: K1410531-003 Acquired: 10/8/2014 9:30:53 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.261	-.0001	.0255	.0277	.00045	.1294	.0001	.0001
#1	1.264	-.0006	.0248	.0213	.00053	.1293	.0001	.0003
#2	1.259	.0005	.0261	.0341	.00036	.1296	.0001	-.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.311	.0753	.0067	.0524	.0513	5.964	.0039	.0017
#1	4.236	.0754	.0067	.0521	.0514	5.817	.0041	.0011
#2	4.387	.0752	.0067	.0528	.0513	6.110	.0036	.0022
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	*****	.1474	.0194	.0317	5.096	1.666	.0069	16.74
#1	.9479	.1475	.0197	.0318	5.107	1.665	.0062	16.82
#2	----	.1473	.0190	.0316	5.086	1.667	.0076	16.67
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	317.0	.02769	.0006	.0018	.2560	.2688	.0169
#1	.0010	318.7	.02678	-.0005	.0024	.2555	.2702	.0172
#2	.0007	315.3	.02860	.0018	.0012	.2564	.2674	.0167
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0163	-.0014	23.50					
#1	.0163	-.0023	23.51					
#2	.0163	-.0005	23.48					

Sample Name: K1410531-003 Acquired: 10/8/2014 9:30:53 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2411.7	38397.	3682.6
#1	2408.2	38498.	3738.5
#2	2415.3	38296.	3626.7

Sample Name: K1410531-003L Acquired: 10/8/2014 9:33:23 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: Sample Type:
 Comment: EM 100814A 1/5

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2744	-.0031	.0049	.0043	.00001	.0279	.0001	.0000

#1	.2751	-.0022	.0050	.0043	.00011	.0282	.0001	.0001
#2	.2736	-.0039	.0049	.0042	-.00009	.0276	.0000	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8738	.0143	.0014	.0106	.0111	1.201	.0019	-.0004

#1	.8760	.0140	.0014	.0108	.0107	1.204	.0020	.0003
#2	.8717	.0146	.0014	.0105	.0115	1.198	.0017	-.0011

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1955	.0297	.0037	.0067	.9998	.2755	.0047	3.292

#1	.1953	.0297	.0037	.0068	1.005	.2773	.0069	3.281
#2	.1957	.0296	.0037	.0067	.9948	.2737	.0025	3.303

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	63.24	.00542	.0000	.0014	.0524	.0541	.0034

#1	.0004	63.38	.00535	-.0003	.0009	.0521	.0540	.0033
#2	.0001	63.10	.00550	.0002	.0020	.0528	.0541	.0035

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0034	-.0020	4.700

#1	.0034	-.0027	4.693
#2	.0034	-.0012	4.706

Sample Name: K1410531-003L Acquired: 10/8/2014 9:33:23 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: Sample Type:
Comment: EM 100814A 1/5

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2467.1	39443.	3620.3
#1	2469.7	39545.	3621.0
#2	2464.5	39341.	3619.6

Sample Name: K1410531-003D Acquired: 10/8/2014 9:35:47 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.358	-.0020	.0258	.0200	.00023	.1273	.0000	.0000

#1	1.359	-.0016	.0269	.0201	.00025	.1272	.0001	.0000
#2	1.357	-.0024	.0246	.0199	.00022	.1275	.0000	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.294	.0777	.0069	.0531	.0519	6.084	.0043	-.0003

#1	4.275	.0779	.0069	.0533	.0520	6.062	.0046	-.0011
#2	4.313	.0775	.0069	.0530	.0518	6.105	.0040	.0006

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9471	.1470	.0191	.0319	5.109	1.697	.0058	17.05

#1	.9443	.1469	.0189	.0320	5.107	1.712	.0041	17.06
#2	.9500	.1471	.0193	.0317	5.111	1.682	.0074	17.03

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	316.7	.02709	-.0003	.0017	.2651	.2722	.0168

#1	.0003	318.2	.02705	.0007	.0014	.2643	.2730	.0167
#2	-.0007	315.2	.02714	-.0014	.0019	.2658	.2714	.0169

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0162	.0001	23.64

#1	.0162	-.0013	23.64
#2	.0162	.0015	23.65

Sample Name: K1410531-003D Acquired: 10/8/2014 9:35:47 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2406.0	38141.	3666.6
#1	2405.5	38070.	3686.4
#2	2406.6	38213.	3646.8

Sample Name: K1410531-003S Acquired: 10/8/2014 9:38:17 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.438	.4346	1.018	1.002	.04734	1.088	.0472	.0461

#1	3.434	.4354	1.021	.9984	.04786	1.092	.0473	.0462
#2	3.442	.4339	1.014	1.005	.04682	1.085	.0472	.0459

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.93	.2749	.4747	.2824	.2812	7.062	.4498	.0017

#1	13.85	.2750	.4751	.2825	.2825	7.025	.4512	.0023
#2	14.02	.2749	.4743	.2822	.2800	7.098	.4484	.0010

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.71	.6276	.9926	.4906	5.082	12.12	.9047	17.21

#1	10.70	.6290	.9933	.4900	5.101	12.08	.9062	17.19
#2	10.71	.6263	.9918	.4912	5.063	12.16	.9032	17.24

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0449	323.9	.02727	.8112	.0011	.2626	.7694	.4980

#1	.0443	323.1	.02720	.8080	.0019	.2628	.7707	.4982
#2	.0455	324.7	.02733	.8145	.0003	.2623	.7681	.4979

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4808	.0017	23.27

#1	.4805	.0028	23.33
#2	.4811	.0006	23.21

Sample Name: K1410531-003S Acquired: 10/8/2014 9:38:17 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2397.9	38207.	3659.4
#1	2397.8	38202.	3670.6
#2	2398.1	38212.	3648.1

Sample Name: K1410531-003A Acquired: 10/8/2014 9:40:36 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A A=0.05/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.108	4.575	2.508	4.970	.11971	.1255	1.190	1.164

#1	6.118	4.574	2.514	4.973	.12013	.1248	1.188	1.162
#2	6.099	4.575	2.501	4.968	.11929	.1261	1.191	1.166

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.34	.5726	1.188	.6404	.6304	8.200	2.229	-.0005

#1	16.30	.5734	1.187	.6397	.6279	8.165	2.224	.0006
#2	16.37	.5718	1.190	.6410	.6328	8.234	2.234	-.0016

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.24	1.357	.0193	1.189	4.963	14.75	2.278	16.66

#1	13.24	1.356	.0195	1.187	4.966	14.72	2.282	16.61
#2	13.24	1.357	.0191	1.190	4.959	14.78	2.273	16.70

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5830	324.0	.02701	2.127	.0022	.2524	1.522	1.246

#1	.5817	323.2	.02687	2.132	.0021	.2527	1.523	1.245
#2	.5843	324.8	.02715	2.123	.0023	.2521	1.521	1.247

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.198	.0025	22.79

#1	1.197	.0015	22.77
#2	1.199	.0035	22.81

Sample Name: K1410531-003A Acquired: 10/8/2014 9:40:36 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A A=0.05/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2396.2	38237.	3679.9
#1	2397.7	38306.	3690.5
#2	2394.7	38169.	3669.3

Sample Name: KQ1412263-01 Acquired: 10/8/2014 9:42:58 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410444-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029	.0035	.0008	.0009	-.00007	.0005	.0000	.0002

#1	.0034	.0056	-.0006	.0010	-.00003	.0013	.0001	.0002
#2	.0024	.0014	.0022	.0008	-.00011	-.0003	-.0001	.0002

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072	-.0002	.0001	-.0007	.0006	.0079	.0025	.0001

#1	.0077	-.0003	.0002	-.0004	.0004	.0094	.0034	.0003
#2	.0067	-.0001	.0000	-.0009	.0008	.0065	.0017	-.0002

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0048	.0002	.0005	.0003	.0008	-.0013	.0074	.0219

#1	.0051	.0002	.0005	.0002	.0009	.0030	.0071	.0291
#2	.0046	.0001	.0006	.0004	.0006	-.0056	.0077	.0148

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0764	.00007	.0006	-.0001	.0005	.0001	.0005

#1	.0003	.0709	.00007	.0005	.0001	.0006	.0005	.0005
#2	.0004	.0819	.00008	.0006	-.0002	.0003	-.0003	.0005

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0002	-.0026	.0043

#1	.0002	-.0026	.0030
#2	.0002	-.0027	.0056

Sample Name: KQ1412263-01 Acquired: 10/8/2014 9:42:58 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410444-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2520.1	40704.	3644.2
#1	2514.8	40732.	3604.1
#2	2525.4	40675.	3684.3

Sample Name: KQ1412263-02 Acquired: 10/8/2014 9:45:24 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 Jser: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A K1410444-LCSW

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Jnits	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.070	2.374	2.531	5.039	.12262	1.010	1.241	1.227

#1	5.044	2.380	2.526	5.042	.12237	1.005	1.242	1.228
#2	5.097	2.368	2.536	5.035	.12288	1.015	1.241	1.225

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.37	.5024	1.238	.6160	.6086	2.473	2.413	.0002

#1	12.44	.4994	1.239	.6163	.6074	2.459	2.419	.0007
#2	12.31	.5055	1.236	.6156	.6098	2.486	2.407	-.0003

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.46	1.251	1.019	1.215	-.0015	12.42	2.419	.0117

#1	12.46	1.246	1.019	1.217	-.0010	12.43	2.419	.0112
#2	12.45	1.255	1.019	1.214	-.0019	12.40	2.419	.0122

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6115	12.61	.00053	2.441	.0018	.0005	1.255	1.251

#1	.6074	12.61	.00061	2.445	.0020	.0006	1.251	1.250
#2	.6156	12.61	.00045	2.437	.0015	.0004	1.259	1.252

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.228	.0031	-.0055

#1	1.230	.0027	-.0062
#2	1.226	.0035	-.0047

Sample Name: KQ1412263-02 Acquired: 10/8/2014 9:45:24 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A K1410444-LCSW

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2473.9	39965.	3666.3
#1	2474.0	39968.	3667.0
#2	2473.8	39962.	3665.6

Sample Name: K1410444-001 Acquired: 10/8/2014 9:47:41 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029	.0022	.0021	.0143	.00001	.0076	.0000	.0002

#1	.0033	.0027	.0027	.0143	-.00007	.0076	.0000	.0002
#2	.0025	.0017	.0015	.0143	.00009	.0076	.0001	.0002

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.91	.0016	-.0002	-.0001	.0009	.0046	.0017	.0141

#1	27.89	.0018	-.0005	-.0001	.0006	.0052	.0029	.0138
#2	27.93	.0015	.0001	.0000	.0011	.0040	.0005	.0143

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.01	.0095	.0028	.0011	.0171	3.585	.0028	9.451

#1	10.99	.0095	.0030	.0009	.0169	3.587	.0046	9.417
#2	11.02	.0095	.0027	.0013	.0172	3.583	.0010	9.485

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	26.99	.12061	-.0024	.0007	.0004	.0223	.0060

#1	-.0002	26.99	.12057	-.0011	.0010	.0005	.0225	.0061
#2	-.0003	27.00	.12066	-.0038	.0004	.0004	.0222	.0058

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0058	-.0010	5.388

#1	.0059	-.0009	5.398
#2	.0058	-.0011	5.378

Sample Name: K1410444-001 Acquired: 10/8/2014 9:47:41 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2453.2	39456.	3664.5
#1	2454.1	39445.	3658.0
#2	2452.3	39468.	3670.9

Sample Name: CCVB Acquired: 10/8/2014 9:50:11 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.286	10.17	-.0013	1.018	10.00	.00007	.0009	.0000
Stddev	.009	.04	.0025	.008	.08	.00007	.0001	.000
%RSD	.1216	.3792	186.8	.8171	.7537	103.72	9.260	114.5
#1	7.280	10.20	-.0031	1.023	10.06	.00012	.0009	-.0001
#2	7.292	10.15	.0004	1.012	9.949	.00002	.0010	.0000

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	10.00	9.796	-.0003	.0002	-.0002	.0004	10.05
Stddev	.0001	.03	.018	.0008	.0002	.0002	.0002	.02
%RSD	100.9	.2857	.1864	298.4	80.35	73.38	43.44	.2455
#1	.0000	10.03	9.783	-.0008	.0001	-.0004	.0003	10.03
#2	-.0001	9.985	9.809	.0003	.0003	-.0001	.0006	10.07

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.9968	9.361	9.818	10.03	.9993	.9970	.0002
Stddev	.0010	.0019	.038	.018	.01	.0007	.0035	.0000
%RSD	94.43	.1869	.4095	.1794	.0653	.0703	.3484	7.429
#1	.0004	.9981	9.388	9.805	10.03	.9988	.9995	.0002
#2	.0018	.9955	9.333	9.830	10.04	.9998	.9945	.0002

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Sample Name: CCVB Acquired: 10/8/2014 9:50:11 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	9.970	9.932	.0013	10.08	-.0003	10.03	1.0049
Stddev	.0002	.014	.029	.0009	.03	.0001	.01	.0039
%RSD	199.5	.1379	.2908	71.60	.2605	15.06	.1165	.39020
#1	.0000	9.980	9.953	.0006	10.10	-.0003	10.02	1.0021
#2	.0002	9.960	9.912	.0019	10.06	-.0004	10.04	1.0077

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0014	.0017	.0007	.0010	.0001	.0002	1.021	1.009
Stddev	.0017	.0004	.0000	.0001	.0001	.0000	.004	.002
%RSD	124.2	22.54	3.904	10.89	96.00	4.833	.3434	.2278
#1	-.0026	.0014	.0007	.0010	.0002	.0002	1.019	1.008
#2	-.0002	.0019	.0006	.0011	.0000	.0002	1.024	1.011

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2491.5	40002.	3668.8
Stddev	3.8	7.	18.7
%RSD	.15193	.01736	.50961
#1	2488.8	39997.	3682.0
#2	2494.2	40006.	3655.6

Sample Name: CCVA Acquired: 10/8/2014 9:52:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2524	.2679	.2484	.2565	.2499	.25070	.2550	.2516
Stddev	.0006	.0009	.0009	.0001	.0008	.00079	.0019	.0002
%RSD	.2253	.3491	.3460	.0206	.3182	.31502	.7622	.0628
#1	.2520	.2673	.2478	.2565	.2504	.25014	.2537	.2518
#2	.2528	.2686	.2490	.2566	.2493	.25126	.2564	.2515

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2492	.5113	.5016	.2511	.2499	.2503	.2487	.2532
Stddev	.0006	.0007	.0015	.0002	.0001	.0011	.0020	.0052
%RSD	.2369	.1390	.3048	.0664	.0488	.4283	.8153	2.042
#1	.2497	.5118	.5027	.2510	.2498	.2510	.2473	.2495
#2	.2488	.5108	.5005	.2512	.2500	.2495	.2502	.2569

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2500	-.0004	.2695	.2537	.2530	.2540	.2443	.2502
Stddev	.0007	.0013	.0268	.0012	.0002	.0002	.0017	.0013
%RSD	.2875	312.8	9.953	.4847	.0687	.0752	.6974	.5378
#1	.2495	.0005	.2884	.2546	.2531	.2541	.2455	.2511
#2	.2505	-.0014	.2505	.2528	.2528	.2539	.2431	.2492

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value Range								

Sample Name: CCVA Acquired: 10/8/2014 9:52:43 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2489	-.0006	2.446	.2573	.1202	.2544	.2620	.00007
Stddev	.0011	.0015	.029	.0016	.0046	.0002	.0046	.00001
%RSD	.4332	239.1	1.173	.6039	3.842	.0946	1.753	10.802
#1	.2497	.0004	2.425	.2584	.1169	.2542	.2588	.00006
#2	.2481	-.0017	2.466	.2562	.1235	.2545	.2653	.00007

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2502	.2471	.2522	.2481	.2512	.2524	-.0009	-.0045
Stddev	.0014	.0014	.0002	.0005	.0002	.0003	.0016	.0029
%RSD	.5787	.5488	.0655	.1988	.0937	.1330	167.3	65.49
#1	.2491	.2481	.2523	.2484	.2514	.2527	-.0020	-.0024
#2	.2512	.2462	.2520	.2477	.2511	.2522	.0002	-.0065

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2517.8	40796.	3679.4
Stddev	.8	168.	18.0
%RSD	.03264	.41226	.48804
#1	2517.3	40678.	3666.7
#2	2518.4	40915.	3692.1

Sample Name: CCB Acquired: 10/8/2014 9:54:56 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0042	.0020	.0016	.0002	.00001	.0014	.0000
Stddev	.0003	.0009	.0022	.0015	.0003	.00012	.0011	.000
%RSD	42.84	22.19	108.3	99.08	173.5	2312.9	77.56	197.9
#1	.0005	.0035	.0036	.0026	.0004	.00009	.0006	-.0001
#2	.0010	.0048	.0005	.0005	.0000	-.00008	.0021	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0091	.0009	-.0006	.0001	-.0002	.0010	.0006
Stddev	.0000	.0098	.0000	.0002	.0002	.0000	.0001	.0005
%RSD	49.08	107.2	5.077	31.69	323.3	4.597	13.71	77.16
#1	.0001	.0022	.0009	-.0004	-.0001	-.0002	.0009	.0003
#2	.0001	.0161	.0010	-.0007	.0002	-.0002	.0011	.0010

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	-.0001	.0061	.0006	.0007	.0000	-.0002	.0004
Stddev	.0026	.0008	.0013	.0000	.0010	.0001	.0004	.0003
%RSD	102.0	714.0	21.40	4.002	156.3	310.9	173.7	68.59
#1	.0044	-.0007	.0052	.0006	-.0001	.0001	-.0005	.0006
#2	.0007	.0005	.0070	.0006	.0014	.0000	.0001	.0002

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 High Limit
 Low Limit

Sample Name: CCB Acquired: 10/8/2014 9:54:56 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0008	-.0145	.0011	-.0067	.0002	.0100	.00010
Stddev	.0003	.0008	.0104	.0010	.0091	.0005	.0048	.00009
%RSD	115.2	101.1	72.29	95.00	136.4	283.5	48.08	99.497
#1	.0000	.0002	-.0218	.0004	-.0131	.0005	.0066	.00003
#2	.0004	.0013	-.0071	.0018	-.0002	-.0002	.0134	.00016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	.0015	.0001	.0001	.0000	.0000	-.0005	-.0082
Stddev	.0005	.0001	.0002	.0006	.0000	.0001	.0016	.0016
%RSD	44.38	5.330	142.9	596.2	95.60	1978.	321.4	19.50
#1	-.0015	.0014	.0003	.0006	.0001	.0001	.0006	-.0071
#2	-.0008	.0015	.0000	-.0003	.0000	-.0001	-.0017	-.0093

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2506.9	40524.	3671.1
Stddev	3.8	93.	20.4
%RSD	.14979	.22956	.55706
#1	2504.3	40458.	3685.5
#2	2509.6	40590.	3656.6

Sample Name: LLCCV Acquired: 10/8/2014 9:57:33 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107	F .0154	.0201	.0106	.0046	.00100	.0224	.0009
Stddev	.0001	.0013	.0006	.0010	.0003	.00011	.0005	.0001
%RSD	1.353	8.471	2.739	9.661	6.334	10.740	2.303	6.067

#1	.0109	.0164	.0197	.0098	.0048	.00092	.0227	.0010
#2	.0106	.0145	.0205	.0113	.0044	.00108	.0220	.0009

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100						
Range		30.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0203	.0213	.0034	.0020	.0041	.0044	.0240
Stddev	.0000	.0054	.0001	.0007	.0003	.0002	.0000	.0059
%RSD	4.262	26.76	.6285	20.45	14.95	4.965	.2282	24.46

#1	.0011	.0165	.0212	.0029	.0022	.0043	.0044	.0282
#2	.0010	.0241	.0214	.0038	.0018	.0040	.0044	.0199

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0121	.0196	-.0040	.0057	.0064	.0011	.0009	.0044
Stddev	.0009	.0004	.0292	.0000	.0015	.0000	.0001	.0008
%RSD	7.231	1.919	728.1	.2537	24.08	.8060	14.26	17.59

#1	.0114	.0193	.0166	.0057	.0075	.0010	.0010	.0038
#2	.0127	.0199	-.0246	.0057	.0053	.0011	.0009	.0049

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLCCV Acquired: 10/8/2014 9:57:33 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043	.0444	.1839	.0214	.2007	.0040	.2049	.00108
Stddev	.0003	.0024	.0228	.0050	.0019	.0006	.0042	.00005
%RSD	7.958	5.304	12.43	23.15	.9270	14.75	2.035	4.6524
#1	.0046	.0460	.2000	.0179	.2020	.0045	.2079	.00105
#2	.0041	.0427	.1677	.0249	.1993	.0036	.2020	.00112

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0087	.0213	.0022	.0042	.0044	.0043	.0219	.0350
Stddev	.0012	.0007	.0001	.0004	.0002	.0000	.0003	.0033
%RSD	13.33	3.402	2.461	8.538	4.426	.2823	1.150	9.559
#1	.0095	.0208	.0022	.0044	.0042	.0043	.0220	.0374
#2	.0078	.0218	.0023	.0039	.0045	.0043	.0217	.0327

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2525.4	40880.	3695.1
Stddev	3.8	97.	1.5
%RSD	.15100	.23830	.04170
#1	2522.7	40949.	3694.0
#2	2528.1	40811.	3696.2

Sample Name: K1410444-001L Acquired: 10/8/2014 10:00:39 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: D Sample Type:
 Comment: EM 100814A DISS 1/5

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	-.0019	-.0025	.0033	.00003	.0021	.0000	.0001

#1	.0015	-.0025	.0001	.0030	.00013	.0001	.0000	.0002
#2	.0018	-.0012	-.0052	.0035	-.00007	.0042	.0000	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.585	-.0002	.0000	-.0004	.0002	.0037	.0008	.0024

#1	5.557	-.0004	.0001	-.0002	.0002	.0023	.0013	.0013
#2	5.613	.0000	.0000	-.0006	.0003	.0050	.0004	.0034

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.192	.0019	.0002	.0005	.0054	.6800	.0022	1.856

#1	2.194	.0019	.0003	.0007	.0053	.6794	.0034	1.860
#2	2.189	.0019	.0002	.0004	.0054	.6805	.0010	1.851

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	5.316	.02391	.0012	.0010	.0002	.0044	.0014

#1	.0005	5.333	.02393	.0023	.0011	.0002	.0043	.0014
#2	.0004	5.300	.02389	.0000	.0009	.0002	.0045	.0014

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0012	-.0005	1.075

#1	.0014	-.0014	1.076
#2	.0011	.0005	1.074

Sample Name: K1410444-001L Acquired: 10/8/2014 10:00:39 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: D Sample Type:
Comment: EM 100814A DISS 1/5

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2512.9	40492.	3676.3
#1	2512.7	40525.	3683.6
#2	2513.1	40459.	3669.0

Sample Name: K1410444-001S Acquired: 10/8/2014 10:03:09 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.812	.5016	1.003	.9925	.04806	.9979	.0484	.0478

#1	1.810	.5028	1.002	.9914	.04810	.9940	.0482	.0479
#2	1.813	.5004	1.003	.9935	.04802	1.002	.0485	.0478

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.39	.2010	.4766	.2364	.2331	.9761	.4684	.0141

#1	37.21	.2017	.4763	.2364	.2327	.9768	.4661	.0150
#2	37.56	.2003	.4768	.2364	.2335	.9754	.4707	.0133

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.48	.4991	1.003	.4709	.0189	13.35	.9297	9.288

#1	20.44	.4994	1.003	.4710	.0194	13.34	.9309	9.285
#2	20.51	.4988	1.004	.4707	.0185	13.36	.9285	9.291

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0508	36.33	.11819	.9219	.0005	.0010	.5219	.4864

#1	.0509	36.27	.11817	.9225	.0016	.0010	.5207	.4863
#2	.0506	36.39	.11821	.9212	-.0005	.0010	.5230	.4864

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4727	.0005	5.267

#1	.4732	.0008	5.267
#2	.4723	.0002	5.266

Sample Name: K1410444-001S Acquired: 10/8/2014 10:03:09 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2439.7	39200.	3643.6
#1	2439.7	39210.	3643.2
#2	2439.7	39189.	3644.0

Sample Name: K1410444-001SD Acquired: 10/8/2014 10:05:29 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.841	.4975	1.027	1.022	.04883	1.017	.0495	.0486

#1	1.844	.4964	1.030	1.025	.04920	1.020	.0496	.0487
#2	1.838	.4986	1.024	1.020	.04846	1.014	.0494	.0486

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.39	.2067	.4868	.2422	.2380	1.008	.4790	.0132

#1	38.43	.2078	.4866	.2422	.2388	1.011	.4822	.0130
#2	38.35	.2055	.4870	.2422	.2372	1.006	.4759	.0133

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.02	.5118	1.027	.4804	.0220	13.77	.9465	9.545

#1	21.03	.5121	1.029	.4803	.0229	13.80	.9482	9.570
#2	21.01	.5115	1.025	.4804	.0211	13.75	.9447	9.520

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0506	37.31	.12149	.9448	.0010	.0007	.5337	.4951

#1	.0510	37.43	.12185	.9441	.0011	.0007	.5341	.4960
#2	.0501	37.20	.12113	.9455	.0010	.0007	.5334	.4942

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4833	.0021	5.371

#1	.4832	.0020	5.369
#2	.4834	.0021	5.374

Sample Name: K1410444-001SD Acquired: 10/8/2014 10:05:29 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2441.3	39143.	3639.6
#1	2438.8	39219.	3636.6
#2	2443.9	39068.	3642.7

Sample Name: K1410444-001A Acquired: 10/8/2014 10:07:47 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS A=0.05/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.905	4.758	2.543	5.014	.12222	.0076	1.229	1.214

#1	4.906	4.762	2.547	5.007	.12297	.0076	1.229	1.214
#2	4.905	4.754	2.539	5.022	.12147	.0076	1.230	1.215

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.81	.5063	1.218	.6061	.5916	2.478	2.363	.0137

#1	39.77	.5051	1.219	.6065	.5947	2.471	2.360	.0151
#2	39.85	.5075	1.217	.6057	.5885	2.486	2.366	.0123

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.11	1.255	.0026	1.195	.0192	16.03	2.379	9.409

#1	23.04	1.252	.0025	1.194	.0186	15.98	2.384	9.369
#2	23.18	1.258	.0028	1.196	.0197	16.08	2.373	9.449

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5930	39.14	.11804	2.363	.0007	.0003	1.285	1.244

#1	.5936	38.93	.11769	2.363	.0011	.0003	1.286	1.243
#2	.5923	39.35	.11839	2.363	.0002	.0003	1.284	1.244

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.209	.0009	5.290

#1	1.211	.0009	5.297
#2	1.208	.0009	5.282

Sample Name: K1410444-001A Acquired: 10/8/2014 10:07:47 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS A=0.05/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2436.7	39135.	3669.0
#1	2439.1	39228.	3657.4
#2	2434.4	39042.	3680.6

Sample Name: K1410444-002 Acquired: 10/8/2014 10:10:03 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 100814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	.0055	.0024	.0428	.00014	.0080	.0001	.0001

#1	.0033	.0052	.0024	.0432	.00013	.0073	.0001	.0002
#2	.0029	.0058	.0024	.0424	.00015	.0086	.0000	.0000

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.97	.0020	.0001	.0001	.0003	.0053	.0005	.0153

#1	20.97	.0022	.0002	.0005	.0004	.0068	.0004	.0147
#2	20.96	.0017	.0000	-.0004	.0002	.0038	.0007	.0160

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.739	.0212	.0051	.0014	.0414	2.825	.0045	10.38

#1	8.704	.0212	.0052	.0013	.0442	2.797	.0044	10.31
#2	8.775	.0212	.0051	.0016	.0386	2.853	.0045	10.45

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	58.69	.10963	.0005	.0012	.0005	.0179	.0009

#1	-.0004	58.45	.10945	.0007	.0014	.0003	.0182	.0009
#2	.0000	58.93	.10982	.0004	.0010	.0007	.0176	.0009

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0010	.0004	6.188

#1	.0010	-.0004	6.186
#2	.0010	.0013	6.190

Sample Name: K1410444-002 Acquired: 10/8/2014 10:10:03 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 100814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2444.7	39108.	3638.8
#1	2445.7	39162.	3626.9
#2	2443.6	39055.	3650.7

Sample Name: LRA Acquired: 10/8/2014 10:12:31 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 100814A A=0.1/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.881	9.394	4.986	9.927	.24334	-.0008	2.443	2.415

#1	9.874	9.407	4.990	9.838	.24423	.0004	2.440	2.410
#2	9.888	9.382	4.982	10.02	.24245	-.0020	2.446	2.419

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.70	1.001	2.428	1.215	1.171	4.966	4.706	.0001

#1	24.70	1.004	2.425	1.216	1.169	4.984	4.704	.0005
#2	24.71	.9982	2.431	1.214	1.173	4.949	4.708	-.0003

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.50	2.469	.0001	2.385	.0038	24.70	4.797	.0116

#1	24.53	2.466	.0000	2.383	.0031	24.73	4.805	.0041
#2	24.47	2.473	.0003	2.387	.0044	24.67	4.788	.0191

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.184	24.96	.00094	4.715	.0011	.0000	2.504	2.492

#1	1.185	25.02	.00091	4.718	.0008	.0000	2.508	2.490
#2	1.183	24.89	.00098	4.711	.0014	.0000	2.501	2.495

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	2.408	.0054	-.0007

#1	2.407	.0062	.0019
#2	2.409	.0046	-.0034

Sample Name: LRA Acquired: 10/8/2014 10:12:31 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 100814A A=0.1/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2434.9	39272.	3650.4
#1	2435.4	39302.	3650.3
#2	2434.3	39241.	3650.5

Sample Name: KQ1412487-06 Acquired: 10/8/2014 10:14:54 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2 K1410837-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	.0051	-.0009	.0006	-.00010	.0004	.0001	.0001
#1	.0024	.0049	-.0012	.0007	-.00008	-.0010	.0001	.0000
#2	.0027	.0054	-.0006	.0005	-.00012	.0019	.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0079	-.0001	.0000	.0003	.0011	.0016	.0013	.0000
#1	.0083	-.0002	-.0003	.0002	.0008	.0011	.0005	-.0005
#2	.0076	-.0001	.0002	.0003	.0015	.0022	.0021	.0005
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018	.0002	.0003	.0001	.0034	-.0098	.0046	-.0097
#1	.0021	.0002	.0001	.0000	.0028	-.0128	.0035	-.0084
#2	.0015	.0002	.0004	.0002	.0039	-.0069	.0056	-.0110
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	.0022	.00007	-.0005	.0008	.0001	-.0001	.0007
#1	-.0007	.0014	.00008	.0010	.0010	.0001	.0002	.0007
#2	-.0004	.0029	.00005	-.0019	.0007	.0001	-.0004	.0006
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0008	.0019	-.0096					
#1	.0008	.0029	-.0059					
#2	.0009	.0009	-.0132					

Sample Name: KQ1412487-06 Acquired: 10/8/2014 10:14:54 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2 K1410837-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2527.3	41159.	3669.2
#1	2524.1	41018.	3646.7
#2	2530.4	41301.	3691.7

Sample Name: KQ1412487-05 Acquired: 10/8/2014 10:17:20 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2 K1410837-LCSS

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.68	.3989	.5116	1.471	.35581	.6888	.8873	.8745

#1	31.64	.4006	.5095	1.471	.35631	.6882	.8893	.8762
#2	31.71	.3972	.5137	1.472	.35531	.6894	.8853	.8729

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.17	.6825	.6333	.4919	.5200	50.59	.5329	.0336

#1	33.13	.6821	.6344	.4926	.5221	50.55	.5339	.0337
#2	33.21	.6830	.6322	.4913	.5179	50.62	.5319	.0336

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.64	1.583	.7038	.7561	2.260	12.76	.6983	4.071

#1	13.65	1.579	.7049	.7567	2.266	12.79	.7013	4.085
#2	13.64	1.586	.7027	.7555	2.255	12.73	.6954	4.057

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2001	14.46	.48623	.8033	.4824	1.190	.4760	.7487

#1	.1990	14.50	.48629	.8023	.4832	1.185	.4772	.7509
#2	.2013	14.43	.48617	.8042	.4816	1.194	.4747	.7466

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.7576	.0023	1.230

#1	.7581	-.0002	1.228
#2	.7571	.0047	1.233

Sample Name: KQ1412487-05 Acquired: 10/8/2014 10:17:20 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2 K1410837-LCSS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2550.5	41279.	3824.3
#1	2546.9	41402.	3828.1
#2	2554.1	41157.	3820.4

Sample Name: KQ1412487-07 Acquired: 10/8/2014 10:19:39 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2 K1410837-LCSW

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.862	2.093	.4805	.4985	1.021	.04749	.4816	.0492

#1	1.862	2.091	.4797	.4975	1.020	.04749	.4829	.0492
#2	1.861	2.095	.4813	.4996	1.023	.04749	.4802	.0493

Elem	Cd2265	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0483	5.056	.2043	.5028	.2452	.2512	1.017	.4871

#1	.0483	5.040	.2045	.5023	.2450	.2497	1.018	.4860
#2	.0483	5.072	.2042	.5033	.2455	.2527	1.016	.4883

Elem	Li6707	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	5.016	.5096	.5193	.4943	.0014	4.983	.4492

#1	-.0004	5.009	.5107	.5195	.4940	.0022	4.968	.4479
#2	.0009	5.023	.5086	.5191	.4946	.0006	4.999	.4506

Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0031	.0494	5.096	.00035	.4898	2.455	2.585	.5137

#1	-.0110	.0496	5.112	.00035	.4899	2.453	2.587	.5146
#2	.0047	.0492	5.080	.00036	.4896	2.457	2.583	.5129

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.4844	.4724	-.0014	-.0039

#1	.4858	.4718	-.0012	-.0023
#2	.4831	.4730	-.0015	-.0055

Sample Name: KQ1412487-07 Acquired: 10/8/2014 10:19:39 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2 K1410837-LCSW

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2478.4	40469.	3664.6
#1	2474.8	40437.	3678.5
#2	2482.0	40501.	3650.6

Sample Name: K1410837-001 Acquired: 10/8/2014 10:21:55 Type: Unk
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 100814A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.50	-.0006	.0068	.3508	.01906	-.0082	.0002	-.0003
#1	15.49	.0038	.0055	.3523	.01892	-.0074	.0001	-.0002
#2	15.51	-.0051	.0081	.3494	.01921	-.0091	.0002	-.0004
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.84	.0475	.0268	.0943	.1194	60.64	.0447	.0046
#1	15.86	.0477	.0267	.0946	.1196	60.75	.0447	.0032
#2	15.83	.0473	.0269	.0939	.1192	60.54	.0446	.0061
Elem	Mg2795	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.363	9.074	.2827	.0005	.0632	.7879	3.867	-.0007
#1	7.382	9.090	.2824	.0004	.0631	.7902	3.832	-.0003
#2	7.344	9.058	.2830	.0006	.0632	.7855	3.902	-.0012
Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.653	-.0022	.1839	.11069	-.0023	.0033	.6157	.1577
#1	2.672	-.0017	.1929	.11112	-.0014	.0029	.6156	.1580
#2	2.634	-.0027	.1750	.11027	-.0032	.0037	.6159	.1573
Elem	Zn2062	Zn2138	Bi2230	S_1820				
Units	ppm	ppm	ppm	ppm				
Avg	.1041	.1252	-.0060	.3018				
#1	.1045	.1253	-.0072	.2993				
#2	.1036	.1251	-.0048	.3043				

*NR-see 1/10 dilution
 am
 10/8/14*

Sample Name: K1410837-001 Acquired: 10/8/2014 10:21:55 Type: Unk
Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 100814A 1/2

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	3004.6	48787.	4455.6
#1	2997.8	48695.	4451.6
#2	3011.4	48880.	4459.6

NR-see 1/10 dilution
am
10/8/14

Sample Name: CCVB Acquired: 10/8/2014 10:24:22 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.268	10.24	-.0017	1.019	10.02	.00002	.0008	.0000
Stddev	.006	.05	.0029	.001	.01	.00000	.0013	.000
%RSD	.0822	.4757	169.1	.0585	.1182	12.389	163.6	801.0
#1	7.263	10.27	-.0038	1.019	10.01	.00002	-.0001	.0000
#2	7.272	10.20	.0003	1.018	10.03	.00001	.0017	.0000
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	9.950	9.900	-.0008	-.0001	-.0005	.0000	10.03
Stddev	.0001	.013	.013	.0000	.0002	.0002	.0007	.01
%RSD	64.84	.1301	.1349	5.654	265.3	41.34	2603.	.1190
#1	.0001	9.941	9.910	-.0008	.0001	-.0004	.0005	10.04
#2	.0000	9.959	9.891	-.0007	-.0002	-.0007	-.0005	10.02
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	.9939	9.429	9.836	9.953	.9987	.9943	.0002
Stddev	.0019	.0039	.037	.044	.035	.0029	.0043	.0002
%RSD	112.5	.3900	.3942	.4509	.3496	.2881	.4324	131.9
#1	.0031	.9911	9.455	9.867	9.929	1.001	.9913	.0004
#2	.0004	.9966	9.402	9.804	9.978	.9967	.9974	.0000
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None

Sample Name: CCVB Acquired: 10/8/2014 10:24:22 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	9.943	9.904	.0053	10.10	-.0005	9.970	1.0053
Stddev	.0003	.003	.086	.0043	.02	.0004	.005	.0028
%RSD	107.6	.0261	.8680	81.01	.1743	76.60	.0507	.28020
#1	.0005	9.941	9.843	.0023	10.09	-.0002	9.974	1.0073
#2	.0001	9.945	9.965	.0083	10.11	-.0007	9.966	1.0033

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0011	.0017	.0009	.0013	.0005	.0003	1.017	1.009
Stddev	.0005	.0006	.0001	.0005	.0002	.0000	.000	.003
%RSD	42.93	34.95	10.97	37.40	55.28	5.073	.0118	.2464
#1	-.0014	.0013	.0009	.0009	.0003	.0003	1.017	1.007
#2	-.0008	.0021	.0010	.0016	.0006	.0003	1.018	1.011

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2496.5	40153.	3655.6
Stddev	6.0	37.	11.7
%RSD	.23989	.09133	.32048
#1	2500.8	40127.	3647.3
#2	2492.3	40179.	3663.9

Sample Name: CCVA Acquired: 10/8/2014 10:26:53 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2521	.2677	.2515	.2607	.2498	.24850	.2537	.2505
Stddev	.0020	.0024	.0022	.0067	.0003	.00088	.0001	.0005
%RSD	.8008	.8977	.8690	2.583	.1032	.35290	.0337	.2063
#1	.2536	.2660	.2499	.2654	.2500	.24912	.2537	.2509
#2	.2507	.2694	.2530	.2559	.2496	.24788	.2536	.2501

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2477	.5168	.5046	.2488	.2488	.2493	.2479	.2582
Stddev	.0004	.0098	.0023	.0004	.0007	.0020	.0011	.0044
%RSD	.1473	1.897	.4540	.1522	.2978	.8162	.4625	1.702
#1	.2480	.5237	.5030	.2486	.2493	.2507	.2487	.2551
#2	.2475	.5098	.5062	.2491	.2483	.2478	.2470	.2613

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2480	-.0008	.2640	.2557	.2529	.2535	.2456	.2495
Stddev	.0014	.0003	.0137	.0009	.0030	.0006	.0002	.0005
%RSD	.5739	36.91	5.197	.3696	1.180	.2370	.0689	.1954
#1	.2490	-.0006	.2737	.2550	.2508	.2539	.2455	.2498
#2	.2470	-.0010	.2543	.2563	.2550	.2531	.2458	.2491

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value Range								

Sample Name: CCVA Acquired: 10/8/2014 10:26:53 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2483	.0028	2.446	.2542	.1243	.2544	.2520	.00011
Stddev	.0002	.0002	.013	.0011	.0040	.0011	.0068	.00002
%RSD	.0633	6.735	.5464	.4522	3.180	.4335	2.686	17.801
#1	.2484	.0027	2.455	.2534	.1271	.2552	.2472	.00010
#2	.2482	.0029	2.437	.2550	.1215	.2537	.2568	.00013

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2487	.2474	.2517	.2480	.2504	.2530	-.0001	-.0077
Stddev	.0004	.0018	.0001	.0013	.0002	.0004	.0020	.0030
%RSD	.1587	.7103	.0494	.5098	.0775	.1761	1593.	38.52
#1	.2484	.2486	.2516	.2489	.2506	.2533	-.0015	-.0056
#2	.2490	.2461	.2517	.2471	.2503	.2527	.0013	-.0098

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2530.5	40862.	3686.0
Stddev	.2	51.	7.5
%RSD	.00596	.12415	.20423
#1	2530.4	40826.	3680.7
#2	2530.6	40898.	3691.3

Sample Name: CCB Acquired: 10/8/2014 10:29:07 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0009	.0008	-.0024	.0003	.00006	.0016	.0000
Stddev	.0003	.0021	.0049	.0019	.0001	.00003	.0002	.0000
%RSD	51.46	249.7	607.4	78.90	28.72	53.369	15.19	49.09
#1	.0003	.0024	-.0026	-.0038	.0003	.00004	.0014	.0000
#2	.0007	-.0007	.0043	-.0011	.0004	.00009	.0018	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0016	.0010	-.0005	.0001	-.0001	.0004	.0019
Stddev	.0000	.0039	.0000	.0002	.0002	.0001	.0012	.0025
%RSD	83.53	234.7	.1533	44.74	117.4	41.54	283.4	130.5
#1	.0000	-.0011	.0010	-.0003	.0000	-.0001	.0012	.0036
#2	.0001	.0044	.0010	-.0006	.0002	-.0002	-.0004	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-.0007	-.0049	.0007	-.0013	.0000	-.0001	.0001
Stddev	.0012	.0004	.0031	.0000	.0013	.0001	.0001	.0004
%RSD	157.4	60.89	63.98	5.750	105.1	862.3	61.05	261.4
#1	.0017	-.0004	-.0071	.0007	-.0003	.0001	-.0002	.0004
#2	-.0001	-.0010	-.0027	.0007	-.0022	.0000	-.0001	-.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass

High Limit
 Low Limit

Sample Name: CCB Acquired: 10/8/2014 10:29:07 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0044	-.0213	.0041	-.0088	.0004	.0011	.00002
Stddev	.0001	.0036	.0400	.0016	.0061	.0005	.0007	.00015
%RSD	120.9	83.42	188.1	39.91	69.11	145.0	58.07	738.09
#1	.0000	.0069	.0070	.0052	-.0131	.0007	.0007	-.00009
#2	.0001	.0018	-.0495	.0029	-.0045	.0000	.0016	.00013

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0004	.0002	.0001	.0000	.0000	-.0011	-.0062
Stddev	.0010	.0007	.0001	.0005	.000	.0001	.0022	.0020
%RSD	84.98	178.3	40.32	894.5	780.9	217.0	202.6	31.71
#1	.0005	-.0001	.0003	.0004	.0001	.0000	.0005	-.0048
#2	.0019	.0009	.0002	-.0003	-.0002	.0001	-.0027	-.0076

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2528.8	40875.	3678.0
Stddev	3.9	145.	9.0
%RSD	.15440	.35492	.24480
#1	2531.6	40978.	3671.7
#2	2526.1	40773.	3684.4

Sample Name: LLCCV Acquired: 10/8/2014 10:31:41 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107	F .0131	.0201	.0115	.0042	.00093	.0219	.0010
Stddev	.0002	.0009	.0017	.0019	.0002	.00011	.0017	.0000
%RSD	1.924	6.628	8.274	16.32	4.987	11.421	7.829	4.483
#1	.0108	.0137	.0189	.0101	.0041	.00085	.0207	.0010
#2	.0105	.0125	.0213	.0128	.0044	.00100	.0231	.0011

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100						
Range		30.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	F .0284	.0212	.0039	.0022	.0035	.0048	.0248
Stddev	.0000	.0055	.0000	.0005	.0002	.0003	.0005	.0003
%RSD	1.662	19.46	.1093	12.91	8.340	7.522	10.51	1.186
#1	.0012	.0245	.0212	.0042	.0021	.0033	.0051	.0250
#2	.0012	.0323	.0212	.0035	.0024	.0036	.0044	.0246

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0200						
Range		30.00%						

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0105	.0195	-.0113	.0055	.0047	.0010	.0010	.0042
Stddev	.0008	.0008	.0037	.0000	.0023	.0000	.0003	.0002
%RSD	8.058	4.272	32.80	.7938	49.24	2.627	26.43	3.909
#1	.0099	.0189	-.0087	.0055	.0064	.0010	.0008	.0041
#2	.0111	.0201	-.0139	.0055	.0031	.0010	.0012	.0043

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLCCV Acquired: 10/8/2014 10:31:41 Type: QC
 Method: 2014B-ICP04(v50) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043	.0412	.1612	.0175	.1968	.0039	.2044	.00101
Stddev	.0001	.0027	.0011	.0011	.0016	.0009	.0059	.00011
%RSD	2.300	6.575	.7059	6.023	.7894	23.96	2.878	10.840
#1	.0044	.0393	.1604	.0182	.1979	.0046	.2003	.00109
#2	.0042	.0431	.1620	.0167	.1957	.0033	.2086	.00094

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0099	.0213	.0024	.0046	.0041	.0043	.0224	.0307
Stddev	.0016	.0004	.0002	.0001	.0000	.0000	.0006	.0008
%RSD	16.00	1.707	8.703	1.275	.9066	.0872	2.684	2.670
#1	.0110	.0215	.0025	.0046	.0041	.0043	.0228	.0301
#2	.0087	.0210	.0022	.0045	.0041	.0043	.0220	.0312

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	2535.3	41066.	3704.8
Stddev	3.2	134.	8.6
%RSD	.12730	.32580	.23079
#1	2537.6	41160.	3698.7
#2	2533.0	40971.	3710.8



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January 07, 2015

Analytical Report for Service Request No: K1413809

Keir Craigie
Tetra Tech, Inc.
19803 North Creek Parkway
Bothell, WA 98011

RE: YTC/106-45760003

Dear Keir:

Enclosed are the results of the sample(s) submitted to our laboratory on December 10, 2014. For your reference, these analyses have been assigned our service request number **K1413809**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at gregory.salata@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Gregory Salata, Ph.D.
Client Services Manager

Page 1 of 491



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Acronyms

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State Certifications, Accreditations, And Licenses

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Chain Of Custody

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Raw Data

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
 - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses**

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjllabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
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Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request No.: K1413809
Date Received: 12/10/14

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at ALS Environmental on 12/10/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Dissolved Metals

No anomalies associated with the analysis of these samples were observed.

Volatile Organic Compounds by EPA Method 8260

Calibration Verification Exceptions:

The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS13\1218F002.D: Naphthalene. In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

Approved by Gregory Salata



Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



CHAIN OF CUSTODY

55224

001

SR# K1413809
 COC Set ___ of ___
 COC# _____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
 www.alsglobal.com

Project Name <u>YTC</u>		Project Number <u>100-45760003</u>		NUMBER OF CONTAINERS	180D	Metals T	310.1 Arsenic	330.0 Cadmium	3100.1 Nitrate	3100.1 TDS	350.1 Ammonia	3415.1 TOC	Remarks
Project Manager <u>Mark Ingorsoll</u>		Company <u>Terra Tech</u>											
Address <u>19803 North Creek Pkwy, Bothell WA 98011</u>		Phone # <u>416-270-0339</u>											
Sampler Signature <u>Dana Ramquist</u>		Sampler Printed Name <u>Dana Ramquist</u>											
CLIENT SAMPLE ID	LABID	SAMPLING Date	Time	Matrix									
1. <u>MMW-10</u>		<u>12/9/14</u>	<u>0930</u>	<u>W</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
2. <u>PDB-TB</u>		<u>12.9.14</u>	<u>1000</u>	<u>W</u>	<u>3</u>								<u>NOCS82100C</u>
3.													
4.													
5.													
6.													
7.	<u>AL</u>		<u>12-9-14</u>										
8.													
9.													
10.													

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank, Surrogate, as required <input type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: _____ _____
	Turnaround Requirements <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 5 Day <input type="checkbox"/> Standard Requested Report Date _____

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Special Instructions/Comments: Metals - Lab FILTER

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <u>Dana Ramquist</u>	Signature <u>AS</u>	Signature	Signature	Signature	Signature
Printed Name <u>Dana Ramquist</u>	Printed Name <u>AS</u>	Printed Name	Printed Name	Printed Name	Printed Name
Firm <u>Fed Ex</u>	Firm <u>12/10/14 1000</u>	Firm	Firm	Firm	Firm
Date/Time <u>12.9.14 / 1500</u>	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time



PC Greg

Cooler Receipt and Preservation Form

Client / Project: Tetra Tech Service Request K14 13809
Received: 12/10/14 Opened: 12/10/14 By: [Signature] Unloaded: 12/10/14 By: [Signature]

- Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
- Samples were received in: (circle) Cooler Box Envelope Other NA
- Were custody seals on coolers? NA Y N If yes, how many and where? _____
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-0.3	-0.1	2.8	3.0	+0.2	351	NA	8064 5165 9496	NA	

- Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves _____
- Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
- Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
- Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
- Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
- Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Chloride

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-6	K1413809-001	5.86	0.40	0.06	0.06	2	12/10/14 13:32	12/10/14	
Method Blank	K1413809-MB1	ND U	0.20	0.03	0.03	1	12/10/14 08:53	12/10/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA
Date Analyzed: 12/10/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC **Units:** mg/L
Lab Code: KQ1416303-03 **Basis:** NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1416303-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Chloride	300.0	0.40	0.06	0.06	8.64	8.60	8.62	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: N/A
Date Received: N/A
Date Analyzed: 12/10/14
Date Extracted: 12/10/14

Duplicate Matrix Spike Summary
Chloride

Sample Name: Batch QC
Lab Code: KQ1416303-03
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1416303-03MS		Duplicate Matrix Spike KQ1416303-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Chloride	8.64	17.8	10.0	91	17.7	10.0	91	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Analyzed: 12/10/14
Date Extracted: 12/10/14

Lab Control Sample Summary
Chloride

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 425298

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1413809-LCS1	4.94	5.00	99	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Verification (CCV) Summary

Chloride

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	425298	KQ1416305-01	12/10/14 07:05	5.00	4.96	99	90-110
CCV2	425298	KQ1416305-02	12/10/14 11:08	5.00	4.94	99	90-110
CCV3	425298	KQ1416305-03	12/10/14 14:54	5.00	4.94	99	90-110
CCV4	425298	KQ1416305-04	12/10/14 17:39	5.00	4.95	99	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Blank (CCB) Summary
Chloride

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	425298	KQ1416305-05	12/10/14 07:19	0.20	0.03	0.03	ND	U
CCB2	425298	KQ1416305-06	12/10/14 11:22	0.20	0.03	0.03	ND	U
CCB3	425298	KQ1416305-07	12/10/14 15:08	0.20	0.03	0.03	ND	U
CCB4	425298	KQ1416305-08	12/10/14 17:54	0.20	0.03	0.03	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Nitrate as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-6	K1413809-001	1.50	0.10	0.04	0.01	2	12/10/14 13:32	12/10/14	
Method Blank	K1413809-MB1	ND U	0.050	0.020	0.005	1	12/10/14 08:53	12/10/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA
Date Analyzed: 12/10/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1413799-001

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1413799-001DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Nitrate as Nitrogen	300.0	0.10	0.04	0.01	0.71	0.69	0.698	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: N/A
Date Received: N/A
Date Analyzed: 12/10/14
Date Extracted: 12/10/14

Duplicate Matrix Spike Summary
Nitrate as Nitrogen

Sample Name: Batch QC
Lab Code: K1413799-001
Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1413799-001MS		Duplicate Matrix Spike K1413799-001DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrate as Nitrogen	0.71	10.2	10.0	95	10.2	10.0	95	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Analyzed: 12/10/14
Date Extracted: 12/10/14

Lab Control Sample Summary
Nitrate as Nitrogen

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 425298

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1413809-LCS1	2.37	2.50	95	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Verification (CCV) Summary

Nitrate as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	425298	KQ1416305-01	12/10/14 07:05	2.50	2.40	96	90-110
CCV2	425298	KQ1416305-02	12/10/14 11:08	2.50	2.37	95	90-110
CCV3	425298	KQ1416305-03	12/10/14 14:54	2.50	2.39	96	90-110
CCV4	425298	KQ1416305-04	12/10/14 17:39	2.50	2.39	95	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Blank (CCB) Summary
Nitrate as Nitrogen

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	425298	KQ1416305-05	12/10/14 07:19	0.050	0.020	0.005	ND	U
CCB2	425298	KQ1416305-06	12/10/14 11:22	0.050	0.020	0.005	ND	U
CCB3	425298	KQ1416305-07	12/10/14 15:08	0.050	0.020	0.005	ND	U
CCB4	425298	KQ1416305-08	12/10/14 17:54	0.050	0.020	0.005	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: 300.0
Prep Method: Method

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Sulfate

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-6	K1413809-001	19.9	0.20	0.04	0.02	2	12/10/14 13:32	12/10/14	
Method Blank	K1413809-MB1	ND U	0.10	0.02	0.01	1	12/10/14 08:53	12/10/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA
Date Analyzed: 12/10/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC **Units:** mg/L
Lab Code: KQ1416303-03 **Basis:** NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample KQ1416303-03DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Sulfate	300.0	0.20	0.04	0.02	5.18	5.13	5.16	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: N/A
Date Received: N/A
Date Analyzed: 12/10/14
Date Extracted: 12/10/14

Duplicate Matrix Spike Summary
Sulfate

Sample Name: Batch QC **Units:** mg/L
Lab Code: KQ1416303-03 **Basis:** NA
Analysis Method: 300.0
Prep Method: Method

Analyte Name	Sample Result	Result	Matrix Spike KQ1416303-03MS		Duplicate Matrix Spike KQ1416303-03DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Sulfate	5.18	14.6	10.0	94	14.6	10.0	94	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Analyzed: 12/10/14
Date Extracted: 12/10/14

Lab Control Sample Summary
Sulfate

Analysis Method: 300.0
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 425298

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1413809-LCS1	4.95	5.00	99	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Verification (CCV) Summary

Sulfate

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	425298	KQ1416305-01	12/10/14 07:05	5.00	5.01	100	90-110
CCV2	425298	KQ1416305-02	12/10/14 11:08	5.00	4.98	100	90-110
CCV3	425298	KQ1416305-03	12/10/14 14:54	5.00	5.02	100	90-110
CCV4	425298	KQ1416305-04	12/10/14 17:39	5.00	5.03	101	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Blank (CCB) Summary
Sulfate

Analysis Method: 300.0

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	425298	KQ1416305-05	12/10/14 07:19	0.10	0.02	0.01	ND	U
CCB2	425298	KQ1416305-06	12/10/14 11:22	0.10	0.02	0.01	ND	U
CCB3	425298	KQ1416305-07	12/10/14 15:08	0.10	0.02	0.01	ND	U
CCB4	425298	KQ1416305-08	12/10/14 17:54	0.10	0.02	0.01	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: 9060
Prep Method: None

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-6	K1413809-001	0.56	0.50	0.20	0.07	1	12/19/14 19:42	
Method Blank	K1413809-MB1	0.23 J	0.50	0.20	0.07	1	12/19/14 19:42	
Method Blank	K1413809-MB2	0.10 J	0.50	0.20	0.07	1	12/19/14 19:42	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: 12/09/14
Date Received: 12/10/14
Date Analyzed: 12/19/14

Triplicate Sample Summary
General Chemistry Parameters

Sample Name: MW-6 **Units:** mg/L
Lab Code: K1413809-001 **Basis:** NA
Analysis Method: 9060
Prep Method: None

Analyte Name	LOQ	LOD	MDL	Sample Result	Duplicate K1413809-001DUP Result	Triplicate K1413809-001TRP Result	Average	RSD	RSD Limit
Carbon, Total Organic	0.50	0.20	0.07	0.56	0.50	0.49	0.516	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA
Date Analyzed: 12/19/14

Triplicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC **Units:** mg/L
Lab Code: K1413959-005 **Basis:** NA
Analysis Method: 9060
Prep Method: None

Analyte Name	LOQ	LOD	MDL	Sample Result	Duplicate K1413959-005DUP Result	Triplicate K1413959-005TRP Result	Average	RSD	RSD Limit
Carbon, Total Organic	0.50	0.20	0.07	0.31	0.27	0.22	0.266	16	20

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: 12/09/14
Date Received: 12/10/14
Date Analyzed: 12/19/14
Date Extracted: NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name: MW-6
Lab Code: K1413809-001
Analysis Method: 9060
Prep Method: None

Units: mg/L
Basis: NA

Matrix Spike
K1413809-001MS

<u>Analyte Name</u>	<u>Sample Result</u>	<u>Result</u>	<u>Spike Amount</u>	<u>% Rec</u>	<u>% Rec Limits</u>
Carbon, Total Organic	0.56	25.7	25.0	101	83-117

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Analyzed: 12/19/14
Date Extracted: NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method: 9060
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 426606

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1413809-LCS1	17.7	18.1	98	83-117
Lab Control Sample	K1413809-LCS2	17.8	18.1	99	83-117

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: 9060

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	426606	KQ1416707-31	12/19/14 19:42	25.0	24.5	98	90-110
CCV2	426606	KQ1416707-32	12/19/14 19:42	25.0	24.6	98	90-110
CCV3	426606	KQ1416707-33	12/19/14 19:42	25.0	24.7	99	90-110
CCV4	426606	KQ1416707-34	12/19/14 19:42	25.0	24.4	97	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: 9060

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	426606	KQ1416707-35	12/19/14 19:42	0.50	0.20	0.07	ND	U
CCB2	426606	KQ1416707-36	12/19/14 19:42	0.50	0.20	0.07	0.17	J
CCB3	426606	KQ1416707-37	12/19/14 19:42	0.50	0.20	0.07	0.1	J
CCB4	426606	KQ1416707-38	12/19/14 19:42	0.50	0.20	0.07	0.09	J

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: SM 2320 B
Prep Method: None

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Alkalinity, Dissolved as CaCO3

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-6	K1413809-001	193	15	6	3	1	12/15/14 17:14	
Method Blank	K1413809-MB1	6 J	15	6	3	1	12/15/14 17:14	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Analyzed: 12/15/14
Date Extracted: NA

Lab Control Sample Summary
Alkalinity, Dissolved as CaCO3

Analysis Method: SM 2320 B
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 425805

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1413809-LCS1	40.0	37	109	90-110

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: SM 2320 B
Prep Method: None

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Bicarbonate as CaCO3

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-6	K1413809-001	191	15	6	3	1	12/15/14 17:14	
Method Blank	K1413809-MB1	6 J	15	6	3	1	12/15/14 17:14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA
Date Analyzed: 12/15/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1413663-006

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1413663-006DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Bicarbonate as CaCO3	SM 2320 B	15	6	3	524	531	528	1	20

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: SM 2540 C
Prep Method: None

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
MW-6	K1413809-001	264	13	-	-	1	12/12/14 13:00	
Method Blank	K1413809-MB1	ND U	5.0	-	-	1	12/12/14 13:00	
Method Blank	K1413809-MB2	ND U	10	-	-	1	12/12/14 13:00	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: 12/09/14
Date Received: 12/10/14
Date Analyzed: 12/12/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-6
Lab Code: K1413809-001

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>LOQ</u>	<u>LOD</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1413809-001DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Solids, Total Dissolved	SM 2540 C	13	-	-	264	255	259	4	10

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ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Analyzed: 12/12/14
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Dissolved

Analysis Method: SM 2540 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 425549

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1413809-LCS1	1200	1300	92	85-115

ALS Group USA, Corp.
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Analytical Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Service Request: K1413809
Date Collected: 12/9/14
Date Received: 12/10/14
Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
MW-6	K1413809-001	ND U	0.050	0.040	0.020	1	12/16/14 11:21	12/16/14	
Method Blank	K1413809-MB1	ND U	0.050	0.040	0.020	1	12/16/14 11:21	12/16/14	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Service Request: K1413809
Date Collected: NA
Date Received: NA

Units: mg/L
Basis: NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	LOQ	LOD	MDL	Sample Duplicate		Average	RPD	RPD Limit	Date Analyzed
					Result	Result				
Batch QC	K1413815-001DUP1	0.050	0.040	0.020	ND U	ND U	NC	NC	20	12/16/14
Batch QC	K1413815-001DUP2	0.050	0.040	0.020	ND U	ND U	NC	NC	20	12/16/14
Batch QC	K1413831-001DUP	0.050	0.040	0.020	ND U	ND U	NC	NC	20	12/16/14

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QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: N/A
Date Received: N/A
Date Analyzed: 12/16/14
Date Extracted: 12/16/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: Batch QC
Lab Code: K1413815-001
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1413815-001MS1		Duplicate Matrix Spike K1413815-001DMS1		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Ammonia as Nitrogen	ND U	2.08	2.00	104	2.03	2.00	101	90-110	3	20

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QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: N/A
Date Received: N/A
Date Analyzed: 12/16/14
Date Extracted: 12/16/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: Batch QC
Lab Code: K1413815-001
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1413815-001MS2		Duplicate Matrix Spike K1413815-001DMS2		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Ammonia as Nitrogen	ND U	2.08	2.00	104	2.03	2.00	101	90-110	3	20

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: N/A
Date Received: N/A
Date Analyzed: 12/16/14
Date Extracted: 12/16/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: Batch QC
Lab Code: K1413831-001
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1413831-001MS		Duplicate Matrix Spike K1413831-001DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Ammonia as Nitrogen	ND U	2.06	2.00	103	2.00	2.00	100	90-110	3	20

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QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Analyzed: 12/16/14
Date Extracted: 12/16/14

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 425945

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1413809-LCS1	16.4	15.1	109	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 G

Units: mg/L

	Analysis		Date	True	Measured	Percent	Acceptance
	Lot	Lab Code	Analyzed	Value	Value	Recovery	Limits
CCV1	425945	KQ1416498-01	12/16/14 11:21	2.00	2.01	100	90-110
CCV2	425945	KQ1416498-02	12/16/14 11:21	2.00	1.99	99	90-110
CCV3	425945	KQ1416498-03	12/16/14 11:21	2.00	2.00	100	90-110
CCV4	425945	KQ1416498-04	12/16/14 11:21	2.00	1.99	100	90-110
CCV5	425945	KQ1416498-05	12/16/14 11:21	2.00	1.99	99	90-110
CCV6	425945	KQ1416498-06	12/16/14 11:21	2.00	1.99	99	90-110

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 G

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	425945	KQ1416498-07	12/16/14 11:21	0.050	0.040	0.020	ND	U
CCB2	425945	KQ1416498-08	12/16/14 11:21	0.050	0.040	0.020	ND	U
CCB3	425945	KQ1416498-09	12/16/14 11:21	0.050	0.040	0.020	ND	U
CCB4	425945	KQ1416498-10	12/16/14 11:21	0.050	0.040	0.020	ND	U
CCB5	425945	KQ1416498-11	12/16/14 11:21	0.050	0.040	0.020	ND	U
CCB6	425945	KQ1416498-12	12/16/14 11:21	0.050	0.040	0.020	ND	U



Metals

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Metals
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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	2500	2482	99	250	250	100	253	101	200.7
Arsenic	2500	2531	101	1000	1007	101	1003	100	200.7
Barium	5000	5098	102	10000	9918	99	9800	98	200.7
Beryllium	125	128	102	250	251	100	251	100	200.7
Cadmium	1250	1268	101	250	249	100	250	100	200.7
Calcium	5000	4998	100	500	495	99	490	98	200.7
Calcium	12500	12660	101	10000	10010	100	9984	100	200.7
Chromium	500	512	102	250	252	101	252	101	200.7
Cobalt	1250	1267	101	250	249	100	249	100	200.7
Copper	625	639	102	250	252	101	250	100	200.7
Iron	2500	2519	101	10000	9957	100	9890	99	200.7
Lead	2500	2543	102	250	254	102	247	99	200.7
Magnesium	12500	12760	102	10000	10180	102	10080	101	200.7
Magnesium	5000	5056	101	250	253	101	254	102	200.7
Manganese	1250	1257	101	250	250	100	249	100	200.7
Nickel	1250	1254	100	250	249	100	250	100	200.7
Selenium	2500	2519	101	250	251	100	249	100	200.7
Silver	625	629	101	250	254	102	251	100	200.7
Sodium	12500	12690	102	10000	10040	100	9900	99	200.7
Thallium	2500	2608	104	250	249	100	249	100	200.7
Vanadium	1250	1285	103	250	250	100	249	100	200.7
Zinc	1250	1270	102	250	250	100	253	101	200.7

Metals

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LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

SDG No.: K1413809

Contract: 106-45760003

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV									
	Antimony	18.2	20.0	91	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Arsenic	8.8	10.0	88	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Barium	4.4	4.0	110	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Beryllium	0.95	1.0	95	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Cadmium	1.00	1.0	100	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Calcium	20.8	20.0	104	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Iron	17.3	20.0	86	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Magnesium	5.3	5.0	106	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Manganese	1.00	1.0	100	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Nickel	4.4	4.0	110	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Selenium	19.9	20.0	100	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Silver	4.1	4.0	102	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Sodium	193.4	200.0	97	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Vanadium	3.8	4.0	95	80.0 - 120.0	P	12/18/14	09:18	121814AICP
	Zinc	4.7	4.0	118	80.0 - 120.0	P	12/18/14	09:18	121814AICP
LLICV									
	Copper	3.80	4.0	95	80.0 - 120.0	P	12/18/14	09:20	121814AICP
	Thallium	11.1	10.0	111	80.0 - 120.0	P	12/18/14	09:20	121814AICP
LLICV									
	Chromium	8.2	8.0	102	80.0 - 120.0	P	12/18/14	09:23	121814AICP
	Cobalt	4.80	4.0	120	80.0 - 120.0	P	12/18/14	09:23	121814AICP
	Lead	17.3	20.0	86	80.0 - 120.0	P	12/18/14	09:23	121814AICP

Metals

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LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech, Incorporated

SDG No.: K1413809

Contract: 106-45760003

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV									
	Antimony	23	20	115	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Arsenic	9	10	90	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Barium	4	4	100	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Beryllium	1	1	100	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Cadmium	1	1	100	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Calcium	20	20	100	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Iron	23	20	115	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Magnesium	5	5	100	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Manganese	1	1	100	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Nickel	5	4	125	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Selenium	19	20	95	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Silver	5	4	125	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Sodium	196	200	98	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Vanadium	4	4	100	70.0 - 130.0	P	12/18/14	10:54	121814AICP
	Zinc	5	4	125	70.0 - 130.0	P	12/18/14	10:54	121814AICP
LLCCV									
	Copper	5	4	125	70.0 - 130.0	P	12/18/14	11:00	121814AICP
	Thallium	12	10	120	70.0 - 130.0	P	12/18/14	11:00	121814AICP
LLCCV									
	Chromium	9	8	112	70.0 - 130.0	P	12/18/14	11:02	121814AICP
	Cobalt	5	4	125	70.0 - 130.0	P	12/18/14	11:02	121814AICP
	Lead	16	20	80	70.0 - 130.0	P	12/18/14	11:02	121814AICP

Metals

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BLANKS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Antimony	6.0	U	6.0	U	6.0	U			200.7
Arsenic	6.0	U	6.0	U	6.0	U			200.7
Barium	1.0	J	0.3	U	0.8	J			200.7
Beryllium	0.50	U	0.50	U	0.50	U			200.7
Cadmium	0.6	U	0.6	U	0.6	U			200.7
Calcium	1.6	J	0.6	U	1.0	J			200.7
Chromium	0.9	U	0.9	J	1.4	J			200.7
Cobalt	2.0	U	2.0	U	2.0	U			200.7
Copper	2.0	U	2.0	U	2.0	U			200.7
Iron	3.0	U	-4.4	J	5.3	J			200.7
Lead	6.0	U	6.0	U	6.0	U			200.7
Magnesium	1.7	J	-0.4	J	0.9	J			200.7
Manganese	0.5	J	-0.3	J	-0.3	J			200.7
Nickel	0.9	U	0.9	U	0.9	U			200.7
Selenium	9.0	U	9.0	U	9.0	U			200.7
Silver	2.0	U	2.0	U	2.0	U			200.7
Sodium	20.0	U	20.0	U	20.0	U			200.7
Thallium	4.0	U	4.0	U	5.2	J			200.7
Vanadium	1.0	U	1.0	U	1.0	U			200.7
Zinc	0.6	U	0.6	U	0.6	U			200.7

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0	1000.0	-25.7	892.8	89			
Arsenic	0.0		12.2	6.7				
Barium	0.0	500.0	0.4	509.0	102			
Beryllium	0.0	500.0	-1.0	484.2	97			
Cadmium	0.0	1000.0	3.5	946.8	95			
Calcium	500000.0	500000.0	511700.0	496200.0	99			
Chromium	0.0	500.0	3.7	503.9	101			
Cobalt	0.0	500.0	-3.5	478.7	96			
Copper	0.0	500.0	-4.2	515.5	103			
Iron	200000.0	200000.0	192600.0	187100.0	94			
Lead	0.0	1000.0	4.9	1004.0	100			
Magnesium	500000.0	500000.0	451500.0	440600.0	88			
Manganese	0.0	500.0	-1.5	485.3	97			
Nickel	0.0	1000.0	4.9	945.8	95			
Selenium	0.0		-6.7	-23.5				
Silver	0.0	1000.0	-1.0	981.1	98			
Sodium	0.0		-1.2	7.6				
Thallium	0.0		-9.3	-14.8				
Vanadium	0.0	500.0	-0.6	514.8	103			
Zinc	0.0	1000.0	1.1	908.3	91			

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Antimony	2500	2490	99.6					
Arsenic	2500	2520	100.8					
Barium	5000	5070	101.4					
Beryllium	125	127	101.6					
Cadmium	1250	1270	101.6					
Calcium	12500	12600	100.8					
Chromium	500	510	102.0					
Cobalt	1250	1270	101.6					
Copper	625	647	103.5					
Iron	2500	2490	99.6					
Lead	2500	2560	102.4					
Magnesium	12500	12800	102.4					
Manganese	1250	1260	100.8					
Nickel	1250	1250	100.0					
Selenium	2500	2440	97.6					
Silver	625	633	101.3					
Sodium	12500	12700	101.6					
Thallium	2500	2600	104.0					
Vanadium	1250	1290	103.2					
Zinc	1250	1270	101.6					

Metals

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ICP SERIAL DILUTIONS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Units: UG/L

Project Name: YTC

Sample Name: MW-6L

Lab Code: K1413809-001DISSL

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Difference	Q	M
		C		C			
Antimony	20.0	U	30.0	U			P
Arsenic	10.0	U	30.0	U			P
Barium	48.5		48.0		1.0		P
Beryllium	1.0	U	2.5	U			P
Cadmium	1.0	U	3.0	U			P
Calcium	21440.0		21000.0		2.1		P
Chromium	1.9	J	4.5	J	136.8		P
Cobalt	2.4	J	10.0	U	100.0		P
Copper	4.0	U	10.0	U			P
Iron	10.0	U	15.0	U			P
Lead	10.0	U	30.0	U			P
Magnesium	9066.0		8945.0		1.3		P
Manganese	64.9		65.0		0.2		P
Nickel	3.4	J	4.5	U	100.0		P
Selenium	20.0	U	45.0	U			P
Silver	4.0	U	10.0	U			P
Sodium	60040.0		58700.0		2.2		P
Thallium	10.0	U	20.0	U			P
Vanadium	17.5		17.5	J	0.0		P
Zinc	3.0	J	5.0	J	66.7		P

Metals

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DETECTION LIMITS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP/ICP-MS ID #: K-ICP-AES-04

GFAA ID #:

AA ID #:

Analyte	Wave-length (nm)	Back-ground	LOQ ug/L	LOD ug/L	MDL ug/L	M
Antimony	206.8		20	20.0	6.0	P
Arsenic	189.0		10	10.0	6.0	P
Barium	455.4		4.0	2.0	0.3	P
Beryllium	234.8		1.0	1.00	0.50	P
Cadmium	226.5		1.0	1.0	0.6	P
Calcium	393.3		20.0	2.0	0.6	P
Chromium	267.7		8.0	2.0	0.9	P
Cobalt	230.7		4.0	2.0	2.0	P
Copper	327.3		4.0	4.0	2.0	P
Iron	259.9		20.0	10.0	3.0	P
Lead	220.3		20	10.0	6.0	P
Magnesium	279.5		5.0	0.6	0.2	P
Manganese	257.6		1.0	1.0	0.3	P
Nickel	221.6		4.0	2.0	0.9	P
Selenium	196.0		20	20.0	9.0	P
Silver	328.1		4.0	4.0	2.0	P
Sodium	589.5		200.0	40.0	20.0	P
Thallium	190.8		10	10.0	4.0	P
Vanadium	292.4		4.0	2.0	1.0	P
Zinc	206.2		4.0	2.0	0.6	P

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	B
Aluminum	394.401	0.000000	0.0001070	0.000000	0.000000	0.000000
Antimony	217.581	0.000000	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	0.000000	-0.0000640	0.000000	0.0000410
Barium	455.403	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	234.861	0.000000	0.000000	0.0000140	0.000000	0.000000
Boron	249.678	0.000000	0.000000	-0.0006690	0.000000	0.000000
Cadmium	226.502	0.000000	0.000000	0.0001460	0.000000	0.000000
Calcium	393.366	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.616	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	327.396	0.000000	0.0000200	0.000000	0.000000	0.000000
Iron	259.94	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.353	-0.0000900	0.000000	0.000000	0.000000	0.000000
Lithium	670.784	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	285.213	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	260.569	0.000000	-0.0000050	0.0000100	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	0.0000260	0.000000	0.000000
Phosphorus	214.914	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.491	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.0	0.000000	0.000000	-0.0001640	0.000000	-0.0000370
Silicon	251.611	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	-0.0000090
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Strontium	407.771	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.856	0.000000	0.000000	0.000000	0.000000	0.000000
Tin	189.989	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	336.121	0.000000	0.0000130	0.000000	0.000000	0.000000
Vanadium	292.402	0.000000	0.000000	0.000000	0.000000	0.000000

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ba	Cd	Co	Cr	Cu
Aluminum	394.401	0.000000	0.000000	-0.0001860	0.0004130	0.000000
Antimony	217.581	0.000000	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	0.000000	0.000000	0.0004520	0.000000
Barium	455.403	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	234.861	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.678	0.000000	0.000000	0.0038080	0.0002890	0.000000
Cadmium	226.502	0.000000	0.000000	-0.0000280	0.0000230	0.000000
Calcium	393.366	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	-0.0001770	0.000000	0.000000	0.000000
Cobalt	228.616	0.000000	0.000000	0.000000	-0.0005250	0.000000
Copper	327.396	0.000000	0.000000	0.0002800	0.000000	0.000000
Iron	259.94	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.353	0.000000	0.000000	0.000000	0.000000	0.0044710
Lithium	670.784	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	285.213	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	260.569	0.000000	-0.0000420	0.0007060	-0.0001240	-0.0000120
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	-0.0001750	0.000000	0.000000
Phosphorus	214.914	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.491	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.0	0.000000	0.000000	0.000000	0.000000	0.000000
Silicon	251.611	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Strontium	407.771	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.856	0.000000	0.000000	0.0014230	0.0003810	0.000000
Tin	189.989	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	336.121	0.000000	0.000000	0.0000280	0.000000	0.000000
Vanadium	292.402	0.000000	0.000000	0.000000	-0.0063260	-0.0000590

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0010860
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Mn	Mo	Ni	Pb	Sb
Aluminum	394.401	0.0000000	0.0002510	0.0002820	0.0000000	0.0000000
Antimony	217.581	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.042	-0.0002570	0.0004610	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	-0.0000240	-0.0001730	-0.0000210	0.0000000	0.0000000
Boron	249.678	0.0000000	-0.0014840	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0000190	-0.0000190	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0001840	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	-0.0000370	0.0001050	0.0000000	0.0000000
Copper	327.396	0.0000000	-0.0000640	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	-0.0008520	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0005090	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	260.569	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000180
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0007360	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0101570	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0001200	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	-0.0006360	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000310	0.0001200	0.0000000	0.0000000
Vanadium	292.402	-0.0013700	-0.0000860	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	-0.0001090	0.0051730	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:		
		Si	Ti	V
Aluminum	394.401	0.0000000	0.0000000	0.0000000
Antimony	217.581	-0.0000460	0.0000000	0.0021080
Arsenic	189.042	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	-0.0004770
Cadmium	226.502	0.0000040	0.0001350	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	-0.0001070
Cobalt	228.616	-0.0000080	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000960	-0.0001120
Iron	259.94	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0013940	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000
Manganese	260.569	-0.0000030	-0.0000350	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000730
Sodium	589.592	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0003060	0.0005750
Tin	189.989	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0003820	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	-0.0003390	0.0000000		
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Comments:

Metals

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ICP LINEAR RANGES (QUARTERLY)

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

ICP ID Number: K-ICP-AES-04

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	90000	200.7
Arsenic	15.000	90000	200.7
Barium	15.000	45000	200.7
Beryllium	15.000	9000	200.7
Cadmium	15.000	22500	200.7
Calcium	15.000	450000	200.7
Chromium	15.000	45000	200.7
Cobalt	15.000	22500	200.7
Copper	15.000	90000	200.7
Iron	15.000	360000	200.7
Lead	15.000	22500	200.7
Magnesium	15.000	90000	200.7
Manganese	15.000	9000	200.7
Nickel	15.000	90000	200.7
Selenium	15.000	22500	200.7
Silver	15.000	2700	200.7
Sodium	15.000	450000	200.7
Thallium	15.000	45000	200.7
Vanadium	15.000	45000	200.7
Zinc	15.000	18000	200.7

Comments:

Metals

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

Comments:

Metals
-13-
PREPARATION LOG

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Project Name: YTC

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1413809-001DISS	12/12/14	50.0	50.0
K1413809-001DISSS	12/12/14	50.0	50.0
K1413809-001DISSSD	12/12/14	50.0	50.0
K1413809-MB	12/12/14	50.0	50.0
LCSW	12/12/14	50.0	50.0

Metals
- 14 -
ANALYSIS RUN LOG

Client: Tetra Tech, Incorporated

Service Request: K1413809

Project No.: 106-45760003

Run Number: 121814AICP04

Project Name: YTC

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 12/18/14

End Date: 12/18/14

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S E	A G	N A	T L	V	Z N	C N				
BLK	1.0	09:03		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		
STD A	1.0	09:06		X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
STD B	1.0	09:08			X	X			X			X	X									X									
ICV	1.0	09:11							X				X																		
ICV	1.0	09:13		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			
ICB	1.0	09:15		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			
LLICV	1.0	09:18		X	X	X	X	X	X			X		X	X		X	X	X	X	X	X	X	X	X	X	X	X			
LLICV	1.0	09:20										X												X							
LLICV	1.0	09:23								X	X			X																	
ZZZZZZ	1.0	09:27																													
CCV1	1.0	09:31			X	X			X				X	X									X								
CCV1	1.0	09:36		X			X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X			
CCB1	1.0	09:43		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			
ICSA	1.0	09:46		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			
ICSAB	1.0	09:49		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			
ZZZZZZ	1.0	09:52																													
K1413809-MB	1.0	10:24		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			
LCSW	1.0	10:26		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			
K1413809-001DISS	1.0	10:28		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			
K1413809-001DISSL	5.0	10:31		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			
K1413809-001DISSS	1.0	10:33		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			
K1413809-001DISSSD	1.0	10:36		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			
K1413809-001DISSA	1.0	10:38		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			
ZZZZZZ	1.0	10:41																													
ZZZZZZ	1.0	10:43																													
CCV2	1.0	10:47			X	X			X				X	X									X								
CCV2	1.0	10:49		X			X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X			
CCB2	1.0	10:52		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			
LLCCV	1.0	10:54		X	X	X	X	X	X				X		X	X		X	X	X	X	X	X	X	X	X	X	X			
LLCCV	1.0	11:00										X													X						
LLCCV	1.0	11:02								X	X			X																	

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

**Cover Page - Organic Analysis Data Package
Volatile Organic Compounds**

Sample Name	Lab Code	Date Collected	Date Received
PDB-TB	K1413809-002	12/09/2014	12/10/2014

Analytical Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: 12/09/2014
Date Received: 12/10/2014

Volatile Organic Compounds

Sample Name: PDB-TB
Lab Code: K1413809-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.20	0.13	1	12/18/14	12/18/14	KWG1416392	
Chloromethane	ND	U	0.50	0.20	0.068	1	12/18/14	12/18/14	KWG1416392	
Vinyl Chloride	ND	U	0.50	0.10	0.075	1	12/18/14	12/18/14	KWG1416392	
Bromomethane	ND	U	0.50	0.30	0.10	1	12/18/14	12/18/14	KWG1416392	
Chloroethane	ND	U	0.50	0.20	0.16	1	12/18/14	12/18/14	KWG1416392	
Trichlorofluoromethane	ND	U	0.50	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
1,1-Dichloroethene	ND	U	0.50	0.20	0.080	1	12/18/14	12/18/14	KWG1416392	
Acetone	ND	U	20	10	3.3	1	12/18/14	12/18/14	KWG1416392	
Carbon Disulfide	ND	U	0.50	0.20	0.069	1	12/18/14	12/18/14	KWG1416392	
Methylene Chloride	0.15	J	2.0	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
Methyl tert-Butyl Ether	ND	U	0.50	0.30	0.11	1	12/18/14	12/18/14	KWG1416392	
trans-1,2-Dichloroethene	ND	U	0.50	0.20	0.072	1	12/18/14	12/18/14	KWG1416392	
1,1-Dichloroethane	ND	U	0.50	0.20	0.077	1	12/18/14	12/18/14	KWG1416392	
2,2-Dichloropropane	ND	U	0.50	0.20	0.060	1	12/18/14	12/18/14	KWG1416392	
cis-1,2-Dichloroethene	ND	U	0.50	0.20	0.067	1	12/18/14	12/18/14	KWG1416392	
2-Butanone (MEK)	ND	U	20	4.0	1.9	1	12/18/14	12/18/14	KWG1416392	
Bromochloromethane	ND	U	0.50	0.20	0.16	1	12/18/14	12/18/14	KWG1416392	
Chloroform	ND	U	0.50	0.20	0.072	1	12/18/14	12/18/14	KWG1416392	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.20	0.075	1	12/18/14	12/18/14	KWG1416392	
Carbon Tetrachloride	ND	U	0.50	0.20	0.096	1	12/18/14	12/18/14	KWG1416392	
1,1-Dichloropropene	ND	U	0.50	0.20	0.089	1	12/18/14	12/18/14	KWG1416392	
Benzene	0.18	J	0.50	0.10	0.062	1	12/18/14	12/18/14	KWG1416392	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.15	0.080	1	12/18/14	12/18/14	KWG1416392	
Trichloroethene (TCE)	ND	U	0.50	0.10	0.10	1	12/18/14	12/18/14	KWG1416392	
1,2-Dichloropropane	ND	U	0.50	0.20	0.095	1	12/18/14	12/18/14	KWG1416392	
Dibromomethane	ND	U	0.50	0.50	0.15	1	12/18/14	12/18/14	KWG1416392	
Bromodichloromethane	ND	U	0.50	0.30	0.091	1	12/18/14	12/18/14	KWG1416392	
cis-1,3-Dichloropropene	ND	U	0.50	0.20	0.18	1	12/18/14	12/18/14	KWG1416392	
4-Methyl-2-pentanone (MIBK)	ND	U	20	10	2.6	1	12/18/14	12/18/14	KWG1416392	
Toluene	2.3		0.50	0.10	0.054	1	12/18/14	12/18/14	KWG1416392	
trans-1,3-Dichloropropene	ND	U	0.50	0.20	0.068	1	12/18/14	12/18/14	KWG1416392	
1,1,2-Trichloroethane	ND	U	0.50	0.40	0.14	1	12/18/14	12/18/14	KWG1416392	
Tetrachloroethene (PCE)	ND	U	0.50	0.20	0.099	1	12/18/14	12/18/14	KWG1416392	
2-Hexanone	ND	U	20	10	2.7	1	12/18/14	12/18/14	KWG1416392	

Comments: _____

Analytical Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: 12/09/2014
Date Received: 12/10/2014

Volatile Organic Compounds

Sample Name: PDB-TB
Lab Code: K1413809-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,3-Dichloropropane	ND	U	0.50	0.30	0.14	1	12/18/14	12/18/14	KWG1416392	
Dibromochloromethane	ND	U	0.50	0.50	0.14	1	12/18/14	12/18/14	KWG1416392	
1,2-Dibromoethane (EDB)	ND	U	2.0	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
Chlorobenzene	ND	U	0.50	0.20	0.11	1	12/18/14	12/18/14	KWG1416392	
Ethylbenzene	0.13	J	0.50	0.10	0.050	1	12/18/14	12/18/14	KWG1416392	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.20	0.11	1	12/18/14	12/18/14	KWG1416392	
m,p-Xylenes	0.44	J	0.50	0.20	0.11	1	12/18/14	12/18/14	KWG1416392	
o-Xylene	0.13	J	0.50	0.20	0.074	1	12/18/14	12/18/14	KWG1416392	
Styrene	ND	U	0.50	0.20	0.089	1	12/18/14	12/18/14	KWG1416392	
Bromoform	ND	U	0.50	0.50	0.16	1	12/18/14	12/18/14	KWG1416392	
Isopropylbenzene	ND	U	2.0	0.20	0.051	1	12/18/14	12/18/14	KWG1416392	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.20	0.16	1	12/18/14	12/18/14	KWG1416392	
Bromobenzene	ND	U	2.0	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
n-Propylbenzene	ND	U	2.0	0.20	0.054	1	12/18/14	12/18/14	KWG1416392	
1,2,3-Trichloropropane	ND	U	0.50	0.50	0.20	1	12/18/14	12/18/14	KWG1416392	
2-Chlorotoluene	ND	U	2.0	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
1,3,5-Trimethylbenzene	ND	U	2.0	0.20	0.089	1	12/18/14	12/18/14	KWG1416392	
4-Chlorotoluene	ND	U	2.0	0.20	0.13	1	12/18/14	12/18/14	KWG1416392	
tert-Butylbenzene	ND	U	2.0	0.20	0.059	1	12/18/14	12/18/14	KWG1416392	
1,2,4-Trimethylbenzene	ND	U	2.0	0.20	0.069	1	12/18/14	12/18/14	KWG1416392	
sec-Butylbenzene	ND	U	2.0	0.10	0.062	1	12/18/14	12/18/14	KWG1416392	
4-Isopropyltoluene	ND	U	2.0	0.20	0.060	1	12/18/14	12/18/14	KWG1416392	
1,3-Dichlorobenzene	ND	U	0.50	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
1,4-Dichlorobenzene	ND	U	0.50	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
n-Butylbenzene	ND	U	2.0	0.10	0.054	1	12/18/14	12/18/14	KWG1416392	
1,2-Dichlorobenzene	ND	U	0.50	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
1,2-Dibromo-3-chloropropane	ND	U	2.0	0.80	0.20	1	12/18/14	12/18/14	KWG1416392	
1,2,4-Trichlorobenzene	ND	U	2.0	0.30	0.096	1	12/18/14	12/18/14	KWG1416392	
Hexachlorobutadiene	ND	U	2.0	0.30	0.11	1	12/18/14	12/18/14	KWG1416392	
Naphthalene	ND	U	2.0	0.30	0.088	1	12/18/14	12/18/14	KWG1416392	*
1,2,3-Trichlorobenzene	ND	U	2.0	0.40	0.11	1	12/18/14	12/18/14	KWG1416392	

* See Case Narrative

Comments: _____

Analytical Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: 12/09/2014
Date Received: 12/10/2014

Volatile Organic Compounds

Sample Name: PDB-TB
Lab Code: K1413809-002

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	85-115	12/18/14	Acceptable
1,2-Dichloroethane-d4	108	70-120	12/18/14	Acceptable
Toluene-d8	96	85-120	12/18/14	Acceptable
4-Bromofluorobenzene	98	75-120	12/18/14	Acceptable

Comments: _____

Analytical Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1416392-5
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.20	0.13	1	12/18/14	12/18/14	KWG1416392	
Chloromethane	ND	U	0.50	0.20	0.068	1	12/18/14	12/18/14	KWG1416392	
Vinyl Chloride	ND	U	0.50	0.10	0.075	1	12/18/14	12/18/14	KWG1416392	
Bromomethane	ND	U	0.50	0.30	0.10	1	12/18/14	12/18/14	KWG1416392	
Chloroethane	ND	U	0.50	0.20	0.16	1	12/18/14	12/18/14	KWG1416392	
Trichlorofluoromethane	ND	U	0.50	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
1,1-Dichloroethene	ND	U	0.50	0.20	0.080	1	12/18/14	12/18/14	KWG1416392	
Acetone	ND	U	20	10	3.3	1	12/18/14	12/18/14	KWG1416392	
Carbon Disulfide	0.15	J	0.50	0.20	0.069	1	12/18/14	12/18/14	KWG1416392	
Methylene Chloride	ND	U	2.0	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
Methyl tert-Butyl Ether	ND	U	0.50	0.30	0.11	1	12/18/14	12/18/14	KWG1416392	
trans-1,2-Dichloroethene	ND	U	0.50	0.20	0.072	1	12/18/14	12/18/14	KWG1416392	
1,1-Dichloroethane	ND	U	0.50	0.20	0.077	1	12/18/14	12/18/14	KWG1416392	
2,2-Dichloropropane	ND	U	0.50	0.20	0.060	1	12/18/14	12/18/14	KWG1416392	
cis-1,2-Dichloroethene	ND	U	0.50	0.20	0.067	1	12/18/14	12/18/14	KWG1416392	
2-Butanone (MEK)	ND	U	20	4.0	1.9	1	12/18/14	12/18/14	KWG1416392	
Bromochloromethane	ND	U	0.50	0.20	0.16	1	12/18/14	12/18/14	KWG1416392	
Chloroform	ND	U	0.50	0.20	0.072	1	12/18/14	12/18/14	KWG1416392	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.20	0.075	1	12/18/14	12/18/14	KWG1416392	
Carbon Tetrachloride	ND	U	0.50	0.20	0.096	1	12/18/14	12/18/14	KWG1416392	
1,1-Dichloropropene	ND	U	0.50	0.20	0.089	1	12/18/14	12/18/14	KWG1416392	
Benzene	ND	U	0.50	0.10	0.062	1	12/18/14	12/18/14	KWG1416392	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.15	0.080	1	12/18/14	12/18/14	KWG1416392	
Trichloroethene (TCE)	ND	U	0.50	0.10	0.10	1	12/18/14	12/18/14	KWG1416392	
1,2-Dichloropropane	ND	U	0.50	0.20	0.095	1	12/18/14	12/18/14	KWG1416392	
Dibromomethane	ND	U	0.50	0.50	0.15	1	12/18/14	12/18/14	KWG1416392	
Bromodichloromethane	ND	U	0.50	0.30	0.091	1	12/18/14	12/18/14	KWG1416392	
cis-1,3-Dichloropropene	ND	U	0.50	0.20	0.18	1	12/18/14	12/18/14	KWG1416392	
4-Methyl-2-pentanone (MIBK)	ND	U	20	10	2.6	1	12/18/14	12/18/14	KWG1416392	
Toluene	ND	U	0.50	0.10	0.054	1	12/18/14	12/18/14	KWG1416392	
trans-1,3-Dichloropropene	ND	U	0.50	0.20	0.068	1	12/18/14	12/18/14	KWG1416392	
1,1,2-Trichloroethane	ND	U	0.50	0.40	0.14	1	12/18/14	12/18/14	KWG1416392	
Tetrachloroethene (PCE)	ND	U	0.50	0.20	0.099	1	12/18/14	12/18/14	KWG1416392	
2-Hexanone	ND	U	20	10	2.7	1	12/18/14	12/18/14	KWG1416392	

Comments: _____

Analytical Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1416392-5
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,3-Dichloropropane	ND	U	0.50	0.30	0.14	1	12/18/14	12/18/14	KWG1416392	
Dibromochloromethane	ND	U	0.50	0.50	0.14	1	12/18/14	12/18/14	KWG1416392	
1,2-Dibromoethane (EDB)	ND	U	2.0	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
Chlorobenzene	ND	U	0.50	0.20	0.11	1	12/18/14	12/18/14	KWG1416392	
Ethylbenzene	ND	U	0.50	0.10	0.050	1	12/18/14	12/18/14	KWG1416392	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.20	0.11	1	12/18/14	12/18/14	KWG1416392	
m,p-Xylenes	ND	U	0.50	0.20	0.11	1	12/18/14	12/18/14	KWG1416392	
o-Xylene	ND	U	0.50	0.20	0.074	1	12/18/14	12/18/14	KWG1416392	
Styrene	ND	U	0.50	0.20	0.089	1	12/18/14	12/18/14	KWG1416392	
Bromoform	ND	U	0.50	0.50	0.16	1	12/18/14	12/18/14	KWG1416392	
Isopropylbenzene	ND	U	2.0	0.20	0.051	1	12/18/14	12/18/14	KWG1416392	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.20	0.16	1	12/18/14	12/18/14	KWG1416392	
Bromobenzene	ND	U	2.0	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
n-Propylbenzene	ND	U	2.0	0.20	0.054	1	12/18/14	12/18/14	KWG1416392	
1,2,3-Trichloropropane	ND	U	0.50	0.50	0.20	1	12/18/14	12/18/14	KWG1416392	
2-Chlorotoluene	ND	U	2.0	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
1,3,5-Trimethylbenzene	ND	U	2.0	0.20	0.089	1	12/18/14	12/18/14	KWG1416392	
4-Chlorotoluene	ND	U	2.0	0.20	0.13	1	12/18/14	12/18/14	KWG1416392	
tert-Butylbenzene	ND	U	2.0	0.20	0.059	1	12/18/14	12/18/14	KWG1416392	
1,2,4-Trimethylbenzene	ND	U	2.0	0.20	0.069	1	12/18/14	12/18/14	KWG1416392	
sec-Butylbenzene	ND	U	2.0	0.10	0.062	1	12/18/14	12/18/14	KWG1416392	
4-Isopropyltoluene	ND	U	2.0	0.20	0.060	1	12/18/14	12/18/14	KWG1416392	
1,3-Dichlorobenzene	ND	U	0.50	0.20	0.10	1	12/18/14	12/18/14	KWG1416392	
1,4-Dichlorobenzene	ND	U	0.50	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
n-Butylbenzene	ND	U	2.0	0.10	0.054	1	12/18/14	12/18/14	KWG1416392	
1,2-Dichlorobenzene	ND	U	0.50	0.20	0.12	1	12/18/14	12/18/14	KWG1416392	
1,2-Dibromo-3-chloropropane	ND	U	2.0	0.80	0.20	1	12/18/14	12/18/14	KWG1416392	
1,2,4-Trichlorobenzene	ND	U	2.0	0.30	0.096	1	12/18/14	12/18/14	KWG1416392	
Hexachlorobutadiene	ND	U	2.0	0.30	0.11	1	12/18/14	12/18/14	KWG1416392	
Naphthalene	ND	U	2.0	0.30	0.088	1	12/18/14	12/18/14	KWG1416392	*
1,2,3-Trichlorobenzene	ND	U	2.0	0.40	0.11	1	12/18/14	12/18/14	KWG1416392	

* See Case Narrative

Comments:

Analytical Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1416392-5

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	105	85-115	12/18/14	Acceptable
1,2-Dichloroethane-d4	105	70-120	12/18/14	Acceptable
Toluene-d8	97	85-120	12/18/14	Acceptable
4-Bromofluorobenzene	98	75-120	12/18/14	Acceptable

Comments: _____

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809

**Surrogate Recovery Summary
 Volatile Organic Compounds**

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: Percent
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>	<u>Sur3</u>	<u>Sur4</u>
PDB-TB	K1413809-002	106	108	96	98
Batch QC	K1414067-002	104	103	96	99
Method Blank	KWG1416392-5	105	105	97	98
Batch QCMS	KWG1416392-1	103	101	103	104
Batch QCDMS	KWG1416392-2	103	100	102	106
Lab Control Sample	KWG1416392-3	102	99	102	104
Duplicate Lab Control Sample	KWG1416392-4	102	100	101	103

Surrogate Recovery Control Limits (%)

Sur1 = Dibromofluoromethane	85-115
Sur2 = 1,2-Dichloroethane-d4	70-120
Sur3 = Toluene-d8	85-120
Sur4 = 4-Bromofluorobenzene	75-120

Results flagged with an asterisk (*) indicate values outside control criteria.
 Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Date Analyzed: 12/18/2014
Time Analyzed: 07:53

Internal Standard Area and RT Summary
Volatile Organic Compounds

File ID: J:\MS13\DATA\121814\1218F002.D
Instrument ID: MS13
Analysis Method: 8260C

Lab Code: KWG1416381-2
Analysis Lot: KWG1416381

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>
Results ==>	432,318	6.11	157,672	12.02	160,555	15.05
Upper Limit ==>	864,636	6.61	315,344	12.52	321,110	15.55
Lower Limit ==>	216,159	5.61	78,836	11.52	80,278	14.55
ICAL Result ==>	496,760	6.11	186,416	12.02	185,863	15.05

Associated Analyses

Lab Control Sample	KWG1416392-3	431,207	6.11	158,867	12.02	161,183	15.05
Duplicate Lab Control Sample	KWG1416392-4	428,139	6.11	162,003	12.02	164,382	15.05
Batch QCMS	KWG1416392-1	433,433	6.11	163,356	12.02	163,588	15.05
Batch QCDMS	KWG1416392-2	437,010	6.11	161,492	12.02	165,320	15.05
Method Blank	KWG1416392-5	427,362	6.11	157,539	12.02	153,094	15.05
Batch QC	K1414067-002	434,144	6.11	160,100	12.02	155,310	15.05
PDB-TB	K1413809-002	416,262	6.11	155,088	12.02	152,119	15.05

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Extracted: 12/18/2014
Date Analyzed: 12/18/2014

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: Batch QC
Lab Code: K1414067-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1416392

Analyte Name	Sample Result	Batch QCMS KWG1416392-1 Matrix Spike			Batch QCDMS KWG1416392-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Dichlorodifluoromethane	ND	4.25	10.0	43	3.83	10.0	38	30-155	10	30
Chloromethane	ND	5.62	10.0	56	5.22	10.0	52	40-125	7	30
Vinyl Chloride	ND	7.82	10.0	78	7.03	10.0	70	50-145	11	30
Bromomethane	ND	7.58	10.0	76	6.86	10.0	69	30-145	10	30
Chloroethane	ND	10.3	10.0	103	9.50	10.0	95	60-135	8	30
Trichlorofluoromethane	ND	8.13	10.0	81	7.46	10.0	75	60-145	9	30
1,1-Dichloroethene	ND	11.9	10.0	119	10.9	10.0	109	70-130	9	30
Acetone	ND	46.1	50.0	92	45.4	50.0	91	40-140	1	30
Carbon Disulfide	0.13	23.5	20.0	117	21.1	20.0	105	35-160	11	30
Methylene Chloride	ND	8.82	10.0	88	8.28	10.0	83	55-140	6	30
Methyl tert-Butyl Ether	ND	9.12	10.0	91	8.80	10.0	88	65-125	4	30
trans-1,2-Dichloroethene	ND	11.4	10.0	114	10.3	10.0	103	60-140	10	30
1,1-Dichloroethane	ND	10.8	10.0	108	10.1	10.0	101	70-135	6	30
2,2-Dichloropropane	ND	10.4	10.0	104	9.76	10.0	98	70-135	6	30
cis-1,2-Dichloroethene	ND	10.7	10.0	107	10.0	10.0	100	70-125	6	30
2-Butanone (MEK)	ND	52.9	50.0	106	50.2	50.0	100	30-150	5	30
Bromochloromethane	ND	10.9	10.0	109	10.7	10.0	107	65-130	2	30
Chloroform	0.31	10.9	10.0	106	10.5	10.0	102	65-135	4	30
1,1,1-Trichloroethane (TCA)	ND	10.5	10.0	105	9.62	10.0	96	65-130	9	30
Carbon Tetrachloride	ND	11.1	10.0	111	10.0	10.0	100	65-140	10	30
1,1-Dichloropropene	ND	11.4	10.0	114	10.3	10.0	103	75-130	10	30
Benzene	ND	10.9	10.0	109	10.1	10.0	101	80-120	7	30
1,2-Dichloroethane (EDC)	ND	10.0	10.0	100	9.50	10.0	95	70-130	5	30
Trichloroethene (TCE)	ND	10.7	10.0	107	9.73	10.0	97	70-125	10	30
1,2-Dichloropropane	ND	9.62	10.0	96	9.07	10.0	91	75-125	6	30
Dibromomethane	ND	10.3	10.0	103	9.85	10.0	99	75-125	5	30
Bromodichloromethane	0.62	11.0	10.0	104	10.3	10.0	97	75-120	7	30
cis-1,3-Dichloropropene	ND	9.60	10.0	96	8.77	10.0	88	70-130	9	30
4-Methyl-2-pentanone (MIBK)	ND	46.8	50.0	94	46.6	50.0	93	60-135	0	30
Toluene	ND	10.5	10.0	105	9.68	10.0	97	75-120	8	30
trans-1,3-Dichloropropene	ND	8.46	10.0	85	8.50	10.0	85	55-140	0	30
1,1,2-Trichloroethane	ND	10.2	10.0	102	10.0	10.0	100	75-125	1	30
Tetrachloroethene (PCE)	ND	11.6	10.0	116	10.9	10.0	109	45-150	7	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Extracted: 12/18/2014
Date Analyzed: 12/18/2014

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: Batch QC
Lab Code: K1414067-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1416392

Analyte Name	Sample Result	Batch QCMS KWG1416392-1 Matrix Spike			Batch QCDMS KWG1416392-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
2-Hexanone	ND	42.2	50.0	84	41.7	50.0	83	55-130	1	30
1,3-Dichloropropane	ND	9.60	10.0	96	9.30	10.0	93	75-125	3	30
Dibromochloromethane	ND	11.3	10.0	113	10.9	10.0	109	60-135	3	30
1,2-Dibromoethane (EDB)	ND	10.4	10.0	104	10.2	10.0	102	80-120	2	30
Chlorobenzene	ND	10.9	10.0	109	10.3	10.0	103	80-120	6	30
Ethylbenzene	ND	11.0	10.0	110	10.4	10.0	104	75-125	6	30
1,1,1,2-Tetrachloroethane	ND	10.5	10.0	105	10.1	10.0	101	80-130	4	30
m,p-Xylenes	ND	22.4	20.0	112	21.4	20.0	107	75-130	5	30
o-Xylene	ND	11.3	10.0	113	10.7	10.0	107	80-120	5	30
Styrene	ND	11.0	10.0	110	10.7	10.0	107	65-135	3	30
Bromoform	0.31	10.8	10.0	105	10.7	10.0	104	70-130	1	30
Isopropylbenzene	ND	11.3	10.0	113	10.5	10.0	105	75-125	8	30
1,1,2,2-Tetrachloroethane	ND	9.55	10.0	96	9.52	10.0	95	65-130	0	30
Bromobenzene	ND	10.7	10.0	107	10.1	10.0	101	75-125	5	30
n-Propylbenzene	ND	10.6	10.0	106	9.98	10.0	100	70-130	6	30
1,2,3-Trichloropropane	ND	9.47	10.0	95	9.54	10.0	95	75-125	1	30
2-Chlorotoluene	ND	10.9	10.0	109	10.2	10.0	102	75-125	7	30
1,3,5-Trimethylbenzene	ND	11.0	10.0	110	10.4	10.0	104	75-130	6	30
4-Chlorotoluene	ND	10.2	10.0	102	9.48	10.0	95	75-130	8	30
tert-Butylbenzene	ND	11.1	10.0	111	10.2	10.0	102	70-130	8	30
1,2,4-Trimethylbenzene	ND	10.6	10.0	106	9.78	10.0	98	75-130	8	30
sec-Butylbenzene	ND	10.7	10.0	107	9.78	10.0	98	70-125	9	30
4-Isopropyltoluene	ND	11.1	10.0	111	10.2	10.0	102	75-130	9	30
1,3-Dichlorobenzene	ND	10.7	10.0	107	9.95	10.0	100	75-125	7	30
1,4-Dichlorobenzene	ND	10.3	10.0	103	9.82	10.0	98	75-125	5	30
n-Butylbenzene	ND	10.4	10.0	104	9.66	10.0	97	70-135	8	30
1,2-Dichlorobenzene	ND	10.4	10.0	104	9.95	10.0	100	70-120	4	30
1,2-Dibromo-3-chloropropane	ND	8.92	10.0	89	8.76	10.0	88	50-130	2	30
1,2,4-Trichlorobenzene	ND	9.75	10.0	98	9.08	10.0	91	65-135	7	30
Hexachlorobutadiene	ND	10.3	10.0	103	9.78	10.0	98	50-140	5	30
Naphthalene	ND	6.16	10.0	62	6.48	10.0	65	55-140	5	30
1,2,3-Trichlorobenzene	ND	9.73	10.0	97	9.11	10.0	91	55-140	7	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Extracted: 12/18/2014
Date Analyzed: 12/18/2014

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1416392

Analyte Name	Lab Control Sample KWG1416392-3 Lab Control Spike			Duplicate Lab Control Sample KWG1416392-4 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Dichlorodifluoromethane	3.82	10.0	38	3.41	10.0	34	30-155	11	30
Chloromethane	5.22	10.0	52	4.91	10.0	49	40-125	6	30
Vinyl Chloride	7.07	10.0	71	6.50	10.0	65	50-145	8	30
Bromomethane	7.26	10.0	73	7.22	10.0	72	30-145	1	30
Chloroethane	9.37	10.0	94	9.10	10.0	91	60-135	3	30
Trichlorofluoromethane	7.61	10.0	76	7.09	10.0	71	60-145	7	30
1,1-Dichloroethene	11.1	10.0	111	10.5	10.0	105	70-130	5	30
Acetone	46.3	50.0	93	47.0	50.0	94	40-140	2	30
Carbon Disulfide	21.3	20.0	107	20.2	20.0	101	35-160	5	30
Methylene Chloride	8.67	10.0	87	8.35	10.0	84	55-140	4	30
Methyl tert-Butyl Ether	8.88	10.0	89	9.03	10.0	90	65-125	2	30
trans-1,2-Dichloroethene	10.8	10.0	108	10.2	10.0	102	60-140	6	30
1,1-Dichloroethane	10.2	10.0	102	9.86	10.0	99	70-135	4	30
2,2-Dichloropropane	9.85	10.0	99	9.38	10.0	94	70-135	5	30
cis-1,2-Dichloroethene	10.2	10.0	102	9.85	10.0	99	70-125	3	30
2-Butanone (MEK)	53.7	50.0	107	52.1	50.0	104	30-150	3	30
Bromochloromethane	10.7	10.0	107	10.7	10.0	107	65-130	0	30
Chloroform	10.1	10.0	101	9.78	10.0	98	65-135	3	30
1,1,1-Trichloroethane (TCA)	9.75	10.0	98	9.15	10.0	92	65-130	6	30
Carbon Tetrachloride	10.2	10.0	102	9.66	10.0	97	65-140	6	30
1,1-Dichloropropene	10.6	10.0	106	10.1	10.0	101	75-130	4	30
Benzene	10.3	10.0	103	9.87	10.0	99	80-120	4	30
1,2-Dichloroethane (EDC)	9.48	10.0	95	9.56	10.0	96	70-130	1	30
Trichloroethene (TCE)	10.1	10.0	101	9.60	10.0	96	70-125	5	30
1,2-Dichloropropane	9.22	10.0	92	9.23	10.0	92	75-125	0	30
Dibromomethane	10.2	10.0	102	9.88	10.0	99	75-125	4	30
Bromodichloromethane	9.91	10.0	99	9.68	10.0	97	75-120	2	30
cis-1,3-Dichloropropene	9.46	10.0	95	9.01	10.0	90	70-130	5	30
4-Methyl-2-pentanone (MIBK)	46.5	50.0	93	47.1	50.0	94	60-135	1	30
Toluene	9.79	10.0	98	9.59	10.0	96	75-120	2	30
trans-1,3-Dichloropropene	8.63	10.0	86	8.29	10.0	83	55-140	4	30
1,1,2-Trichloroethane	9.91	10.0	99	9.62	10.0	96	75-125	3	30
Tetrachloroethene (PCE)	11.1	10.0	111	10.3	10.0	103	45-150	7	30
2-Hexanone	43.2	50.0	86	40.4	50.0	81	55-130	7	30
1,3-Dichloropropane	9.54	10.0	95	9.17	10.0	92	75-125	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Extracted: 12/18/2014
Date Analyzed: 12/18/2014

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1416392

Analyte Name	Lab Control Sample KWG1416392-3 Lab Control Spike			Duplicate Lab Control Sample KWG1416392-4 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Dibromochloromethane	10.0	10.0	100	9.77	10.0	98	60-135	3	30
1,2-Dibromoethane (EDB)	10.3	10.0	103	9.71	10.0	97	80-120	6	30
Chlorobenzene	10.5	10.0	105	9.90	10.0	99	80-120	6	30
Ethylbenzene	10.5	10.0	105	9.97	10.0	100	75-125	5	30
1,1,1,2-Tetrachloroethane	10.1	10.0	101	9.88	10.0	99	80-130	2	30
m,p-Xylenes	21.8	20.0	109	21.0	20.0	105	75-130	4	30
o-Xylene	11.0	10.0	110	10.2	10.0	102	80-120	7	30
Styrene	11.0	10.0	110	10.4	10.0	104	65-135	5	30
Bromoform	10.1	10.0	101	10.2	10.0	102	70-130	1	30
Isopropylbenzene	11.0	10.0	110	10.2	10.0	102	75-125	7	30
1,1,2,2-Tetrachloroethane	9.58	10.0	96	9.18	10.0	92	65-130	4	30
Bromobenzene	10.2	10.0	102	9.94	10.0	99	75-125	3	30
n-Propylbenzene	10.3	10.0	103	9.58	10.0	96	70-130	7	30
1,2,3-Trichloropropane	9.46	10.0	95	9.47	10.0	95	75-125	0	30
2-Chlorotoluene	10.4	10.0	104	9.93	10.0	99	75-125	5	30
1,3,5-Trimethylbenzene	10.7	10.0	107	9.89	10.0	99	75-130	8	30
4-Chlorotoluene	9.97	10.0	100	9.34	10.0	93	75-130	7	30
tert-Butylbenzene	10.7	10.0	107	9.86	10.0	99	70-130	8	30
1,2,4-Trimethylbenzene	10.1	10.0	101	9.63	10.0	96	75-130	5	30
sec-Butylbenzene	10.2	10.0	102	9.46	10.0	95	70-125	8	30
4-Isopropyltoluene	10.6	10.0	106	9.97	10.0	100	75-130	6	30
1,3-Dichlorobenzene	10.1	10.0	101	9.62	10.0	96	75-125	5	30
1,4-Dichlorobenzene	10.2	10.0	102	9.43	10.0	94	75-125	8	30
n-Butylbenzene	10.1	10.0	101	9.44	10.0	94	70-135	7	30
1,2-Dichlorobenzene	10.1	10.0	101	9.54	10.0	95	70-120	6	30
1,2-Dibromo-3-chloropropane	8.69	10.0	87	8.46	10.0	85	50-130	3	30
1,2,4-Trichlorobenzene	9.64	10.0	96	9.45	10.0	95	65-135	2	30
Hexachlorobutadiene	9.89	10.0	99	9.25	10.0	93	50-140	7	30
Naphthalene	6.37	10.0	64	6.76	10.0	68	55-140	6	30
1,2,3-Trichlorobenzene	9.45	10.0	95	9.54	10.0	95	55-140	1	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Extracted: 12/18/2014
Date Analyzed: 12/18/2014
Time Analyzed: 12:07

Method Blank Summary
Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1416392-5
Extraction Method: EPA 5030B
Analysis Method: 8260C

Instrument ID: MS13
File ID: J:\MS13\DATA\121814\1218F011.D
Level: Low
Extraction Lot: KWG1416392

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1416392-3	J:\MS13\DATA\121814\1218F004.D	12/18/14	08:58
Duplicate Lab Control Sample	KWG1416392-4	J:\MS13\DATA\121814\1218F005.D	12/18/14	09:25
Batch QCMS	KWG1416392-1	J:\MS13\DATA\121814\1218F008.D	12/18/14	10:46
Batch QCDMS	KWG1416392-2	J:\MS13\DATA\121814\1218F009.D	12/18/14	11:13
Batch QC	K1414067-002	J:\MS13\DATA\121814\1218F012.D	12/18/14	12:34
PDB-TB	K1413809-002	J:\MS13\DATA\121814\1218F021.D	12/18/14	16:37

QA/QC Report

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Extracted: 12/18/2014
Date Analyzed: 12/18/2014
Time Analyzed: 08:58

Lab Control Sample Summary
Volatile Organic Compounds

Sample Name: Lab Control Sample
Lab Code: KWG1416392-3
Extraction Method: EPA 5030B
Analysis Method: 8260C

Instrument ID: MS13
File ID: J:\MS13\DATA\121814\1218F004.D
Level: Low
Extraction Lot: KWG1416392

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QCMS	KWG1416392-1	J:\MS13\DATA\121814\1218F008.D	12/18/14	10:46
Batch QCDMS	KWG1416392-2	J:\MS13\DATA\121814\1218F009.D	12/18/14	11:13
Method Blank	KWG1416392-5	J:\MS13\DATA\121814\1218F011.D	12/18/14	12:07
Batch QC	K1414067-002	J:\MS13\DATA\121814\1218F012.D	12/18/14	12:34
PDB-TB	K1413809-002	J:\MS13\DATA\121814\1218F021.D	12/18/14	16:37

QA/QC Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Date Analyzed: 12/18/2014
Time Analyzed: 07:26

Tune Summary
Volatile Organic Compounds

File ID: J:\MS13\DATA\121814\1218F001.D
Instrument ID: MS13
Column:

Analysis Method: 8260C
Analysis Lot: KWG1416381

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	19.4	9169	PASS
75	95	30	60	45.6	21488	PASS
95	95	100	100	100.0	47144	PASS
96	95	5	9	5.4	2542	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	101.3	47736	PASS
175	174	5	9	6.6	3148	PASS
176	174	95	101	99.2	47368	PASS
177	176	5	9	7.5	3576	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1416381-2	J:\MS13\DATA\121814\1218F002.D	12/18/2014	07:53	
Lab Control Sample	KWG1416392-3	J:\MS13\DATA\121814\1218F004.D	12/18/2014	08:58	
Duplicate Lab Control Sample	KWG1416392-4	J:\MS13\DATA\121814\1218F005.D	12/18/2014	09:25	
Batch QCMS	KWG1416392-1	J:\MS13\DATA\121814\1218F008.D	12/18/2014	10:46	
Batch QCDMS	KWG1416392-2	J:\MS13\DATA\121814\1218F009.D	12/18/2014	11:13	
Method Blank	KWG1416392-5	J:\MS13\DATA\121814\1218F011.D	12/18/2014	12:07	
Batch QC	K1414067-002	J:\MS13\DATA\121814\1218F012.D	12/18/2014	12:34	
PDB-TB	K1413809-002	J:\MS13\DATA\121814\1218F021.D	12/18/2014	16:37	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL13625
Instrument ID: MS13

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS13\DATA\101714\1017F011.D	H	J:\MS13\DATA\101714\1017F018.D
B	J:\MS13\DATA\101714\1017F012.D	I	J:\MS13\DATA\101714\1017F019.D
C	J:\MS13\DATA\101714\1017F013.D	J	J:\MS13\DATA\101714\1017F020.D
D	J:\MS13\DATA\101714\1017F014.D	K	J:\MS13\DATA\101714\1017F021.D
E	J:\MS13\DATA\101714\1017F015.D	L	J:\MS13\DATA\101714\1017F022.D
F	J:\MS13\DATA\101714\1017F016.D		
G	J:\MS13\DATA\101714\1017F017.D		

Analyte Name	Level ID			Level ID			Level ID			Level ID			Level ID		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Dichlorodifluoromethane	A	0.10	0.427	B	0.20	0.337	C	0.50	0.342	D	1.0	0.358	E	2.0	0.384
	F	4.0	0.355	G	5.0	0.371	H	10	0.337	I	20	0.345	J	40	0.319
	K	60	0.341	L	80	0.324									
Chloromethane				B	0.20	0.433	C	0.50	0.432	D	1.0	0.423	E	2.0	0.386
	F	4.0	0.358	G	5.0	0.362	H	10	0.329	I	20	0.324	J	40	0.305
	K	60	0.309	L	80	0.299									
Vinyl Chloride	A	0.10	0.338	B	0.20	0.275	C	0.50	0.333	D	1.0	0.330	E	2.0	0.318
	F	4.0	0.306	G	5.0	0.325	H	10	0.297	I	20	0.311	J	40	0.295
	K	60	0.309	L	80	0.300									
Bromomethane	A	0.10	0.285	B	0.20	0.215	C	0.50	0.254	D	1.0	0.238	E	2.0	0.204
	F	4.0	0.183	G	5.0	0.191	H	10	0.180	I	20	0.180	J	40	0.177
	K	60	0.184	L	80	0.182									
Chloroethane	A	0.10	0.178	B	0.20	0.179	C	0.50	0.165	D	1.0	0.168	E	2.0	0.158
	F	4.0	0.148	G	5.0	0.163	H	10	0.150	I	20	0.158	J	40	0.150
	K	60	0.155	L	80	0.151									
Trichlorofluoromethane	A	0.10	0.582	B	0.20	0.477	C	0.50	0.517	D	1.0	0.509	E	2.0	0.487
	F	4.0	0.474	G	5.0	0.494	H	10	0.457	I	20	0.481	J	40	0.449
	K	60	0.481	L	80	0.459									
1,1-Dichloroethene	A	0.10	0.212	B	0.20	0.207	C	0.50	0.235	D	1.0	0.235	E	2.0	0.220
	F	4.0	0.219	G	5.0	0.226	H	10	0.216	I	20	0.219	J	40	0.210
	K	60	0.219	L	80	0.214									
Acetone	A	4.0	0.0456	B	8.0	0.0345	C	20	0.0338	D	40	0.0330	E	80	0.0253
	F	88	0.0303	G	100	0.0272	H	200	0.0281	I	400	0.0287	J	800	0.0295
	K	1600	0.0300	L	2000	0.0298									
Carbon Disulfide				B	0.20	0.894	C	0.50	0.839	D	1.0	0.777	E	2.0	0.738
	F	4.0	0.704	G	5.0	0.733	H	10	0.705	I	20	0.725	J	40	0.691
	K	60	0.727	L	80	0.710									
Methylene Chloride										D	1.0	0.352	E	2.0	0.301
	F	4.0	0.253	G	5.0	0.256	H	10	0.249	I	20	0.241	J	40	0.239
	K	60	0.240	L	80	0.234									

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL13625
Instrument ID: MS13

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Methyl tert-Butyl Ether	A	0.20	0.328	B	0.40	0.273	C	1.0	0.318	D	2.0	0.330	E	4.0	0.315
	F	8.0	0.310	G	10	0.333	H	20	0.348	I	40	0.352	J	80	0.382
	K	120	0.387	L	160	0.392									
trans-1,2-Dichloroethene	A	0.10	0.323	B	0.20	0.236	C	0.50	0.273	D	1.0	0.269	E	2.0	0.255
	F	4.0	0.239	G	5.0	0.258	H	10	0.244	I	20	0.249	J	40	0.246
	K	60	0.249	L	80	0.244									
1,1-Dichloroethane				B	0.20	0.405	C	0.50	0.429	D	1.0	0.424	E	2.0	0.415
	F	4.0	0.406	G	5.0	0.429	H	10	0.421	I	20	0.429	J	40	0.429
	K	60	0.433	L	80	0.423									
2,2-Dichloropropane							C	0.50	0.220	D	1.0	0.215	E	2.0	0.192
	F	4.0	0.199	G	5.0	0.209	H	10	0.199	I	20	0.216	J	40	0.219
	K	60	0.237	L	80	0.238									
cis-1,2-Dichloroethene	A	0.10	0.349	B	0.20	0.271	C	0.50	0.297	D	1.0	0.289	E	2.0	0.276
	F	4.0	0.269	G	5.0	0.277	H	10	0.279	I	20	0.283	J	40	0.281
	K	60	0.281	L	80	0.278									
2-Butanone (MEK)	A	4.0	0.0107	B	8.0	0.0103	C	20	0.0115	D	40	0.0120	E	80	0.00916
	F	88	0.0119	G	100	0.0104	H	200	0.0116	I	400	0.0118	J	800	0.0126
	K	1600	0.0130	L	2000	0.0130									
Bromochloromethane	A	0.10	0.128	B	0.20	0.105	C	0.50	0.111	D	1.0	0.131	E	2.0	0.122
	F	4.0	0.118	G	5.0	0.121	H	10	0.123	I	20	0.125	J	40	0.127
	K	60	0.126	L	80	0.123									
Chloroform	A	0.10	0.483	B	0.20	0.438	C	0.50	0.466	D	1.0	0.487	E	2.0	0.436
	F	4.0	0.431	G	5.0	0.455	H	10	0.452	I	20	0.452	J	40	0.453
	K	60	0.450	L	80	0.440									
1,1,1-Trichloroethane (TCA)	A	0.10	0.383	B	0.20	0.334	C	0.50	0.344	D	1.0	0.356	E	2.0	0.336
	F	4.0	0.347	G	5.0	0.370	H	10	0.355	I	20	0.380	J	40	0.376
	K	60	0.399	L	80	0.396									
Carbon Tetrachloride	A	0.10	0.389	B	0.20	0.341	C	0.50	0.400	D	1.0	0.387	E	2.0	0.369
	F	4.0	0.358	G	5.0	0.379	H	10	0.365	I	20	0.379	J	40	0.366
	K	60	0.386	L	80	0.377									
1,1-Dichloropropene	A	0.10	0.421	B	0.20	0.353	C	0.50	0.354	D	1.0	0.357	E	2.0	0.351
	F	4.0	0.342	G	5.0	0.360	H	10	0.345	I	20	0.362	J	40	0.347
	K	60	0.361	L	80	0.353									
Benzene	A	0.10	1.14	B	0.20	0.933	C	0.50	1.07	D	1.0	1.10	E	2.0	1.04
	F	4.0	1.02	G	5.0	1.07	H	10	1.05	I	20	1.05	J	40	1.05
	K	60	1.06	L	80	1.04									

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Tetra Tech, Incorporated
 Project: YTC/106-45760003

Service Request: K1413809
 Calibration Date: 10/17/2014

Initial Calibration Summary
 Volatile Organic Compounds

Calibration ID: CAL13625
 Instrument ID: MS13

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
1,2-Dichloroethane (EDC)	A	0.10	0.317	B	0.20	0.302	C	0.50	0.311	D	1.0	0.321	E	2.0	0.283
	F	4.0	0.277	G	5.0	0.302	H	10	0.295	I	20	0.291	J	40	0.296
	K	60	0.291	L	80	0.285									
Trichloroethene (TCE)	A	0.10	0.325	B	0.20	0.291	C	0.50	0.259	D	1.0	0.283	E	2.0	0.276
	F	4.0	0.260	G	5.0	0.276	H	10	0.275	I	20	0.280	J	40	0.274
	K	60	0.282	L	80	0.278									
1,2-Dichloropropane				B	0.20	0.217	C	0.50	0.233	D	1.0	0.232	E	2.0	0.221
	F	4.0	0.217	G	5.0	0.232	H	10	0.234	I	20	0.236	J	40	0.241
	K	60	0.246	L	80	0.244									
Dibromomethane	A	0.10	0.118	B	0.20	0.119	C	0.50	0.111	D	1.0	0.122	E	2.0	0.111
	F	4.0	0.114	G	5.0	0.117	H	10	0.119	I	20	0.120	J	40	0.121
	K	60	0.121	L	80	0.118									
Bromodichloromethane	A	0.10	0.320	B	0.20	0.311	C	0.50	0.293	D	1.0	0.340	E	2.0	0.294
	F	4.0	0.307	G	5.0	0.316	H	10	0.326	I	20	0.327	J	40	0.332
	K	60	0.333	L	80	0.327									
cis-1,3-Dichloropropene				B	0.20	0.223	C	0.50	0.282	D	1.0	0.291	E	2.0	0.277
	F	4.0	0.284	G	5.0	0.302	H	10	0.321	I	20	0.345	J	40	0.370
	K	60	0.375	L	80	0.375									
4-Methyl-2-pentanone (MIBK)	A	4.0	0.0442	B	8.0	0.0327	C	20	0.0325	D	40	0.0329	E	80	0.0272
	F	88	0.0361	G	100	0.0320	H	200	0.0366	I	400	0.0383	J	800	0.0412
	K	1600	0.0433	L	2000	0.0436									
Toluene	A	0.10	0.886	B	0.20	0.712	C	0.50	0.717	D	1.0	0.766	E	2.0	0.702
	F	4.0	0.684	G	5.0	0.710	H	10	0.709	I	20	0.726	J	40	0.716
	K	60	0.725	L	80	0.713									
trans-1,3-Dichloropropene				B	0.20	0.504	C	0.50	0.534	D	1.0	0.556	E	2.0	0.512
	F	4.0	0.518	G	5.0	0.561	H	10	0.608	I	20	0.652	J	40	0.713
	K	60	0.749	L	80	0.775									
1,1,2-Trichloroethane				B	0.20	0.311	C	0.50	0.368	D	1.0	0.401	E	2.0	0.366
	F	4.0	0.368	G	5.0	0.395	H	10	0.397	I	20	0.393	J	40	0.401
	K	60	0.394	L	80	0.397									
Tetrachloroethene (PCE)				B	0.20	0.673	C	0.50	0.713	D	1.0	0.767	E	2.0	0.700
	F	4.0	0.678	G	5.0	0.720	H	10	0.689	I	20	0.719	J	40	0.685
	K	60	0.706	L	80	0.706									
2-Hexanone	A	4.0	0.0204	B	8.0	0.0190	C	20	0.0228	D	40	0.0253	E	80	0.0222
	F	88	0.0290	G	100	0.0263	H	200	0.0317	I	400	0.0339	J	800	0.0369
	K	1600	0.0389	L	2000	0.0404									

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL13625
Instrument ID: MS13

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
1,3-Dichloropropane	A	0.10	0.973	B	0.20	0.769	C	0.50	0.838	D	1.0	0.887	E	2.0	0.787
	F	4.0	0.764	G	5.0	0.820	H	10	0.824	I	20	0.824	J	40	0.837
	K	60	0.838	L	80	0.837									
Dibromochloromethane							C	0.50	0.584	D	1.0	0.612	E	2.0	0.576
	F	4.0	0.559	G	5.0	0.604	H	10	0.624	I	20	0.610	J	40	0.639
	K	60	0.629	L	80	0.636									
1,2-Dibromoethane (EDB)				B	0.20	0.376	C	0.50	0.430	D	1.0	0.417	E	2.0	0.421
	F	4.0	0.419	G	5.0	0.447	H	10	0.450	I	20	0.450	J	40	0.462
	K	60	0.465	L	80	0.463									
Chlorobenzene	A	0.10	2.18	B	0.20	1.96	C	0.50	2.13	D	1.0	2.09	E	2.0	2.02
	F	4.0	2.04	G	5.0	2.11	H	10	2.13	I	20	2.13	J	40	2.12
	K	60	2.13	L	80	2.13									
Ethylbenzene	A	0.10	1.18	B	0.20	1.04	C	0.50	0.998	D	1.0	1.07	E	2.0	1.11
	F	4.0	1.12	G	5.0	1.17	H	10	1.17	I	20	1.20	J	40	1.17
	K	60	1.19	L	80	1.20									
1,1,1,2-Tetrachloroethane	A	0.10	0.674	B	0.20	0.601	C	0.50	0.682	D	1.0	0.694	E	2.0	0.635
	F	4.0	0.641	G	5.0	0.688	H	10	0.704	I	20	0.709	J	40	0.707
	K	60	0.720	L	80	0.730									
m,p-Xylenes	A	0.20	1.40	B	0.40	1.10	C	1.0	1.21	D	2.0	1.37	E	4.0	1.33
	F	8.0	1.36	G	10	1.46	H	20	1.45	I	40	1.47	J	80	1.44
	K	120	1.47	L	160	1.48									
o-Xylene	A	0.10	1.24	B	0.20	0.996	C	0.50	1.20	D	1.0	1.28	E	2.0	1.22
	F	4.0	1.27	G	5.0	1.37	H	10	1.36	I	20	1.41	J	40	1.39
	K	60	1.39	L	80	1.41									
Styrene	A	0.10	0.791	B	0.20	0.881	C	0.50	0.854	D	1.0	0.912	E	2.0	0.935
	F	4.0	0.973	G	5.0	1.03	H	10	1.08	I	20	1.12	J	40	1.11
	K	60	1.10	L	80	1.11									
Bromoform							C	0.50	0.298	D	1.0	0.339	E	2.0	0.320
	F	4.0	0.321	G	5.0	0.346	H	10	0.351	I	20	0.358	J	40	0.372
	K	60	0.373	L	80	0.381									
Isopropylbenzene	A	0.10	2.98	B	0.20	2.88	C	0.50	2.98	D	1.0	3.32	E	2.0	3.34
	F	4.0	3.39	G	5.0	3.67	H	10	3.60	I	20	3.78	J	40	3.67
	K	60	3.74	L	80	3.79									
1,1,2,2-Tetrachloroethane	A	0.10	0.568	B	0.20	0.387	C	0.50	0.453	D	1.0	0.485	E	2.0	0.461
	F	4.0	0.456	G	5.0	0.476	H	10	0.480	I	20	0.484	J	40	0.471
	K	60	0.480	L	80	0.490									

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL13625
Instrument ID: MS13

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Bromobenzene	A	0.10	1.01	B	0.20	0.843	C	0.50	0.946	D	1.0	0.931	E	2.0	0.868
	F	4.0	0.845	G	5.0	0.915	H	10	0.897	I	20	0.927	J	40	0.912
	K	60	0.941	L	80	0.939									
n-Propylbenzene	A	0.10	3.89	B	0.20	3.39	C	0.50	3.77	D	1.0	4.03	E	2.0	3.89
	F	4.0	4.03	G	5.0	4.28	H	10	4.12	I	20	4.32	J	40	4.13
	K	60	4.38	L	80	4.39									
1,2,3-Trichloropropane				B	0.20	0.172	C	0.50	0.154	D	1.0	0.149	E	2.0	0.137
	F	4.0	0.140	G	5.0	0.148	H	10	0.156	I	20	0.155	J	40	0.153
	K	60	0.157	L	80	0.157									
2-Chlorotoluene	A	0.10	2.60	B	0.20	2.14	C	0.50	2.29	D	1.0	2.50	E	2.0	2.39
	F	4.0	2.42	G	5.0	2.55	H	10	2.46	I	20	2.54	J	40	2.45
	K	60	2.56	L	80	2.57									
1,3,5-Trimethylbenzene	A	0.10	2.54	B	0.20	2.14	C	0.50	2.42	D	1.0	2.68	E	2.0	2.65
	F	4.0	2.80	G	5.0	3.00	H	10	2.99	I	20	3.12	J	40	3.04
	K	60	3.18	L	80	3.21									
4-Chlorotoluene	A	0.10	3.41	B	0.20	2.46	C	0.50	2.69	D	1.0	2.92	E	2.0	2.75
	F	4.0	2.77	G	5.0	2.98	H	10	2.92	I	20	2.94	J	40	2.86
	K	60	2.98	L	80	2.98									
tert-Butylbenzene	A	0.10	2.53	B	0.20	1.99	C	0.50	2.35	D	1.0	2.47	E	2.0	2.39
	F	4.0	2.53	G	5.0	2.69	H	10	2.56	I	20	2.75	J	40	2.62
	K	60	2.78	L	80	2.79									
1,2,4-Trimethylbenzene	A	0.10	2.26	B	0.20	1.82	C	0.50	2.26	D	1.0	2.57	E	2.0	2.56
	F	4.0	2.72	G	5.0	2.93	H	10	2.93	I	20	3.07	J	40	3.03
	K	60	3.15	L	80	3.19									
sec-Butylbenzene	A	0.10	3.51	B	0.20	2.76	C	0.50	3.20	D	1.0	3.45	E	2.0	3.36
	F	4.0	3.47	G	5.0	3.74	H	10	3.58	I	20	3.76	J	40	3.61
	K	60	3.80	L	80	3.86									
4-Isopropyltoluene	A	0.10	2.50	B	0.20	2.05	C	0.50	2.43	D	1.0	2.68	E	2.0	2.72
	F	4.0	2.93	G	5.0	3.19	H	10	3.09	I	20	3.25	J	40	3.16
	K	60	3.33	L	80	3.38									
1,3-Dichlorobenzene	A	0.10	2.11	B	0.20	1.56	C	0.50	1.83	D	1.0	1.87	E	2.0	1.72
	F	4.0	1.69	G	5.0	1.80	H	10	1.79	I	20	1.81	J	40	1.78
	K	60	1.83	L	80	1.85									
1,4-Dichlorobenzene	A	0.10	2.27	B	0.20	1.81	C	0.50	1.89	D	1.0	1.83	E	2.0	1.73
	F	4.0	1.69	G	5.0	1.82	H	10	1.80	I	20	1.82	J	40	1.79
	K	60	1.85	L	80	1.85									

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL13625
Instrument ID: MS13

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
n-Butylbenzene	A	0.10	2.53	B	0.20	1.87	C	0.50	2.16	D	1.0	2.24	E	2.0	2.23
	F	4.0	2.33	G	5.0	2.56	H	10	2.48	I	20	2.66	J	40	2.58
	K	60	2.72	L	80	2.76									
1,2-Dichlorobenzene	A	0.10	1.75	B	0.20	1.48	C	0.50	1.60	D	1.0	1.64	E	2.0	1.51
	F	4.0	1.52	G	5.0	1.62	H	10	1.59	I	20	1.61	J	40	1.59
	K	60	1.64	L	80	1.65									
1,2-Dibromo-3-chloropropane							C	0.50	0.0579	D	1.0	0.0720	E	2.0	0.0580
	F	4.0	0.0669	G	5.0	0.0717	H	10	0.0717	I	20	0.0714	J	40	0.0752
	K	60	0.0792	L	80	0.0821									
1,2,4-Trichlorobenzene	A	0.10	1.30	B	0.20	0.870	C	0.50	0.888	D	1.0	0.968	E	2.0	0.887
	F	4.0	0.885	G	5.0	0.998	H	10	0.997	I	20	1.04	J	40	1.05
	K	60	1.10	L	80	1.11									
Hexachlorobutadiene	A	0.10	0.732	B	0.20	0.551	C	0.50	0.575	D	1.0	0.540	E	2.0	0.497
	F	4.0	0.503	G	5.0	0.528	H	10	0.513	I	20	0.533	J	40	0.524
	K	60	0.548	L	80	0.561									
Naphthalene							C	0.50	0.846	D	1.0	0.922	E	2.0	0.934
	F	4.0	1.03	G	5.0	1.16	H	10	1.35	I	20	1.53	J	40	1.59
	K	60	1.68	L	80	1.71									
1,2,3-Trichlorobenzene	A	0.10	0.872	B	0.20	0.785	C	0.50	0.740	D	1.0	0.810	E	2.0	0.742
	F	4.0	0.805	G	5.0	0.864	H	10	0.887	I	20	0.918	J	40	0.925
	K	60	0.943	L	80	0.962									
Dibromofluoromethane	A	10	0.222	B	10	0.219	C	10	0.223	D	10	0.222	E	10	0.221
	F	10	0.221	G	10	0.220	H	10	0.221	I	10	0.217	J	10	0.220
	K	10	0.217	L	10	0.212									
1,2-Dichloroethane-d4	A	10	0.209	B	10	0.205	C	10	0.205	D	10	0.209	E	10	0.199
	F	10	0.197	G	10	0.201	H	10	0.202	I	10	0.200	J	10	0.199
	K	10	0.194	L	10	0.194									
Toluene-d8	A	10	0.966	B	10	0.949	C	10	0.977	D	10	1.00	E	10	0.994
	F	10	0.996	G	10	0.996	H	10	1.02	I	10	1.01	J	10	1.01
	K	10	1.02	L	10	0.993									
4-Bromofluorobenzene	A	10	0.792	B	10	0.817	C	10	0.818	D	10	0.837	E	10	0.846
	F	10	0.823	G	10	0.843	H	10	0.849	I	10	0.847	J	10	0.840
	K	10	0.818	L	10	0.822									

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL13625
Instrument ID: MS13

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Dichlorodifluoromethane	MS	AverageRF	% RSD	8.4		≤20	0.353		0.100
Chloromethane	MS	AverageRF	% RSD	14.4		≤20	0.360		0.100
Vinyl Chloride	MS	AverageRF	% RSD	5.9		≤20	0.311		0.100
Bromomethane	MS	AverageRF	% RSD	17.2		≤20	0.206		0.100
Chloroethane	MS	AverageRF	% RSD	6.7		≤20	0.160		0.100
Trichlorofluoromethane	MS	AverageRF	% RSD	7.3		≤20	0.489		0.100
1,1-Dichloroethene	MS	AverageRF	% RSD	4.1		≤20	0.219		.100
Acetone	MS	AverageRF	% RSD	16.7		≤20	0.0313		0.01
Carbon Disulfide	MS	AverageRF	% RSD	8.5		≤20	0.749		0.100
Methylene Chloride	MS	AverageRF	% RSD	14.9		≤20	0.263		0.100
Methyl tert-Butyl Ether	MS	AverageRF	% RSD	10.4		≤20	0.339		0.100
trans-1,2-Dichloroethene	MS	AverageRF	% RSD	9.2		≤20	0.257		0.100
1,1-Dichloroethane	MS	AverageRF	% RSD	2.3		≤20	0.422		.200
2,2-Dichloropropane	MS	AverageRF	% RSD	7.2		≤20	0.214		0.01
cis-1,2-Dichloroethene	MS	AverageRF	% RSD	7.4		≤20	0.286		0.100
2-Butanone (MEK)	MS	AverageRF	% RSD	10.1		≤20	0.0115		0.01
Bromochloromethane	MS	AverageRF	% RSD	6.0		≤20	0.122		0.01
Chloroform	MS	AverageRF	% RSD	3.9		≤20	0.454		0.200
1,1,1-Trichloroethane (TCA)	MS	AverageRF	% RSD	6.1		≤20	0.365		.100
Carbon Tetrachloride	MS	AverageRF	% RSD	4.3		≤20	0.375		0.100
1,1-Dichloropropene	MS	AverageRF	% RSD	5.8		≤20	0.359		0.01
Benzene	MS	AverageRF	% RSD	4.7		≤20	1.05		0.500
1,2-Dichloroethane (EDC)	MS	AverageRF	% RSD	4.6		≤20	0.298		0.100
Trichloroethene (TCE)	MS	AverageRF	% RSD	6.0		≤20	0.280		0.200
1,2-Dichloropropane	MS	AverageRF	% RSD	4.4		≤20	0.232		0.100
Dibromomethane	MS	AverageRF	% RSD	3.3		≤20	0.118		0.01
Bromodichloromethane	MS	AverageRF	% RSD	4.7		≤20	0.319		0.200
cis-1,3-Dichloropropene	MS	AverageRF	% RSD	15.5		≤20	0.313		0.200
4-Methyl-2-pentanone (MIBK)	MS	AverageRF	% RSD	14.9		≤20	0.0367		0.01
Toluene	MS	AverageRF	% RSD	7.2		≤20	0.731		0.400
trans-1,3-Dichloropropene	MS	AverageRF	% RSD	16.4		≤20	0.607		0.100
1,1,2-Trichloroethane	MS	AverageRF	% RSD	7.1		≤20	0.381		.100
Tetrachloroethene (PCE)	MS	AverageRF	% RSD	3.7		≤20	0.705		0.200
2-Hexanone	MS	Quadratic(0,0)	COD	1.000		≥0.990	0.0289		0.015
1,3-Dichloropropane	MS	AverageRF	% RSD	6.7		≤20	0.833		0.01
Dibromochloromethane	MS	AverageRF	% RSD	4.4		≤20	0.607		0.100
1,2-Dibromoethane (EDB)	MS	AverageRF	% RSD	6.2		≤20	0.436		0.100
Chlorobenzene	MS	AverageRF	% RSD	2.9		≤20	2.10		0.500
Ethylbenzene	MS	AverageRF	% RSD	5.9		≤20	1.14		0.100
1,1,1,2-Tetrachloroethane	MS	AverageRF	% RSD	5.6		≤20	0.682		.01
m,p-Xylenes	MS	AverageRF	% RSD	8.5		≤20	1.38		0.100
o-Xylene	MS	AverageRF	% RSD	9.4		≤20	1.30		0.300

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL13625
Instrument ID: MS13

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Styrene	MS	AverageRF	% RSD	11.7		≤ 20	0.991		0.300
Bromoforn	MS	AverageRF	% RSD	7.7		≤ 20	0.346		0.100
Isopropylbenzene	MS	AverageRF	% RSD	9.7		≤ 20	3.43		0.100
1,1,2,2-Tetrachloroethane	MS	AverageRF	% RSD	8.5		≤ 20	0.474		.300
Bromobenzene	MS	AverageRF	% RSD	5.2		≤ 20	0.915		0.01
n-Propylbenzene	MS	AverageRF	% RSD	7.1		≤ 20	4.05		0.01
1,2,3-Trichloropropane	MS	AverageRF	% RSD	6.0		≤ 20	0.153		0.01
2-Chlorotoluene	MS	AverageRF	% RSD	5.4		≤ 20	2.46		0.01
1,3,5-Trimethylbenzene	MS	AverageRF	% RSD	11.9		≤ 20	2.81		0.01
4-Chlorotoluene	MS	AverageRF	% RSD	7.8		≤ 20	2.89		0.01
tert-Butylbenzene	MS	AverageRF	% RSD	8.9		≤ 20	2.54		0.01
1,2,4-Trimethylbenzene	MS	AverageRF	% RSD	15.7		≤ 20	2.71		0.01
sec-Butylbenzene	MS	AverageRF	% RSD	8.7		≤ 20	3.51		0.01
4-Isopropyltoluene	MS	AverageRF	% RSD	14.4		≤ 20	2.89		0.01
1,3-Dichlorobenzene	MS	AverageRF	% RSD	7.1		≤ 20	1.80		0.600
1,4-Dichlorobenzene	MS	AverageRF	% RSD	7.8		≤ 20	1.85		0.500
n-Butylbenzene	MS	AverageRF	% RSD	11.0		≤ 20	2.43		0.01
1,2-Dichlorobenzene	MS	AverageRF	% RSD	4.4		≤ 20	1.60		0.400
1,2-Dibromo-3-chloropropane	MS	AverageRF	% RSD	11.2		≤ 20	0.0706		0.025
1,2,4-Trichlorobenzene	MS	AverageRF	% RSD	12.4		≤ 20	1.01		0.200
Hexachlorobutadiene	MS	AverageRF	% RSD	11.2		≤ 20	0.550		0.01
Naphthalene	MS	Quadratic(0,0)	COD	0.999		≥ 0.990	1.27		0.01
1,2,3-Trichlorobenzene	MS	AverageRF	% RSD	9.0		≤ 20	0.854		0.01
Dibromofluoromethane	SURR	AverageRF	% RSD	1.3		≤ 20	0.220		0.01
1,2-Dichloroethane-d4	SURR	AverageRF	% RSD	2.4		≤ 20	0.201		0.01
Toluene-d8	SURR	AverageRF	% RSD	2.2		≤ 20	0.994		0.01
4-Bromofluorobenzene	SURR	AverageRF	% RSD	2.1		≤ 20	0.829		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014
Date Analyzed: 10/17/2014

**Second Source Calibration Verification
 Volatile Organic Compounds**

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration ID: CAL13625
Units: PPB

File ID: J:\MS13\DATA\101714\1017F026.D
 J:\MS13\DATA\102014\1020F005.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Dichlorodifluoromethane	10	7.3	0.353	0.259	-27	NA	± 30 %	AverageRF
Chloromethane	10	7.3	0.360	0.262	-27	NA	± 30 %	AverageRF
Vinyl Chloride	10	8.3	0.311	0.257	-17	NA	± 30 %	AverageRF
Bromomethane	10	7.8	0.206	0.160	-22	NA	± 30 %	AverageRF
Chloroethane	10	9.9	0.160	0.159	-1	NA	± 30 %	AverageRF
Trichlorofluoromethane	10	7.5	0.489	0.365	-25	NA	± 30 %	AverageRF
1,1-Dichloroethene	10	9.8	0.219	0.215	-2	NA	± 30 %	AverageRF
Acetone	50	56	0.0313	0.0351	12	NA	± 30 %	AverageRF
Carbon Disulfide	20	19	0.749	0.702	-6	NA	± 30 %	AverageRF
Methylene Chloride	10	8.6	0.263	0.225	-14	NA	± 30 %	AverageRF
Methyl tert-Butyl Ether	10	10	0.339	0.351	4	NA	± 30 %	AverageRF
trans-1,2-Dichloroethene	10	9.5	0.257	0.245	-5	NA	± 30 %	AverageRF
1,1-Dichloroethane	10	10	0.422	0.427	1	NA	± 30 %	AverageRF
2,2-Dichloropropane	10	8.8	0.214	0.189	-12	NA	± 30 %	AverageRF
cis-1,2-Dichloroethene	10	9.8	0.286	0.281	-2	NA	± 30 %	AverageRF
2-Butanone (MEK)	50	57	0.0115	0.0130	13	NA	± 30 %	AverageRF
Bromochloromethane	10	10	0.122	0.123	1	NA	± 30 %	AverageRF
Chloroform	10	9.6	0.454	0.436	-4	NA	± 30 %	AverageRF
1,1,1-Trichloroethane (TCA)	10	9.4	0.365	0.342	-6	NA	± 30 %	AverageRF
Carbon Tetrachloride	10	9.1	0.375	0.340	-9	NA	± 30 %	AverageRF
1,1-Dichloropropene	10	9.4	0.359	0.339	-6	NA	± 30 %	AverageRF
Benzene	10	9.7	1.05	1.01	-3	NA	± 30 %	AverageRF
1,2-Dichloroethane (EDC)	10	9.7	0.298	0.288	-3	NA	± 30 %	AverageRF
Trichloroethene (TCE)	10	9.2	0.280	0.258	-8	NA	± 30 %	AverageRF
1,2-Dichloropropane	10	9.6	0.232	0.224	-4	NA	± 30 %	AverageRF
Dibromomethane	10	10	0.118	0.119	1	NA	± 30 %	AverageRF
Bromodichloromethane	10	9.9	0.319	0.315	-1	NA	± 30 %	AverageRF
cis-1,3-Dichloropropene	10	10	0.313	0.313	0	NA	± 30 %	AverageRF
4-Methyl-2-pentanone (MIBK)	50	54	0.0367	0.0395	8	NA	± 30 %	AverageRF
Toluene	10	9.2	0.731	0.676	-8	NA	± 30 %	AverageRF
trans-1,3-Dichloropropene	10	8.7	0.607	0.529	-13	NA	± 30 %	AverageRF
1,1,2-Trichloroethane	10	9.7	0.381	0.369	-3	NA	± 30 %	AverageRF
Tetrachloroethene (PCE)	10	8.9	0.705	0.624	-11	NA	± 30 %	AverageRF
2-Hexanone	50	51	0.0289	0.0336	NA	1	± 30 %	Quadratic(0,0
1,3-Dichloropropane	10	9.2	0.833	0.767	-8	NA	± 30 %	AverageRF
Dibromochloromethane	10	9.6	0.607	0.583	-4	NA	± 30 %	AverageRF
1,2-Dibromoethane (EDB)	10	9.6	0.436	0.420	-4	NA	± 30 %	AverageRF
Chlorobenzene	10	9.3	2.10	1.96	-7	NA	± 30 %	AverageRF
Ethylbenzene	10	9.1	1.14	1.04	-9	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Calibration Date: 10/17/2014
Date Analyzed: 10/17/2014

**Second Source Calibration Verification
 Volatile Organic Compounds**

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration ID: CAL13625
Units: PPB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	10	9.5	0.682	0.646	-5	NA	± 30 %	AverageRF
m,p-Xylenes	20	19	1.38	1.32	-4	NA	± 30 %	AverageRF
o-Xylene	10	9.7	1.30	1.26	-3	NA	± 30 %	AverageRF
Styrene	10	10	0.991	1.01	2	NA	± 30 %	AverageRF
Bromoform	10	9.8	0.346	0.337	-2	NA	± 30 %	AverageRF
Isopropylbenzene	10	9.5	3.43	3.25	-5	NA	± 30 %	AverageRF
1,1,2,2-Tetrachloroethane	10	9.4	0.474	0.444	-6	NA	± 30 %	AverageRF
Bromobenzene	10	9.6	0.915	0.881	-4	NA	± 30 %	AverageRF
n-Propylbenzene	10	9.4	4.05	3.79	-6	NA	± 30 %	AverageRF
1,2,3-Trichloropropane	10	9.4	0.153	0.144	-6	NA	± 30 %	AverageRF
2-Chlorotoluene	10	9.8	2.46	2.42	-2	NA	± 30 %	AverageRF
1,3,5-Trimethylbenzene	10	10	2.81	2.81	0	NA	± 30 %	AverageRF
4-Chlorotoluene	10	9.3	2.89	2.68	-7	NA	± 30 %	AverageRF
tert-Butylbenzene	10	9.5	2.54	2.40	-5	NA	± 30 %	AverageRF
1,2,4-Trimethylbenzene	10	10	2.71	2.73	1	NA	± 30 %	AverageRF
sec-Butylbenzene	10	9.1	3.51	3.21	-9	NA	± 30 %	AverageRF
4-Isopropyltoluene	10	9.9	2.89	2.86	-1	NA	± 30 %	AverageRF
1,3-Dichlorobenzene	10	9.4	1.80	1.70	-6	NA	± 30 %	AverageRF
1,4-Dichlorobenzene	10	9.2	1.85	1.70	-8	NA	± 30 %	AverageRF
n-Butylbenzene	10	9.3	2.43	2.26	-7	NA	± 30 %	AverageRF
1,2-Dichlorobenzene	10	9.5	1.60	1.52	-5	NA	± 30 %	AverageRF
1,2-Dibromo-3-chloropropane	10	9.7	0.0706	0.0686	-3	NA	± 30 %	AverageRF
1,2,4-Trichlorobenzene	10	9.4	1.01	0.951	-6	NA	± 30 %	AverageRF
Hexachlorobutadiene	10	8.8	0.550	0.483	-12	NA	± 30 %	AverageRF
Naphthalene	10	8.8	1.27	1.30	NA	-12	± 30 %	Quadratic(0,0
1,2,3-Trichlorobenzene	10	9.8	0.854	0.839	-2	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Date Analyzed: 12/18/2014

Continuing Calibration Verification Summary
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration Date: 10/17/2014
Calibration ID: CAL13625
Analysis Lot: KWG1416381
Units: PPB

File ID: J:\MS13\DATA\121814\1218F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Dichlorodifluoromethane	10	11	0.100	0.353	0.375	6	NA	± 20	AverageRF
Chloromethane	10	8.1	0.100	0.360	0.291	-19	NA	± 20	AverageRF
Vinyl Chloride	10	9.6	0.100	0.311	0.300	-4	NA	± 20	AverageRF
Bromomethane	10	8.4	0.100	0.206	0.174	-16	NA	± 20	AverageRF
Chloroethane	10	9.1	0.100	0.160	0.145	-9	NA	± 20	AverageRF
Trichlorofluoromethane	10	9.9	0.100	0.489	0.486	-1	NA	± 20	AverageRF
1,1-Dichloroethene	10	9.1	.100	0.219	0.200	-9	NA	± 20	AverageRF
Acetone	200	180	0.01	0.0313	0.0287	-8	NA	± 20	AverageRF
Carbon Disulfide	10	9.3	0.100	0.749	0.694	-7	NA	± 20	AverageRF
Methylene Chloride	10	8.4	0.100	0.263	0.221	-16	NA	± 20	AverageRF
Methyl tert-Butyl Ether	20	17	0.100	0.339	0.287	-15	NA	± 20	AverageRF
trans-1,2-Dichloroethene	10	9.3	0.100	0.257	0.240	-7	NA	± 20	AverageRF
1,1-Dichloroethane	10	8.9	.200	0.422	0.378	-11	NA	± 20	AverageRF
2,2-Dichloropropane	10	8.9	0.01	0.214	0.192	-11	NA	± 20	AverageRF
cis-1,2-Dichloroethene	10	9.4	0.100	0.286	0.269	-6	NA	± 20	AverageRF
2-Butanone (MEK)	200	210	0.01	0.0115	0.0121	6	NA	± 20	AverageRF
Bromochloromethane	10	9.9	0.01	0.122	0.120	-1	NA	± 20	AverageRF
Chloroform	10	9.4	0.200	0.454	0.427	-6	NA	± 20	AverageRF
1,1,1-Trichloroethane (TCA)	10	9.0	.100	0.365	0.327	-10	NA	± 20	AverageRF
Carbon Tetrachloride	10	9.4	0.100	0.375	0.353	-6	NA	± 20	AverageRF
1,1-Dichloropropene	10	9.3	0.01	0.359	0.334	-7	NA	± 20	AverageRF
Benzene	10	9.5	0.500	1.05	0.994	-5	NA	± 20	AverageRF
1,2-Dichloroethane (EDC)	10	8.9	0.100	0.298	0.266	-11	NA	± 20	AverageRF
Trichloroethene (TCE)	10	9.5	0.200	0.280	0.266	-5	NA	± 20	AverageRF
1,2-Dichloropropane	10	9.3	0.100	0.232	0.215	-7	NA	± 20	AverageRF
Dibromomethane	10	9.7	0.01	0.118	0.114	-3	NA	± 20	AverageRF
Bromodichloromethane	10	9.5	0.200	0.319	0.304	-5	NA	± 20	AverageRF
cis-1,3-Dichloropropene	10	9.4	0.200	0.313	0.294	-6	NA	± 20	AverageRF
4-Methyl-2-pentanone (MIBK)	200	200	0.01	0.0367	0.0370	1	NA	± 20	AverageRF
Toluene	10	9.7	0.400	0.731	0.710	-3	NA	± 20	AverageRF
trans-1,3-Dichloropropene	10	9.4	0.100	0.607	0.571	-6	NA	± 20	AverageRF
1,1,2-Trichloroethane	10	10	.100	0.381	0.386	1	NA	± 20	AverageRF
Tetrachloroethene (PCE)	10	11	0.200	0.705	0.764	8	NA	± 20	AverageRF
2-Hexanone	200	200	0.015	0.0289	0.0332	NA	-1	± 20	Quadratic(0,0)
1,3-Dichloropropane	10	9.5	0.01	0.833	0.794	-5	NA	± 20	AverageRF
Dibromochloromethane	10	10	0.100	0.607	0.616	1	NA	± 20	AverageRF
1,2-Dibromoethane (EDB)	10	10	0.100	0.436	0.447	3	NA	± 20	AverageRF
Chlorobenzene	10	10	0.500	2.10	2.18	4	NA	± 20	AverageRF
Ethylbenzene	10	11	0.100	1.14	1.22	8	NA	± 20	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809
Date Analyzed: 12/18/2014

Continuing Calibration Verification Summary
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration Date: 10/17/2014
Calibration ID: CAL13625
Analysis Lot: KWG1416381
Units: PPB

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	10	10	.01	0.682	0.711	4	NA	± 20	AverageRF
m,p-Xylenes	20	22	0.100	1.38	1.52	10	NA	± 20	AverageRF
o-Xylene	10	11	0.300	1.30	1.41	9	NA	± 20	AverageRF
Styrene	10	11	0.300	0.991	1.10	11	NA	± 20	AverageRF
Bromoform	10	10	0.100	0.346	0.358	4	NA	± 20	AverageRF
Isopropylbenzene	10	11	0.100	3.43	3.75	9	NA	± 20	AverageRF
1,1,2,2-Tetrachloroethane	10	9.9	.300	0.474	0.470	-1	NA	± 20	AverageRF
Bromobenzene	10	10	0.01	0.915	0.938	3	NA	± 20	AverageRF
n-Propylbenzene	10	11	0.01	4.05	4.25	5	NA	± 20	AverageRF
1,2,3-Trichloropropane	10	9.3	0.01	0.153	0.143	-7	NA	± 20	AverageRF
2-Chlorotoluene	10	10	0.01	2.46	2.52	3	NA	± 20	AverageRF
1,3,5-Trimethylbenzene	10	11	0.01	2.81	3.05	8	NA	± 20	AverageRF
4-Chlorotoluene	10	10	0.01	2.89	2.94	2	NA	± 20	AverageRF
tert-Butylbenzene	10	11	0.01	2.54	2.71	7	NA	± 20	AverageRF
1,2,4-Trimethylbenzene	10	11	0.01	2.71	2.96	9	NA	± 20	AverageRF
sec-Butylbenzene	10	11	0.01	3.51	3.72	6	NA	± 20	AverageRF
4-Isopropyltoluene	10	11	0.01	2.89	3.19	10	NA	± 20	AverageRF
1,3-Dichlorobenzene	10	10	0.600	1.80	1.86	3	NA	± 20	AverageRF
1,4-Dichlorobenzene	10	10	0.500	1.85	1.87	1	NA	± 20	AverageRF
n-Butylbenzene	10	10	0.01	2.43	2.51	3	NA	± 20	AverageRF
1,2-Dichlorobenzene	10	10	0.400	1.60	1.66	4	NA	± 20	AverageRF
1,2-Dibromo-3-chloropropane	10	8.8	0.025	0.0706	0.0619	-12	NA	± 20	AverageRF
1,2,4-Trichlorobenzene	10	9.9	0.200	1.01	0.996	-1	NA	± 20	AverageRF
Hexachlorobutadiene	10	9.9	0.01	0.550	0.545	-1	NA	± 20	AverageRF
Naphthalene	10	7.1	0.01	1.27	1.05	NA	-29 *	± 20	Quadratic(0,0)
1,2,3-Trichlorobenzene	10	9.9	0.01	0.854	0.844	-1	NA	± 20	AverageRF
Dibromofluoromethane	10	9.9	0.01	0.220	0.217	-1	NA	± 20	AverageRF
1,2-Dichloroethane-d4	10	9.6	0.01	0.201	0.193	-4	NA	± 20	AverageRF
Toluene-d8	10	10	0.01	0.994	1.02	2	NA	± 20	AverageRF
4-Bromofluorobenzene	10	11	0.01	0.829	0.890	7	NA	± 20	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003

Service Request: K1413809

**Analysis Run Log
 Volatile Organic Compounds**

Analysis Method: 8260C

Analysis Lot: KWG1416381
Instrument ID: MS13

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1218F001.D	GC/MS Tuning - Bromofluorobenzene	KWG1416381-1	12/18/2014	07:26		12/18/2014	07:45
1218F002.D	Continuing Calibration Verification	KWG1416381-2	12/18/2014	07:53		12/18/2014	08:12
1218F004.D	Lab Control Sample	KWG1416392-3	12/18/2014	08:58		12/18/2014	09:17
1218F005.D	Duplicate Lab Control Sample	KWG1416392-4	12/18/2014	09:25		12/18/2014	09:44
1218F008.D	Batch QCMS	KWG1416392-1	12/18/2014	10:46		12/18/2014	11:05
1218F009.D	Batch QCDMS	KWG1416392-2	12/18/2014	11:13		12/18/2014	11:32
1218F011.D	Method Blank	KWG1416392-5	12/18/2014	12:07		12/18/2014	12:26
1218F012.D	Batch QC	K1414067-002	12/18/2014	12:34		12/18/2014	12:53
1218F013.D	ZZZZZZ	ZZZZZZ	12/18/2014	13:01		12/18/2014	13:20
1218F014.D	ZZZZZZ	ZZZZZZ	12/18/2014	13:28		12/18/2014	13:47
1218F015.D	ZZZZZZ	ZZZZZZ	12/18/2014	13:55		12/18/2014	14:14
1218F016.D	ZZZZZZ	ZZZZZZ	12/18/2014	14:22		12/18/2014	14:41
1218F017.D	ZZZZZZ	ZZZZZZ	12/18/2014	14:49		12/18/2014	15:08
1218F018.D	ZZZZZZ	ZZZZZZ	12/18/2014	15:16		12/18/2014	15:35
1218F019.D	ZZZZZZ	ZZZZZZ	12/18/2014	15:43		12/18/2014	16:02
1218F020.D	ZZZZZZ	ZZZZZZ	12/18/2014	16:10		12/18/2014	16:29
1218F021.D	PDB-TB	K1413809-002	12/18/2014	16:37		12/18/2014	16:56
1218F022.D	ZZZZZZ	ZZZZZZ	12/18/2014	17:04		12/18/2014	17:23
1218F023.D	ZZZZZZ	ZZZZZZ	12/18/2014	17:31		12/18/2014	17:50
1218F024.D	ZZZZZZ	ZZZZZZ	12/18/2014	17:58		12/18/2014	18:17
1218F025.D	ZZZZZZ	ZZZZZZ	12/18/2014	18:25		12/18/2014	18:44
1218F026.D	ZZZZZZ	ZZZZZZ	12/18/2014	18:52		12/18/2014	19:11
1218F027.D	ZZZZZZ	ZZZZZZ	12/18/2014	19:19		12/18/2014	19:38

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Tetra Tech, Incorporated
Project: YTC/106-45760003
Sample Matrix: Water

Service Request: K1413809
Date Extracted: 12/18/2014

Extraction Prep Log
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Extraction Lot: KWG1416392
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
PDB-TB	K1413809-002	12/09/14	12/10/14	10ml	10ml	NA	
Method Blank	KWG1416392-5	NA	NA	10ml	10ml	NA	
Batch QC	K1414067-002	NA	NA	10ml	10ml	NA	
Batch QCMS	KWG1416392-1	NA	NA	10ml	10ml	NA	
Batch QCDMS	KWG1416392-2	NA	NA	10ml	10ml	NA	
Lab Control Sample	KWG1416392-3	NA	NA	10ml	10ml	NA	
Duplicate Lab Control Sample	KWG1416392-4	NA	NA	10ml	10ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Instrument (Circle One)
IC3 IC5 IC6 IC7

IC INITIAL CALIBRATION CHECKLIST

1. The following documentation is in the ICAL file
 - Sequence information
 - Blank analysis information
 - Retention Time information
 - Calibration Status information
 - Response Factor information
 - Data Analysis information
 - Quantitation information for each calibration standard
 - ICV and CCV Quantitation information
2. The ICAL was performed without interruption
3. All calibration standards have been analyzed within 24 hours
4. The analytes in the blank analysis are < MRL
5. The retention times have been updated from the retention time marker standard
6. Each analyte's ICAL includes a minimum of 3 concentrations
7. For each analyte only one value is used for each calibration level
8. For each analyte the lowest standard's concentration is < or = the MRL
9. For each analyte the ICAL includes >3 concentration levels
10. For each analyte no levels are skipped
11. For the ICV analysis is percent recovery 90% to 110% for each analyte Yes No
12. All peak integrations are acceptable

Comments:

Reviewed by: MS
Supervisor Review: 614

Date: 8.13.14
Date: 8.14.14

COLUMBIA ANALYTICAL SERVICES, INC.
Ion Chromatography Calibration Data

Sequence: IC03073014

Date: 7.30.14

Anion	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Corr.Coeff	Slope
F	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.973	1.7497
Cl	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.952	1.3828
NO2	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.996	2.4386
Br	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.923	0.4856
NO3	0.0	0.05	0.1	0.5	1.0	2.0	5.0	-	99.816	3.4542
SO4	0.0	0.1	0.2	0.5	1.0	5.0	7.5	10.0	99.954	0.8839

All calibration standard concentrations are in mg/L unless otherwise noted.

Zero point forced through zero.

No.	Peak Name	Cal.Type	#Points	Rel.Std.Dev.	Corr.Coeff.	Offset	Slope	Curve
				%	%			
1	Fluoride	Lin	8	3.0211	99.973	0	1.7497	0
2	Chloride	Lin	7	5.0767	99.952	0	1.3828	0
3	Nitrite	Lin	6	1.6525	99.996	0	2.4386	0
4	Bromide	Lin	6	6.8526	99.923	0	0.4856	0
5	Nitrate	Lin	6	11.7458	99.816	0	3.4542	0
6	Sulfate	Lin	7	3.7801	99.954	0	0.8839	0
Average:			6.66667	5.3548	99.9355	0	1.7325	0

IC12/ICAL-60-A	100PPM	NO2, BR, NO3
IC12/ICAL-60-B	100PPM	F, CL, SO4

mL added

	IC12/ICAL-60-C	IC12/ICAL-60-D	IC12/ICAL-60-E	IC12/ICAL-60-F	IC12/ICAL-60-G	IC12/ICAL-60-H		
	STD2	STD3	STD4	STD5	STD6	STD7	STD8	STD1
F	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
CL	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
SO4	0.100	0.200	0.500	1.000	5.00	7.50	10.00	0
NO2	0.050	0.100	0.500	1.000	2.00	5.00	--	0
NO3	0.050	0.100	0.500	1.000	2.00	5.00	--	0
BR	0.050	0.100	0.500	1.000	2.00	5.00	--	0

Sequence: IC03073014(22)C
Operator: ALKLS.ALKLSXP307

Page 1 of 2
Printed: 8/14/2014 7:46:18 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 9

Created: 7/30/2014 8:48:53 AM by ALKLS.ALKLSXP307
Last Update: 8/14/2014 7:46:15 AM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time	Dil. Factor
1	STD2/LVL2	epa300	Standard	1	200.0	seth_test	Finished	7/30/2014 11:01:20 AM	1.0000
2	STD3/LVL3	epa300	Standard	2	200.0	seth_test	Finished	7/30/2014 11:17:02 AM	1.0000
3	STD4/LVL4	epa300	Standard	3	200.0	seth_test	Finished	7/30/2014 11:32:41 AM	1.0000
4	STD5/LVL5	epa300	Standard	4	200.0	seth_test	Finished	7/30/2014 11:48:20 AM	1.0000
5	STD6/LVL6	epa300	Standard	5	200.0	seth_test	Finished	7/30/2014 12:04:00 PM	1.0000
6	STD7/LVL7	epa300	Standard	6	200.0	seth_test	Finished	7/30/2014 12:19:40 PM	1.0000
7	STD8/LVL8	epa300	Standard	7	200.0	seth_test	Finished	7/30/2014 12:35:19 PM	1.0000
8	STD1/LVL1	epa300	Standard	8	200.0	seth_test	Finished	7/30/2014 12:50:58 PM	1.0000
9	LCS/ICV	epa300	Unknown	10	200.0	seth_test	Finished	7/30/2014 4:07:08 PM	1.0000

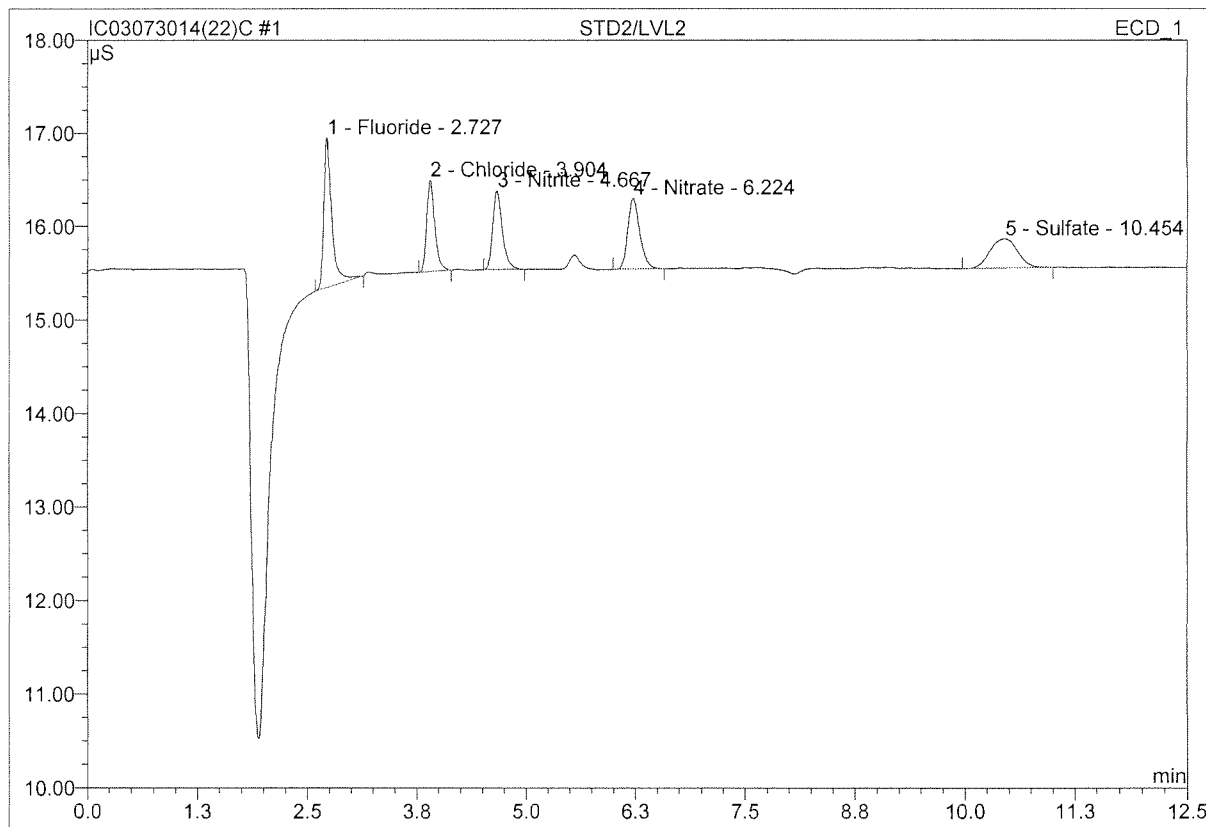
Sequence: IC03073014(22)C
Operator: ALKLS.ALKLSXP307

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 9

Created: 7/30/2014 8:48:53 AM by ALKLS.ALKLSXP307
Last Update: 8/14/2014 7:46:15 AM by ALKLS.ALKLSXP307

No.	Name	Comment
1	STD2/LVL2	
2	STD3/LVL3	
3	STD4/LVL4	
4	STD5/LVL5	
5	STD6/LVL6	
6	STD7/LVL7	
7	STD8/LVL8	
8	STD1/LVL1	
9	LCS/ICV	

1 STD2/LVL2			
Sample Name:	STD2/LVL2	Injection Volume:	200.0
Vial Number:	1	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:01	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



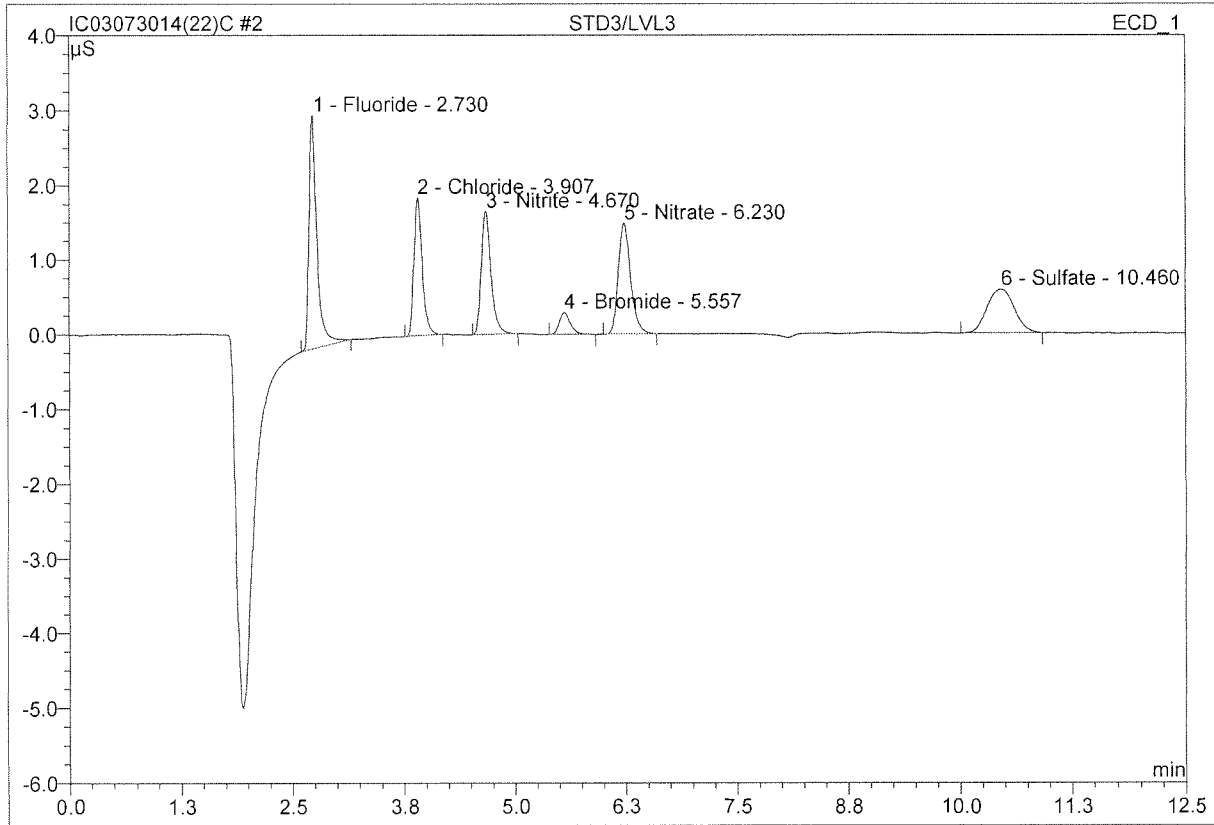
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	1.600	0.169	27.34	0.097	BMB
2	3.90	Chloride	0.976	0.105	17.04	0.076	BMB
3	4.67	Nitrite	0.844	0.108	17.45	0.044	BMB
4	6.22	Nitrate	0.756	0.122	19.67	0.035	BMB
5	10.45	Sulfate	0.313	0.114	18.50	0.130	BMB
Total:			4.489	0.619	100.00	0.382	

pb

Before

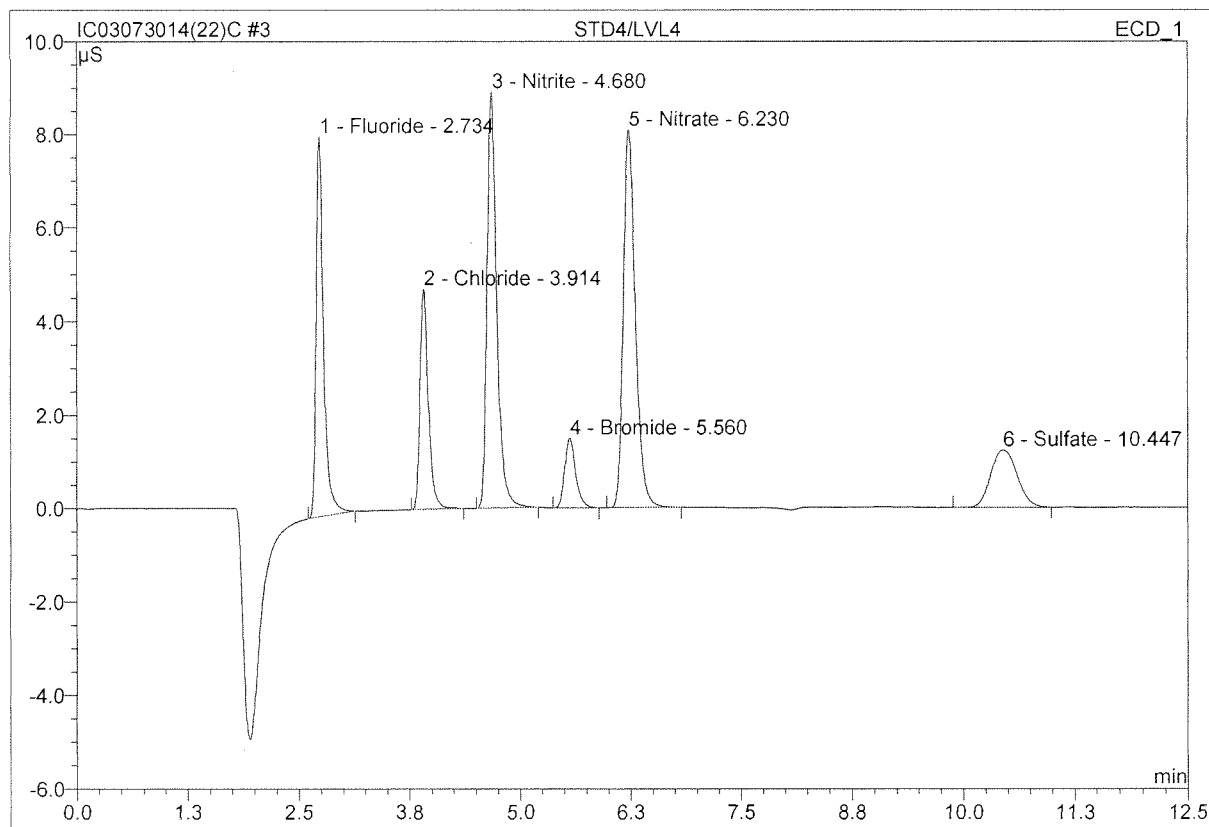
AUG 13 2014

2 STD3/LVL3			
Sample Name:	STD3/LVL3	Injection Volume:	200.0
Vial Number:	2	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:17	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	3.124	0.320	26.24	0.183	BMB
2	3.91	Chloride	1.850	0.199	16.32	0.144	BMB
3	4.67	Nitrite	1.648	0.212	17.36	0.087	BMB
4	5.56	Bromide	0.292	0.042	3.47	0.087	BMB
5	6.23	Nitrate	1.484	0.241	19.74	0.070	BMB
6	10.46	Sulfate	0.584	0.206	16.88	0.233	BMB
Total:			8.983	1.221	100.00	0.804	

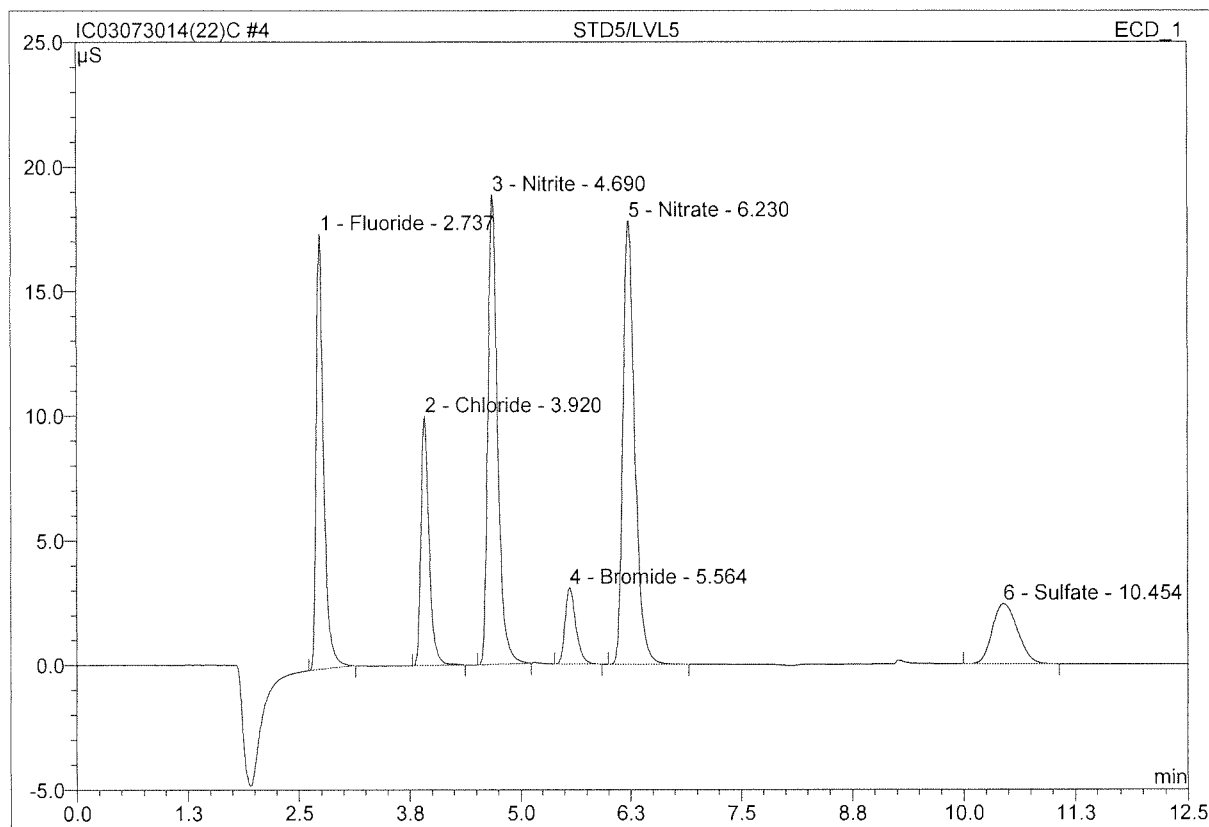
3 STD4/LVL4			
Sample Name:	STD4/LVL4	Injection Volume:	200.0
Vial Number:	3	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:32	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.73	Fluoride	8.122	0.794	18.26	0.454	BMB
2	3.91	Chloride	4.703	0.508	11.69	0.368	BMB
3	4.68	Nitrite	8.904	1.130	25.99	0.463	BMB
4	5.56	Bromide	1.493	0.213	4.91	0.439	BMB
5	6.23	Nitrate	8.077	1.283	29.51	0.371	BMB
6	10.45	Sulfate	1.230	0.419	9.64	0.474	BMB
Total:			32.529	4.347	100.00	2.569	

4 STD5/LVL5

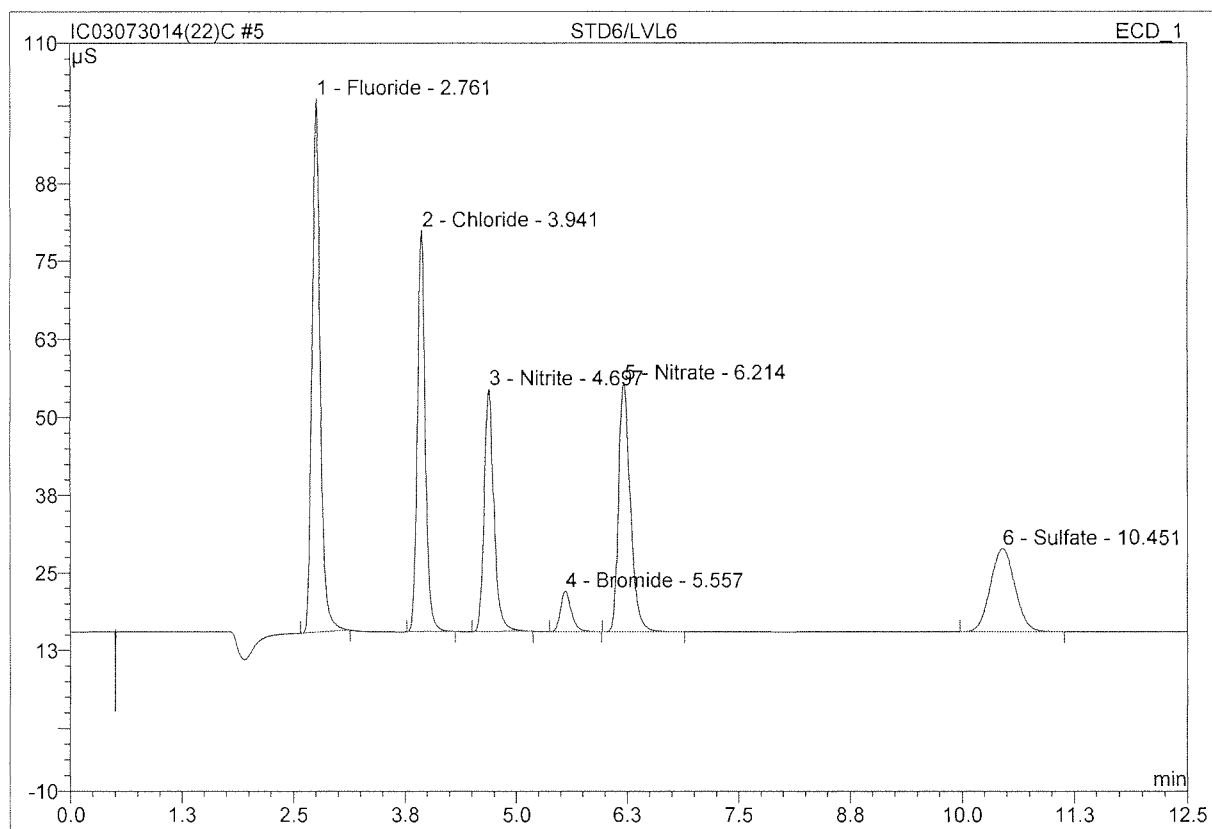
Sample Name:	STD5/LVL5	Injection Volume:	200.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 11:48	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.74	Fluoride	17.469	1.678	18.41	0.959	BMB
2	3.92	Chloride	9.980	1.065	11.68	0.770	BMB
3	4.69	Nitrite	18.852	2.365	25.95	0.970	BMB
4	5.56	Bromide	3.066	0.433	4.76	0.893	BMB
5	6.23	Nitrate	17.798	2.784	30.55	0.806	BMB
6	10.45	Sulfate	2.414	0.790	8.66	0.893	BMB
Total:			69.579	9.114	100.00	5.290	

5 STD6/LVL6

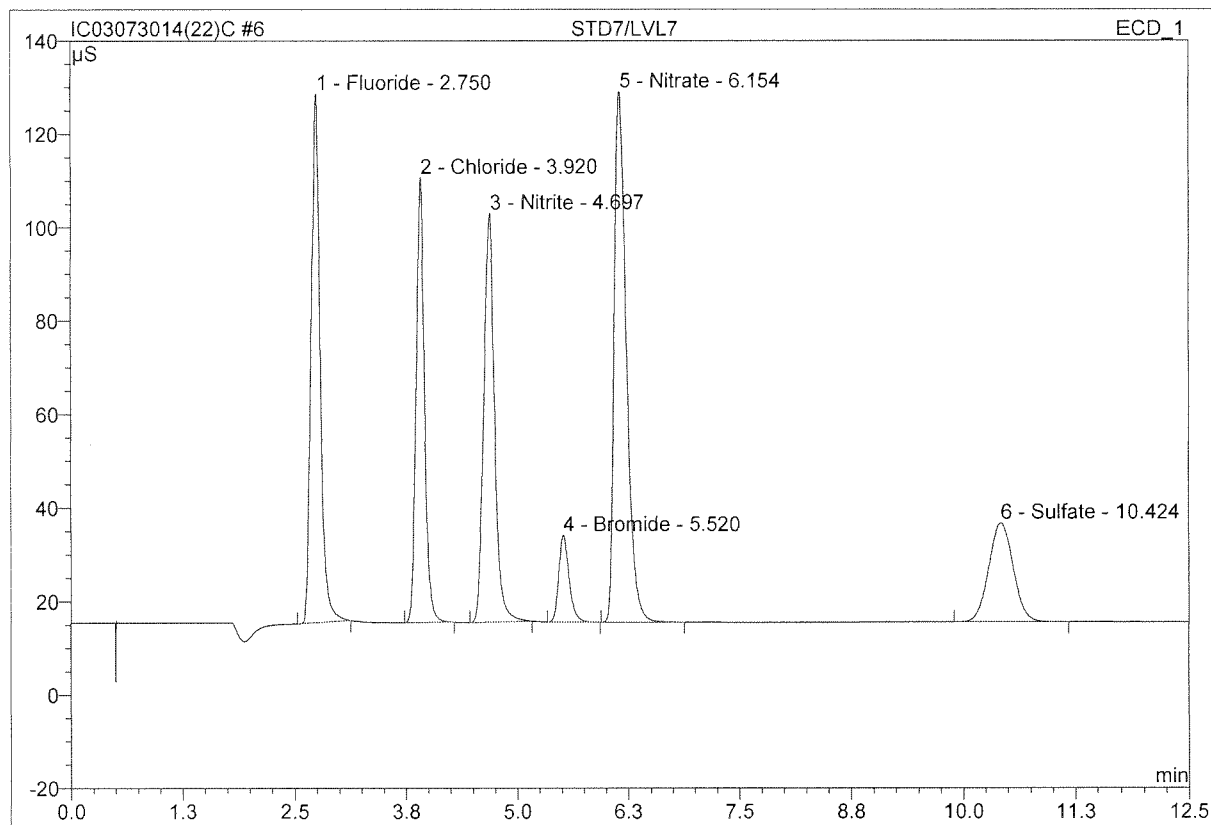
Sample Name:	STD6/LVL6	Injection Volume:	200.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:04	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.76	Fluoride	85.651	9.080	28.55	5.190	BMB
2	3.94	Chloride	64.404	6.584	20.70	4.761	BMB
3	4.70	Nitrite	38.940	4.921	15.47	2.018	BMB
4	5.56	Bromide	6.469	0.898	2.82	1.849	BMB
5	6.21	Nitrate	39.883	6.116	19.23	1.771	BMB
6	10.45	Sulfate	13.355	4.204	13.22	4.757	BMB
Total:			248.701	31.802	100.00	20.345	

6 STD7/LVL7

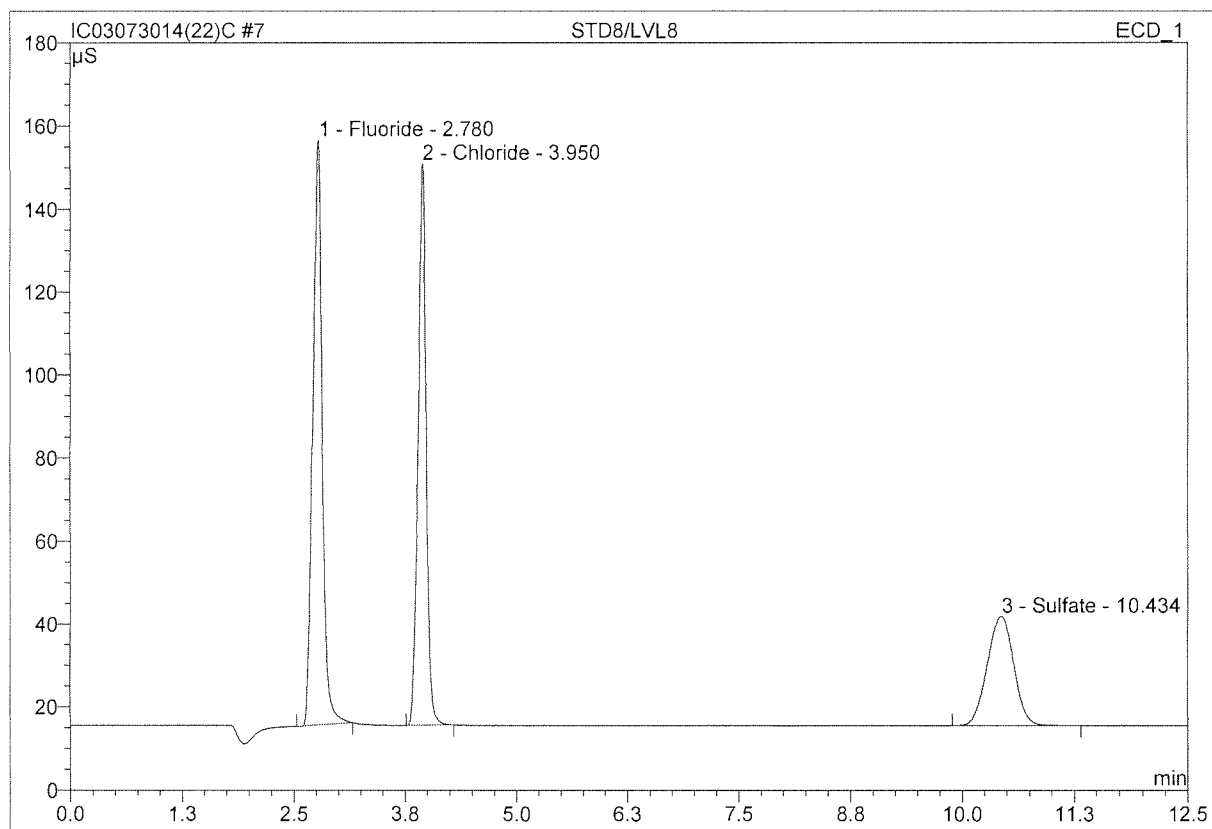
Sample Name:	STD7/LVL7	Injection Volume:	200.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:19	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}^*\text{min}$	Rel.Area %	Amount	Type
1	2.75	Fluoride	113.029	13.200	21.12	7.545	BMB
2	3.92	Chloride	95.063	10.273	16.43	7.429	BMB
3	4.70	Nitrite	87.401	12.200	19.52	5.003	BMB
4	5.52	Bromide	18.499	2.471	3.95	5.088	BMB
5	6.15	Nitrate	113.428	17.769	28.43	5.144	BMB
6	10.42	Sulfate	21.033	6.592	10.55	7.458	BMB
Total:			448.454	62.505	100.00	37.667	

7 STD8/LVL8

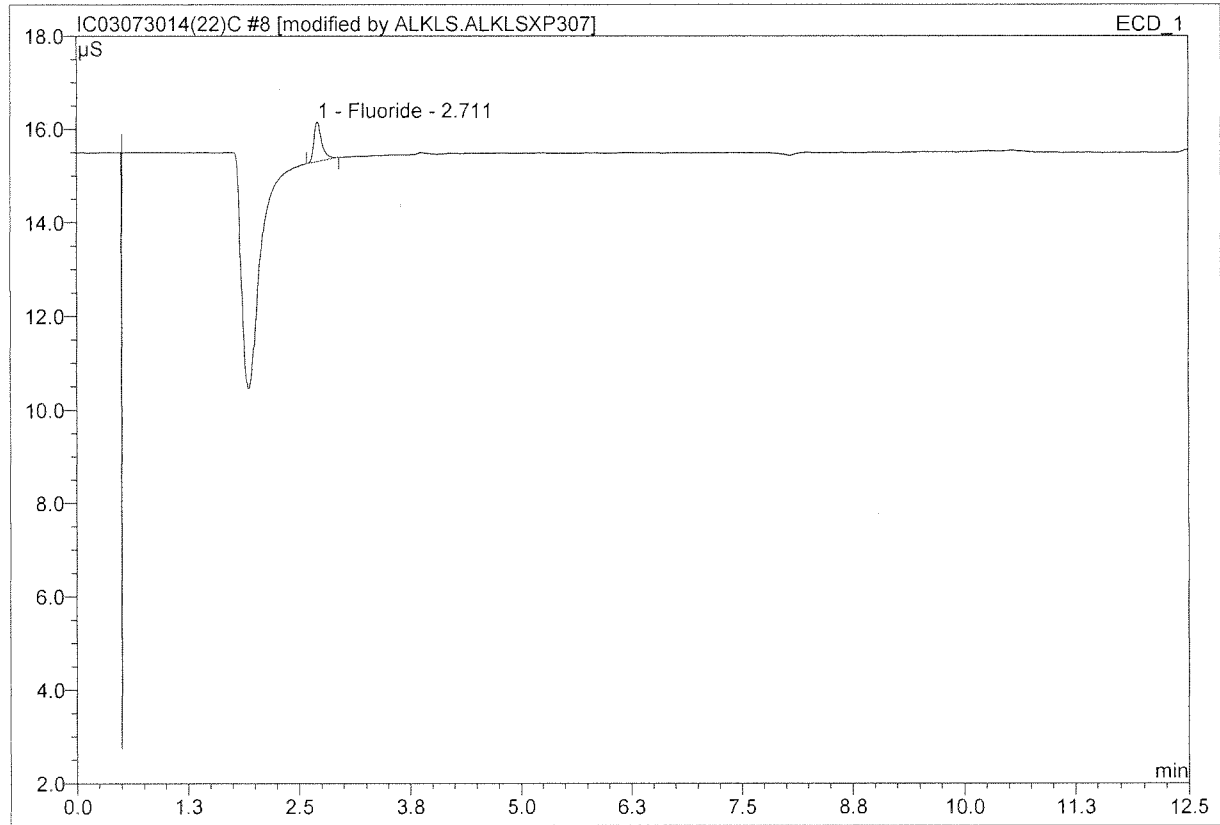
Sample Name:	STD8/LVL8	Injection Volume:	200.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:35	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}^*\text{min}$	Rel.Area %	Amount	Type
1	2.78	Fluoride	140.952	17.284	42.81	9.879	BMB
2	3.95	Chloride	135.301	14.110	34.95	10.204	BMB
3	10.43	Sulfate	26.240	8.983	22.25	10.164	BMB
Total:			302.493	40.378	100.00	30.247	

8 STD1/LVL1

Sample Name: STD1/LVL1	Injection Volume: 200.0	
Vial Number: 8	Channel: ECD_1	
Sample Type: standard	Wavelength: n.a.	
Control Program: seth_test	Bandwidth: n.a.	
Quantif. Method: epa300	Dilution Factor: 1.0000	
Recording Time: 7/30/2014 12:50	Sample Weight: 1.0000	
Run Time (min): 12.50	Sample Amount: 1.0000	



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.846	0.086	100.00	0.049	BMB*
Total:			0.846	0.086	100.00	0.049	

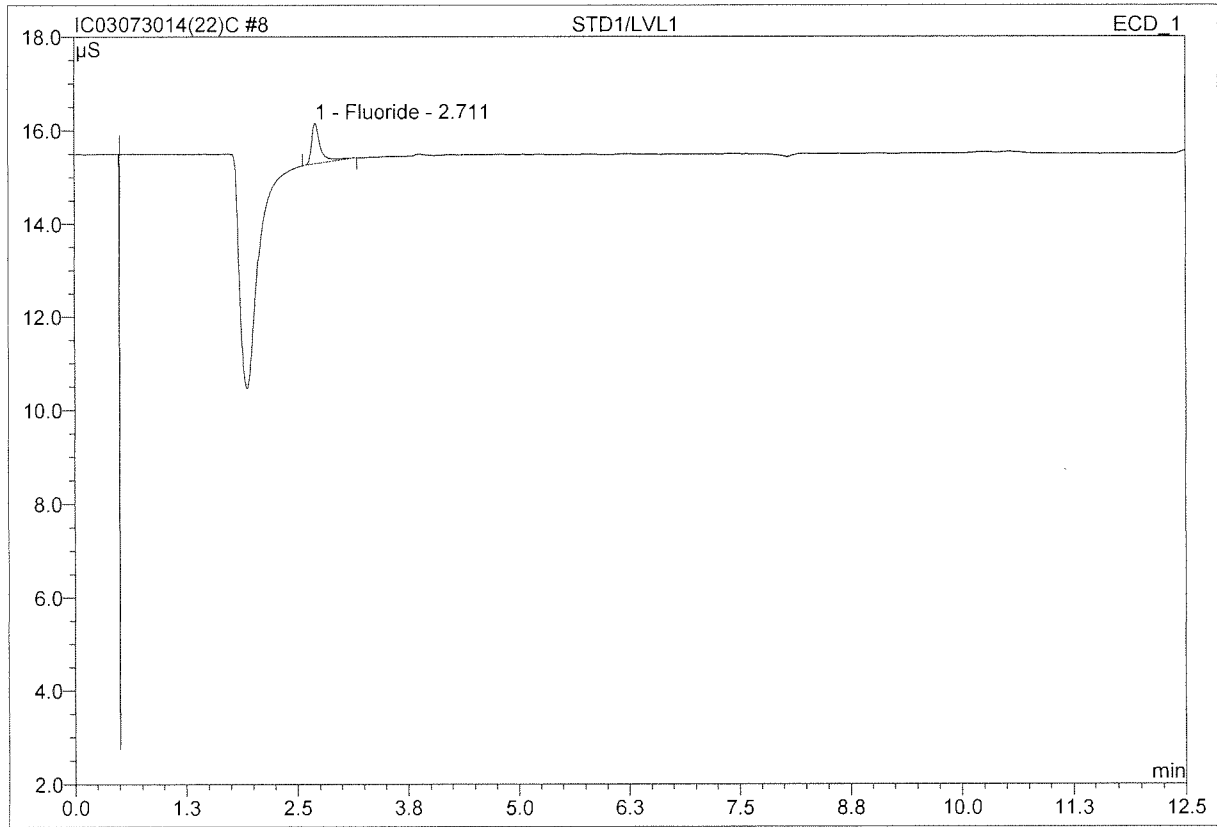
After Initials

AUG 13 2014

- Wrong Peak/Peak not Found
- Baseline/shoulder Incorrect
- Other

648,1404

8 STD1/LVL1			
Sample Name:	STD1/LVL1	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 12:50	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



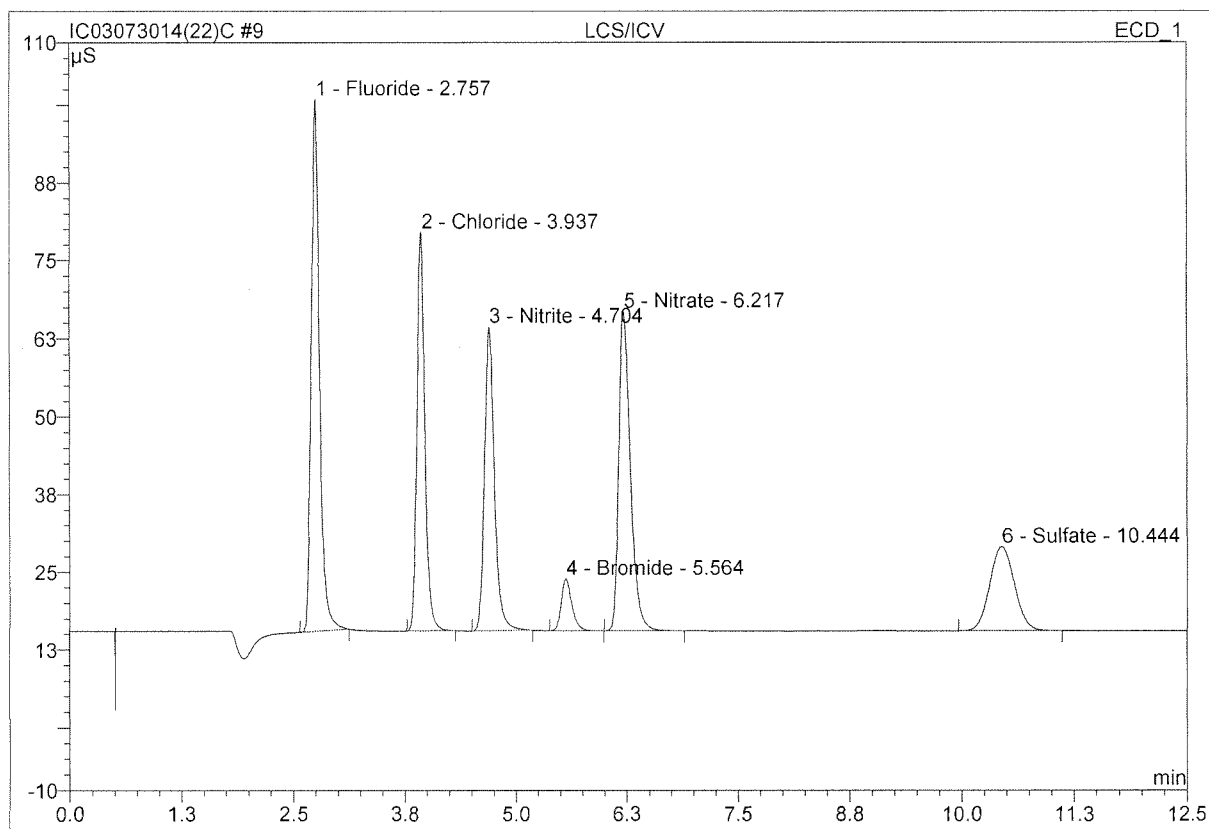
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.71	Fluoride	0.862	0.099	100.00	0.056	BMB
Total:			0.862	0.099	100.00	0.056	

16

Before

AUG 13 2014

9 LCS/ICV			
Sample Name:	LCS/ICV	Injection Volume:	200.0
Vial Number:	10	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	7/30/2014 16:07	Sample Weight:	1.0000
Run Time (min):	12.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.76	Fluoride	85.433	9.161	25.92	103 5.236	BMB
2	3.94	Chloride	63.905	6.606	18.69	96 4.777	BMB
3	4.70	Nitrite	48.775	6.290	17.79	103 2.579	BMB
4	5.56	Bromide	8.271	1.143	3.23	94 2.353	BMB
5	6.22	Nitrate	51.193	7.876	22.28	91 2.280	BMB
6	10.44	Sulfate	13.451	4.273	12.09	97 4.835	BMB
Total:			271.028	35.348	100.00	22.059	

1. Holding times met for all samples analyzed? yes/no/NA
2. Are dilutions within upper limits of the curve? yes/no/NA
3. Were peaks manually integrated? yes/no/NA
 - a.) Does DOD QUAPP apply? yes/no/NA
4. Are detection limits reported correctly? yes/no/NA
5. Are all quality control criteria met?
 - a. Method Blanks, CCV's, CCB's, LCS's, Dups, and Spikes analyzed at the proper frequency? yes/no/NA
 - b. Are CCV's and CCB's all within acceptance limits? yes/no/NA
 - c. Are results for Method Blanks all ND? yes/no/NA
 - d. Are all QC samples within acceptance criteria? (LCS% rec, MS% rec, Duplicate RPD's, etc.) yes/no/NA
 - e. Are all exceptions explained? yes/no/NA
6. Are all samples labelled correctly? yes/no/NA

CAS Standard Identification Codes and Abbreviated Footnotes for Chromatograms

- G1 Sample was analyzed past the end of recommended holding time. See Nonconformity sheet.
 G2 Sample was reanalyzed past holding time. Initial analysis was performed within recommended holding time.
 G4 Sample was received past the end of recommended holding time.
 R1 High RPD is because the duplicate sample results are less than three times the method reporting limit.
 i MRL is elevated because of matrix interferences and the sample required diluting.
 F Sample filtered primary to analysis.

LCS	CAS ID# = <u>AN13-89-BB</u>	Expires <u>12.10.14</u>	
Fluoride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-U</u>	Expires: <u>12.27.14</u>
Chloride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-V</u>	Expires: <u>7</u>
Nitrite	True Value = 2.5ppm	10K CAS ID # = <u>13-Gen-AN1-1-S</u>	Expires: <u>12.13.14</u>
Bromide	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-W</u>	Expires: <u>12.29.14</u>
Nitrate	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-X</u>	Expires: <u>7</u>
Sulfate	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-AN1-1-Y</u>	Expires: <u>7</u>

CCV	CAS ID# = <u>AN13-29-BB</u>	Expires <u>12.10.14</u>	
Fluoride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-ee</u>	Expires: <u>4.11.15</u>
Chloride	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-Z</u>	Expires: <u>2.5.15</u>
Nitrite	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-an1-1-T</u>	Expires: <u>12.13.14</u>
Bromide	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-R</u>	Expires: <u>7</u>
Nitrate	True Value = 2.5 ppm	10K CAS ID # = <u>13-Gen-AN1-1-Q</u>	Expires: <u>7</u>
Sulfate	True Value = 5.0 ppm	10K CAS ID # = <u>13-Gen-an1-1-DD</u>	Expires: <u>3.2.15</u>

Spike	CAS ID# = <u>AN13-59-BB</u>	Expires <u>12.10.14</u>	
2.0ppm X dilution factor			
Fluoride	10K CAS ID # = <u>13-Gen-an1-1-ee</u>	Expires: <u>CCCV</u>	
Chloride	10K CAS ID # = <u>13-Gen-an1-1-Z</u>	Expires: <u>7</u>	
Nitrite	10K CAS ID # = <u>13-Gen-an1-1-T</u>	Expires: <u>7</u>	
Bromide	10K CAS ID # = <u>13-Gen-AN1-1-R</u>	Expires: <u>7</u>	
Nitrate	10K CAS ID # = <u>13-Gen-AN1-1-Q</u>	Expires: <u>7</u>	
Sulfate	10K CAS ID # = <u>13-Gen-an1-1-DD</u>	Expires: <u>7</u>	

Analyst: BH Date: 12.10.14
 First Review: BH Date: 12.11.14
 Final Review: [Signature] Date: 12/16/14

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHEFLAND

Analysis Lot: 425298

Method/Testcode: 300.0/SO4

Method/Testcode: 300.0/SO4

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Am't	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
1413117-012	Sulfate	N/A		Ground Water	34.17 mg/L	5 mL	34.2 mg/L	10	0.1	1.0			12/10/14 14:26:00	N IV
1413117-015	Sulfate	N/A		Ground Water	74.12 mg/L	5 mL	74.1 mg/L	20	0.2	2.0			12/10/14 14:40:00	N IV
1413299-001	Sulfate, Dissolved	N/A		Water	3.35 mg/L	5 mL	3.35 mg/L	2	0.02	0.40			12/10/14 17:12:00	N V
1413299-002	Sulfate, Dissolved	N/A		Water	3.36 mg/L	5 mL	3.36 mg/L	2	0.02	0.40			12/10/14 17:25:00	N V
1413624-003	Fluoride	N/A		Drinking Water	0.77 mg/L	5 mL	0.77 mg/L	2	0.006	0.20			12/10/14 10:14:00	N I
1413799-001	Chloride	N/A		Drinking Water	8.64 mg/L	5 mL	8.64 mg/L	2	0.06	0.40			12/10/14 09:19:00	N I
1413799-001	Nitrate as Nitrogen	N/A		Drinking Water	0.71 mg/L	5 mL	0.71 mg/L	2	0.01	0.10			12/10/14 09:19:00	N I
1413799-001	Sulfate	N/A		Drinking Water	5.18 mg/L	5 mL	5.18 mg/L	2	0.02	0.20			12/10/14 09:19:00	N I
1413809-001	Chloride	N/A		Water	5.86 mg/L	5 mL	5.86 mg/L	2	0.06	0.40			12/10/14 13:32:00	N V
1413809-001	Nitrate as Nitrogen	N/A		Water	1.50 mg/L	5 mL	1.50 mg/L	2	0.01	0.10			12/10/14 13:32:00	N V
1413809-001	Sulfate	N/A		Water	19.89 mg/L	5 mL	19.9 mg/L	2	0.02	0.20			12/10/14 13:32:00	N V
1413815-007	Nitrate as Nitrogen	N/A		Water	46.82 mg/L	5 mL	46.8 mg/L	20	0.1	1.0			12/10/14 14:13:00	N II
1413815-008	Nitrate as Nitrogen	N/A		Water	0.58 mg/L	5 mL	0.58 mg/L	2	0.01	0.10			12/10/14 13:59:00	N II
1413816-001	Nitrate as Nitrogen	N/A		Water	1.25 mg/L	5 mL	1.25 mg/L	2	0.01	0.10			12/10/14 12:37:00	N I
1413816-002	Nitrate as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.10 mg/L	2	0.01	0.10			12/10/14 12:51:00	N I
1413816-003	Nitrate as Nitrogen	N/A		Water	0.57 mg/L	5 mL	0.57 mg/L	2	0.01	0.10			12/10/14 13:04:00	N I
1413816-004	Nitrate as Nitrogen	N/A		Water	1.12 mg/L	5 mL	1.12 mg/L	2	0.01	0.10			12/10/14 13:18:00	N I
1413832-001	Chloride	N/A		Water	9.90 mg/L	5 mL	9.9 mg/L	5	0.2	5.0			12/10/14 16:31:00	N V
1413832-001	Sulfate	N/A		Water	204.33 mg/L	5 mL	204 mg/L	50	0.5	5.0			12/10/14 16:03:00	N V
1413832-002	Nitrate as Nitrogen	N/A		Water	3.90 mg/L	5 mL	3.90 mg/L	5	0.03	0.25			12/10/14 16:17:00	N V
1413833-001	Nitrate as Nitrogen	N/A		Water	7.47 mg/L	5 mL	7.47 mg/L	5	0.03	0.25			12/10/14 16:44:00	N V
14146301-01	Nitrate as Nitrogen	MB		Drinking Water	0.00 mg/L	5 mL	0.050 mg/L	1	0.005	0.050			12/10/14 08:53:00	N I
14146301-02	Nitrate as Nitrogen	LCS		Drinking Water	2.37 mg/L	5 mL	2.37 mg/L	1	0.005	0.050			12/10/14 09:05:00	N I
14146301-03	Nitrate as Nitrogen	MS	K1413799-001	Drinking Water	10.18 mg/L	5 mL	10.2 mg/L	5	0.03	0.25			12/10/14 09:46:00	N I
14146301-04	Nitrate as Nitrogen	DMS	K1413799-001	Drinking Water	10.20 mg/L	5 mL	10.2 mg/L	5	0.03	0.25			12/10/14 10:00:00	N I
14146301-05	Nitrate as Nitrogen	DUP	K1413799-001	Drinking Water	0.69 mg/L	5 mL	0.69 mg/L	2	0.01	0.10			12/10/14 09:33:00	N I
14146303-01	Chloride	MB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	1	0.03	0.20			12/10/14 08:53:00	N I
14146303-01	Fluoride	MB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.003	0.10			12/10/14 08:53:00	N I
14146303-01	Sulfate	MB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	1	0.01	0.10			12/10/14 08:53:00	N I

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03 Analyst: BHEFLAND Analysis Lot: 425298 Method/Testcode: 300.0/SO4 D

Lab Code	Target Analytes	QC MB	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
Q1416303-01	Sulfate, Dissolved	MB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			12/10/14 08:53:00	N 1
Q1416303-02	Chloride	LCS		Drinking Water	4.94 mg/L	5 mL	4.94 mg/L	1	0.03	0.20	99		12/10/14 09:05:00	N 1
Q1416303-02	Fluoride	LCS		Drinking Water	5.29 mg/L	5 mL	5.29 mg/L	1	0.003	0.10	106		12/10/14 09:05:00	N 1
Q1416303-02	Sulfate	LCS		Drinking Water	4.95 mg/L	5 mL	4.95 mg/L	1	0.01	0.10	99		12/10/14 09:05:00	N 1
Q1416303-02	Sulfate, Dissolved	LCS		Drinking Water	4.95 mg/L	5 mL	4.95 mg/L	1	0.01	0.20	99		12/10/14 09:05:00	N 1
Q1416303-03	Chloride	N/A		Drinking Water	8.64 mg/L	5 mL	8.64 mg/L	2	0.06	0.40			12/10/14 09:19:00	N 1
Q1416303-03	Fluoride	N/A		Drinking Water	0.15 mg/L	5 mL	0.15 mg/L	1	0.006	0.20			12/10/14 09:19:00	N 1
Q1416303-03	Sulfate	N/A		Drinking Water	5.18 mg/L	5 mL	5.18 mg/L	2	0.02	0.20			12/10/14 09:19:00	N 1
Q1416303-03	Sulfate, Dissolved	N/A		Drinking Water	5.18 mg/L	5 mL	5.18 mg/L	2	0.02	0.40			12/10/14 09:19:00	N 1
Q1416303-04	Chloride	MS	KQ1416303-03	Drinking Water	17.77 mg/L	5 mL	17.8 mg/L	5	0.2	1.0	91		12/10/14 09:46:00	N 1
Q1416303-04	Fluoride	MS	KQ1416303-03	Drinking Water	10.27 mg/L	5 mL	10.3 mg/L	5	0.02	0.50	101		12/10/14 09:46:00	N 1
Q1416303-04	Sulfate	MS	KQ1416303-03	Drinking Water	14.58 mg/L	5 mL	14.6 mg/L	5	0.05	0.50	94		12/10/14 09:46:00	N 1
Q1416303-04	Sulfate, Dissolved	MS	KQ1416303-03	Drinking Water	14.58 mg/L	5 mL	14.6 mg/L	5	0.05	1.0	94		12/10/14 09:46:00	N 1
Q1416303-05	Chloride	DMS	KQ1416303-03	Drinking Water	17.71 mg/L	5 mL	17.7 mg/L	5	0.2	1.0	91	<1	12/10/14 10:00:00	N 1
Q1416303-05	Fluoride	DMS	KQ1416303-03	Drinking Water	10.41 mg/L	5 mL	10.4 mg/L	5	0.02	0.50	103	1	12/10/14 10:00:00	N 1
Q1416303-05	Sulfate	DMS	KQ1416303-03	Drinking Water	14.57 mg/L	5 mL	14.6 mg/L	5	0.05	0.50	94	<1	12/10/14 10:00:00	N 1
Q1416303-05	Sulfate, Dissolved	DMS	KQ1416303-03	Drinking Water	14.57 mg/L	5 mL	14.6 mg/L	5	0.05	1.0	94	<1	12/10/14 10:00:00	N 1
Q1416303-06	Chloride	DUP	KQ1416303-03	Drinking Water	8.60 mg/L	5 mL	8.60 mg/L	2	0.06	0.40		<1	12/10/14 09:33:00	N 1
Q1416303-06	Fluoride	DUP	KQ1416303-03	Drinking Water	0.12 mg/L	5 mL	0.12 mg/L	1	0.006	0.20		19	12/10/14 09:33:00	N 1
Q1416303-06	Sulfate	DUP	KQ1416303-03	Drinking Water	5.13 mg/L	5 mL	5.13 mg/L	2	0.02	0.20		<1	12/10/14 09:33:00	N 1
Q1416303-06	Sulfate, Dissolved	DUP	KQ1416303-03	Drinking Water	5.13 mg/L	5 mL	5.13 mg/L	2	0.02	0.40		<1	12/10/14 09:33:00	N 1
Q1416303-07	Chloride	MS	K1413799-001	Drinking Water	17.77 mg/L	5 mL	17.8 mg/L	5	0.2	1.0	91		12/10/14 09:46:00	N 1
Q1416303-07	Sulfate	MS	K1413799-001	Drinking Water	14.58 mg/L	5 mL	14.6 mg/L	5	0.05	0.50	94		12/10/14 09:46:00	N 1
Q1416303-08	Chloride	DMS	K1413799-001	Drinking Water	17.71 mg/L	5 mL	17.7 mg/L	5	0.2	1.0	91	<1	12/10/14 10:00:00	N 1
Q1416303-08	Sulfate	DMS	K1413799-001	Drinking Water	14.57 mg/L	5 mL	14.6 mg/L	5	0.05	0.50	94	<1	12/10/14 10:00:00	N 1
Q1416303-09	Chloride	DUP	K1413799-001	Drinking Water	8.60 mg/L	5 mL	8.60 mg/L	2	0.06	0.40		<1	12/10/14 09:33:00	N 1

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHEFLAND

Analysis Lot:

425298

Method/Testcode: 300.0/SO4

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
Q1416303-09	Sulfate	DUP	K1413799-001	Drinking Water	5.13 mg/L	5 mL	5.13 mg/L	2	0.02	0.20		<1	12/10/14 09:33:00	N 1
Q1416303-10	Fluoride	MS	K1413624-003	Drinking Water	11.09 mg/L	5 mL	11.1 mg/L	5	0.02	0.50	103		12/10/14 10:41:00	N 1
Q1416303-11	Fluoride	DMS	K1413624-003	Drinking Water	11.31 mg/L	5 mL	11.3 mg/L	5	0.02	0.50	105		12/10/14 10:55:00	N 1
Q1416303-12	Fluoride	DUP	K1413624-003	Drinking Water	0.74 mg/L	5 mL	0.74 mg/L	2	0.006	0.20		4	12/10/14 10:27:00	N 1
Q1416305-01	Chloride	CCV		Drinking Water	4.96 mg/L	5 mL	4.96 mg/L	1					12/10/14 07:05:00	N 1
Q1416305-01	Fluoride	CCV		Drinking Water	5.35 mg/L	5 mL	5.35 mg/L	1					12/10/14 07:05:00	N 1
Q1416305-01	Nitrate as Nitrogen	CCV		Drinking Water	2.40 mg/L	5 mL	2.40 mg/L	1					12/10/14 07:05:00	N 1
Q1416305-01	Sulfate	CCV		Drinking Water	5.01 mg/L	5 mL	5.01 mg/L	1					12/10/14 07:05:00	N 1
Q1416305-01	Sulfate, Dissolved	CCV		Drinking Water	5.01 mg/L	5 mL	5.01 mg/L	1					12/10/14 07:05:00	N 1
Q1416305-02	Chloride	CCV		Drinking Water	4.94 mg/L	5 mL	4.94 mg/L	1					12/10/14 11:08:00	N 1
Q1416305-02	Fluoride	CCV		Drinking Water	5.37 mg/L	5 mL	5.37 mg/L	1					12/10/14 11:08:00	N 1
Q1416305-02	Nitrate as Nitrogen	CCV		Drinking Water	2.37 mg/L	5 mL	2.37 mg/L	1					12/10/14 11:08:00	N 1
Q1416305-02	Sulfate	CCV		Drinking Water	4.98 mg/L	5 mL	4.98 mg/L	1					12/10/14 11:08:00	N 1
Q1416305-02	Sulfate, Dissolved	CCV		Drinking Water	4.98 mg/L	5 mL	4.98 mg/L	1					12/10/14 11:08:00	N 1
Q1416305-03	Chloride	CCV		Drinking Water	4.94 mg/L	5 mL	4.94 mg/L	1					12/10/14 14:54:00	N 1
Q1416305-03	Fluoride	CCV		Drinking Water	5.40 mg/L	5 mL	5.40 mg/L	1					12/10/14 14:54:00	N 1
Q1416305-03	Nitrate as Nitrogen	CCV		Drinking Water	2.39 mg/L	5 mL	2.39 mg/L	1					12/10/14 14:54:00	N 1
Q1416305-03	Sulfate	CCV		Drinking Water	5.02 mg/L	5 mL	5.02 mg/L	1					12/10/14 14:54:00	N 1
Q1416305-03	Sulfate, Dissolved	CCV		Drinking Water	5.02 mg/L	5 mL	5.02 mg/L	1					12/10/14 14:54:00	N 1
Q1416305-04	Chloride	CCV		Drinking Water	4.95 mg/L	5 mL	4.95 mg/L	1					12/10/14 17:39:00	N 1
Q1416305-04	Fluoride	CCV		Drinking Water	5.38 mg/L	5 mL	5.38 mg/L	1					12/10/14 17:39:00	N 1
Q1416305-04	Nitrate as Nitrogen	CCV		Drinking Water	2.39 mg/L	5 mL	2.39 mg/L	1					12/10/14 17:39:00	N 1
Q1416305-04	Sulfate	CCV		Drinking Water	5.03 mg/L	5 mL	5.03 mg/L	1					12/10/14 17:39:00	N 1
Q1416305-04	Sulfate, Dissolved	CCV		Drinking Water	5.03 mg/L	5 mL	5.03 mg/L	1					12/10/14 17:39:00	N 1
Q1416305-05	Chloride	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			12/10/14 07:19:00	N 1
Q1416305-05	Fluoride	CCB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.003	0.10			12/10/14 07:19:00	N 1

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-IC-03

Analyst: BHEFLAND

Analysis Lot: 425298

Method/Testcode: 300.0/NO3

<u>Ab Code</u>	<u>Target Analytes</u>	<u>QC</u>	<u>Parent Sample</u>	<u>Matrix</u>	<u>Raw Result</u>	<u>Sample Amt.</u>	<u>Final Result</u>	<u>Dil</u>	<u>MDL</u>	<u>PQL</u>	<u>% Rec</u>	<u>% RSD</u>	<u>Date Analyzed</u>	<u>QC? Tier</u>
:Q1416305-05	Nitrate as Nitrogen	CCB		Drinking Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.005	0.050			12/10/14 07:19:00	N 1
:Q1416305-05	Sulfate	CCB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			12/10/14 07:19:00	N 1
:Q1416305-05	Sulfate, Dissolved	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			12/10/14 07:19:00	N 1
:Q1416305-06	Chloride	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			12/10/14 11:22:00	N 1
:Q1416305-06	Fluoride	CCB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.003	0.10			12/10/14 11:22:00	N 1
:Q1416305-06	Nitrate as Nitrogen	CCB		Drinking Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.005	0.050			12/10/14 11:22:00	N 1
:Q1416305-06	Sulfate	CCB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			12/10/14 11:22:00	N 1
:Q1416305-06	Sulfate, Dissolved	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			12/10/14 11:22:00	N 1
:Q1416305-07	Chloride	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			12/10/14 15:08:00	N 1
:Q1416305-07	Fluoride	CCB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.003	0.10			12/10/14 15:08:00	N 1
:Q1416305-07	Nitrate as Nitrogen	CCB		Drinking Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.005	0.050			12/10/14 15:08:00	N 1
:Q1416305-07	Sulfate	CCB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			12/10/14 15:08:00	N 1
:Q1416305-07	Sulfate, Dissolved	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			12/10/14 15:08:00	N 1
:Q1416305-08	Chloride	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.03	0.20			12/10/14 17:54:00	N 1
:Q1416305-08	Fluoride	CCB		Drinking Water	0.06 mg/L	5 mL	0.06 mg/L	J 1	0.003	0.10			12/10/14 17:54:00	N 1
:Q1416305-08	Nitrate as Nitrogen	CCB		Drinking Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.005	0.050			12/10/14 17:54:00	N 1
:Q1416305-08	Sulfate	CCB		Drinking Water	0.00 mg/L	5 mL	0.10 mg/L	U 1	0.01	0.10			12/10/14 17:54:00	N 1
:Q1416305-08	Sulfate, Dissolved	CCB		Drinking Water	0.00 mg/L	5 mL	0.20 mg/L	U 1	0.01	0.20			12/10/14 17:54:00	N 1

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Title:
 Datasource: ACQWET10_local
 Location: DX120A
 Timebase: DX120
 #Samples: 44
 Created: 12/9/2014 3:24:31 PM by ALKLS.ALKLSXP307
 Last Update: 12/10/2014 4:50:57 PM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time
1	STD2/LVL2	epa300	Standard	1	200.0	seth_test	Finished	7/30/2014 11:01:20 AM
2	STD3/LVL3	epa300	Standard	2	200.0	seth_test	Finished	7/30/2014 11:17:02 AM
3	STD4/LVL4	epa300	Standard	3	200.0	seth_test	Finished	7/30/2014 11:32:41 AM
4	STD5/LVL5	epa300	Standard	4	200.0	seth_test	Finished	7/30/2014 11:48:20 AM
5	STD6/LVL6	epa300	Standard	5	200.0	seth_test	Finished	7/30/2014 12:04:00 PM
6	STD7/LVL7	epa300	Standard	6	200.0	seth_test	Finished	7/30/2014 12:19:40 PM
7	STD8/LVL8	epa300	Standard	7	200.0	seth_test	Finished	7/30/2014 12:35:19 PM
8	STD1/LVL1	epa300	Standard	8	200.0	seth_test	Finished	7/30/2014 12:50:58 PM
9	CCV1	epa300	Unknown	48	200.0	seth_test	Finished	12/10/2014 7:05:56 AM
10	CCB1	epa300	Unknown	49	200.0	seth_test	Finished	12/10/2014 7:19:23 AM
11	MB	epa300	Unknown	1	200.0	seth_test	Finished	12/10/2014 8:53:11 AM
12	LCS	epa300	Unknown	2	200.0	seth_test	Finished	12/10/2014 9:05:44 AM
13	K1413799-1	epa300	Unknown	3	200.0	seth_test	Finished	12/10/2014 9:19:30 AM
14	K1413799-001D	epa300	Unknown	4	200.0	seth_test	Finished	12/10/2014 9:33:09 AM
15	K1413799-001MS	epa300	Unknown	5	200.0	seth_test	Finished	12/10/2014 9:46:49 AM
16	K1413799-001MSD	epa300	Unknown	6	200.0	seth_test	Finished	12/10/2014 10:00:28 AM
17	K1413624-003	epa300	Unknown	7	200.0	seth_test	Finished	12/10/2014 10:14:07 AM
18	13624-3D	epa300	Unknown	8	200.0	seth_test	Finished	12/10/2014 10:27:47 AM
19	13624-3MS	epa300	Unknown	9	200.0	seth_test	Finished	12/10/2014 10:41:27 AM
20	13624-3MSD	epa300	Unknown	10	200.0	seth_test	Finished	12/10/2014 10:55:06 AM
21	CCV2	epa300	Unknown	46	200.0	seth_test	Finished	12/10/2014 11:08:47 AM
22	CCB2	epa300	Unknown	47	200.0	seth_test	Finished	12/10/2014 11:22:31 AM
23	K1413816-001	epa300	Unknown	11	200.0	seth_test	Finished	12/10/2014 12:37:28 PM
24	K1413816-002	epa300	Unknown	12	200.0	seth_test	Finished	12/10/2014 12:51:12 PM
25	K1413816-003	epa300	Unknown	13	200.0	seth_test	Finished	12/10/2014 1:04:51 PM
26	K1413816-004	epa300	Unknown	14	200.0	seth_test	Finished	12/10/2014 1:18:31 PM
27	K1413809-001	epa300	Unknown	15	200.0	seth_test	Finished	12/10/2014 1:32:12 PM
28	13815-7	epa300	Unknown	16	200.0	seth_test	Finished	12/10/2014 1:45:51 PM
29	K1413815-008	epa300	Unknown	17	200.0	seth_test	Finished	12/10/2014 1:59:31 PM
30	K1413815-007	epa300	Unknown	19	200.0	seth_test	Finished	12/10/2014 2:13:10 PM
31	K1413117-012	epa300	Unknown	20	200.0	seth_test	Finished	12/10/2014 2:26:50 PM
32	K1413117-015	epa300	Unknown	21	200.0	seth_test	Finished	12/10/2014 2:40:29 PM
33	CCV3	epa300	Unknown	48	200.0	seth_test	Finished	12/10/2014 2:54:09 PM
34	CCB3	epa300	Unknown	49	200.0	seth_test	Finished	12/10/2014 3:08:22 PM
35	K1413832-001	epa300	Unknown	22	200.0	seth_test	Finished	12/10/2014 4:03:32 PM
36	K1413832-002	epa300	Unknown	23	200.0	seth_test	Finished	12/10/2014 4:17:26 PM
37	K1413832-001	epa300	Unknown	24	200.0	seth_test	Finished	12/10/2014 4:31:07 PM
38	K1413833-001	epa300	Unknown	25	200.0	seth_test	Finished	12/10/2014 4:44:47 PM
39	RB	epa300	Unknown	27	200.0	seth_test	Finished	12/10/2014 4:58:26 PM
40	K1413299-001	epa300	Unknown	28	200.0	seth_test	Finished	12/10/2014 5:12:06 PM
41	K1413299-002	epa300	Unknown	29	200.0	seth_test	Finished	12/10/2014 5:25:46 PM
42	CCV4	epa300	Unknown	48	200.0	seth_test	Finished	12/10/2014 5:39:26 PM

Sequence: IC03121014(22)
Operator: ALKLS.ALKLSXP307

Page 2 of 4
Printed: 12/11/2014 10:18:00 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 44

Created: 12/9/2014 3:24:31 PM by ALKLS.ALKLSXP307
Last Update: 12/10/2014 4:50:57 PM by ALKLS.ALKLSXP307

No.	Name	Dil. Factor	Comment
1	STD2/LVL2	1.0000	
2	STD3/LVL3	1.0000	
3	STD4/LVL4	1.0000	
4	STD5/LVL5	1.0000	
5	STD6/LVL6	1.0000	
6	STD7/LVL7	1.0000	
7	STD8/LVL8	1.0000	
8	STD1/LVL1	1.0000	
9	CCV1	1.0000	CCV1
10	CCB1	1.0000	CCB1
11	MB	1.0000	
12	LCS	1.0000	LCS
13	K1413799-1	2.0000	
14	K1413799-001D	2.0000	D
15	K1413799-001MS	5.0000	MS
16	K1413799-001MSD	5.0000	MSD
17	K1413624-003	2.0000	
18	13624-3D	2.0000	D
19	13624-3MS	5.0000	MS
20	13624-3MSD	5.0000	MSD
21	CCV2	1.0000	CCV2
22	CCB2	1.0000	CCB2
23	K1413816-001	2.0000	
24	K1413816-002	2.0000	
25	K1413816-003	2.0000	
26	K1413816-004	2.0000	
27	K1413809-001	2.0000	
28	13815-7	2.0000	
29	K1413815-008	2.0000	
30	K1413815-007	20.0000	
31	K1413117-012	10.0000	
32	K1413117-015	20.0000	
33	CCV3	1.0000	CCV3
34	CCB3	1.0000	CCB3
35	K1413832-001	50.0000	
36	K1413832-002	5.0000	
37	K1413832-001	5.0000	
38	K1413833-001	5.0000	
39	RB	1.0000	
40	K1413299-001	2.0000	
41	K1413299-002	2.0000	
42	CCV4	1.0000	CCV4

Sequence: IC03121014(22)
Operator: ALKLS.ALKLSXP307

Page 3 of 4
Printed: 12/11/2014 10:18:00 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 44
Created: 12/9/2014 3:24:31 PM by ALKLS.ALKLSXP307
Last Update: 12/10/2014 4:50:57 PM by ALKLS.ALKLSXP307

No.	Name	Method	Type	Pos.	Inj. Vol.	Program	Status	Inj. Date/Time
43	CCB4	epa300	Unknown	49	200.0	seth_test	Finished	12/10/2014 5:54:01 PM
44	STOP	epa300	Unknown	50	200.0	stop	Finished	12/10/2014 6:08:41 PM

Sequence: IC03121014(22)
Operator: ALKLS.ALKLSXP307

Page 4 of 4
Printed: 12/11/2014 10:18:00 AM

Title:
Datasource: ACQWET10_local
Location: DX120A
Timebase: DX120
#Samples: 44

Created: 12/9/2014 3:24:31 PM by ALKLS.ALKLSXP307
Last Update: 12/10/2014 4:50:57 PM by ALKLS.ALKLSXP307

No.	Name	Dil. Factor	Comment
43	CCB4	1.0000	CCB4
44	STOP	1.0000	

3799-1	X	12.14	12.26	F Cl	SK 2X		✓
				NO2			
				Br			
				NO3	2X		✓
				SO4	SK 2X		✓
13624-3	X ₂		12.15	F			
				Cl			
				NO2			
				Br			
				NO3			
				SO4			
13816-1	I	12.11	12.19	F			
				Cl			
				NO2			
				Br			
				NO3	2X		✓
				SO4			
-2				F			
				Cl			
				NO2			
				Br			
				NO3			✓
				SO4			
-3				F			
				Cl			
				NO2			
				Br			
				NO3			✓
				SO4			
-4				F			
				Cl			
				NO2			
				Br			
				NO3			✓
				SO4			
13809-1	V	12.11	12.26	F			
				Cl	2X		✓
				NO2			
				Br			
				NO3	2X		✓
				SO4	2X		✓
13815-7	IV	12.11	12.19	F			
				Cl			
				NO2			
				Br			
				NO3	2X	20X	✓
				SO4			
-8				F			
				Cl			
				NO2			
				Br			
				NO3	2X		✓
				SO4			
13117-12				F			
				Cl			
				NO2			
				Br			
				NO3			
				SO4	10X		✓

PN# 225286

PO# 225287

13117-15

F
Cl
NO2
Br
NO3
SO4

JUL

✓

13832-1

IV

12.11

12.19

F
Cl

SV

✓

7

NO2
Br
NO3
SO4

SV

✓

-2

F
Cl
NO2
Br
NO3
SO4

SV

✓

13833-1

IV

12.11

12.19

F
Cl
NO2
Br
NO3
SO4

SV

✓

13299-1

7

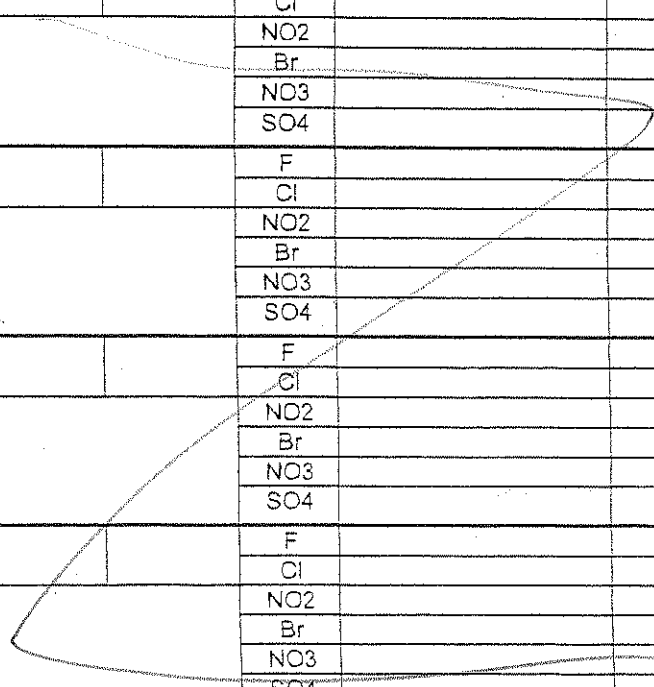
F
Cl
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Br
NO3
SO4

SV

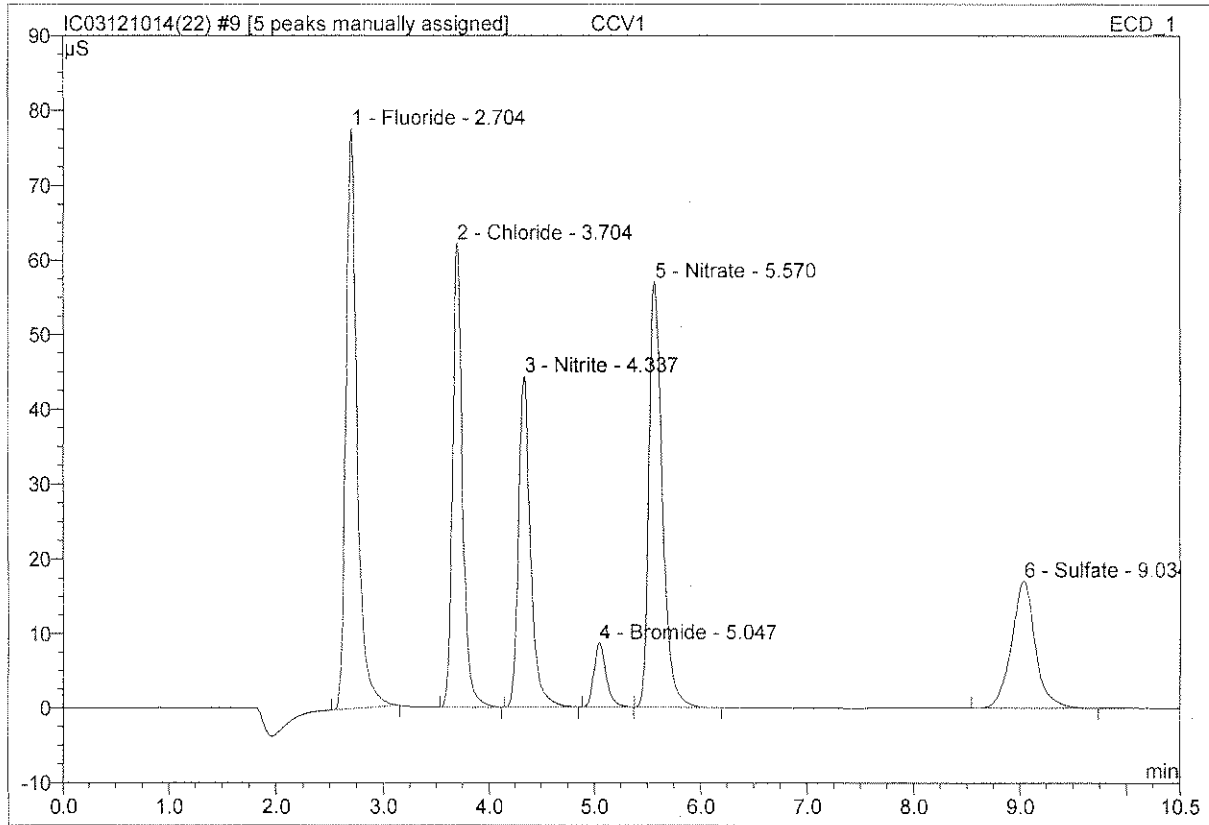
-2

F
Cl
NO2
Br
NO3
SO4

SV



9 CCV1			
CCV1			
Sample Name:	CCV1	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 7:05	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.70	Fluoride	77.694	9.354	25.96	101; 5.346	BMB
2	3.70	Chloride	62.195	6.852	19.02	99; 4.955	BMB^
3	4.34	Nitrite	44.316	5.941	16.49	98; 2.436	BMB^
4	5.05	Bromide	8.646	1.157	3.21	95; 2.383	BMB^
5	5.57	Nitrate	57.011	8.300	23.04	96; 2.403	BMB^
6	9.03	Sulfate	17.044	4.426	12.28	100; 5.008	BMB^
Total:			266.905	36.031	100.00	22.531	

After Initials BT

[Handwritten Signature]
12/10/14

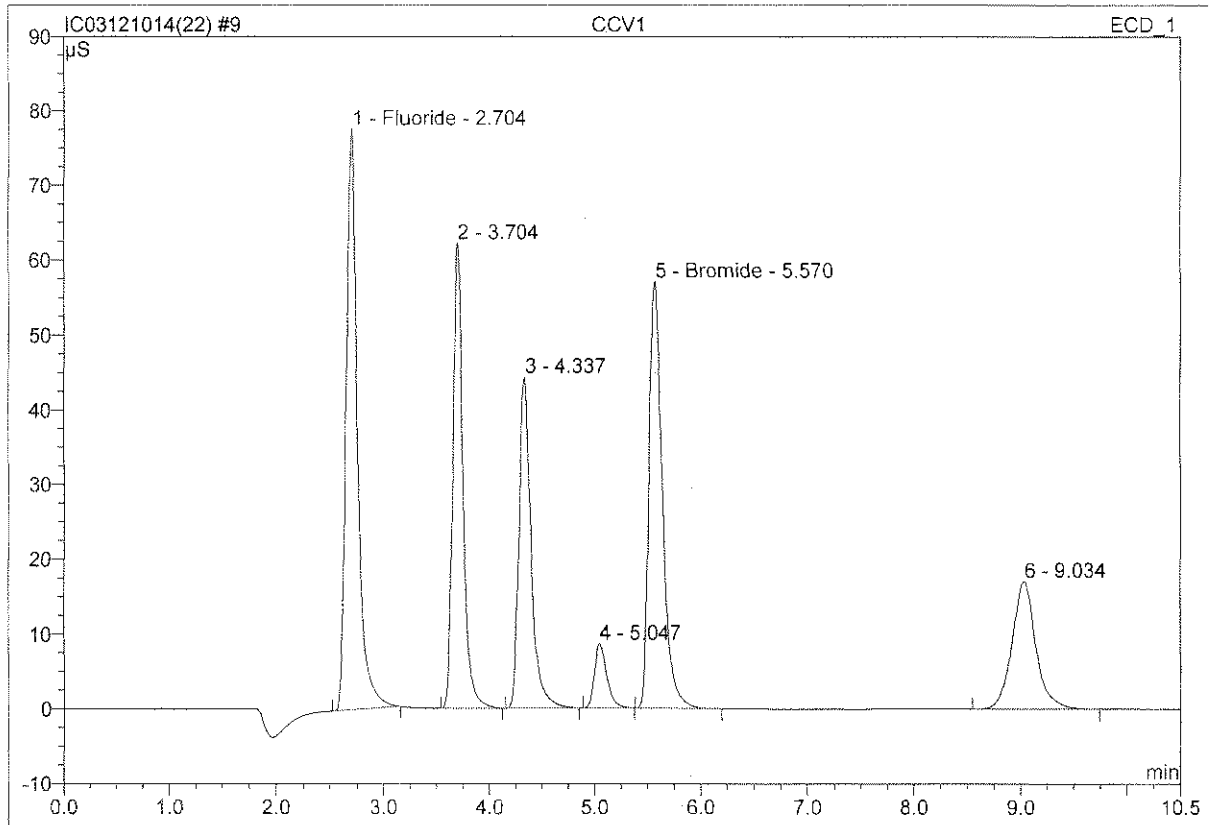
DEC 10 2014

Chromleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

default/Integration

Wrong Peak/Peak not Found
 Baseline/shoulder incorrect
 Other
 138

9 CCV1			
CCV1			
Sample Name:	CCV1	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 7:05	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



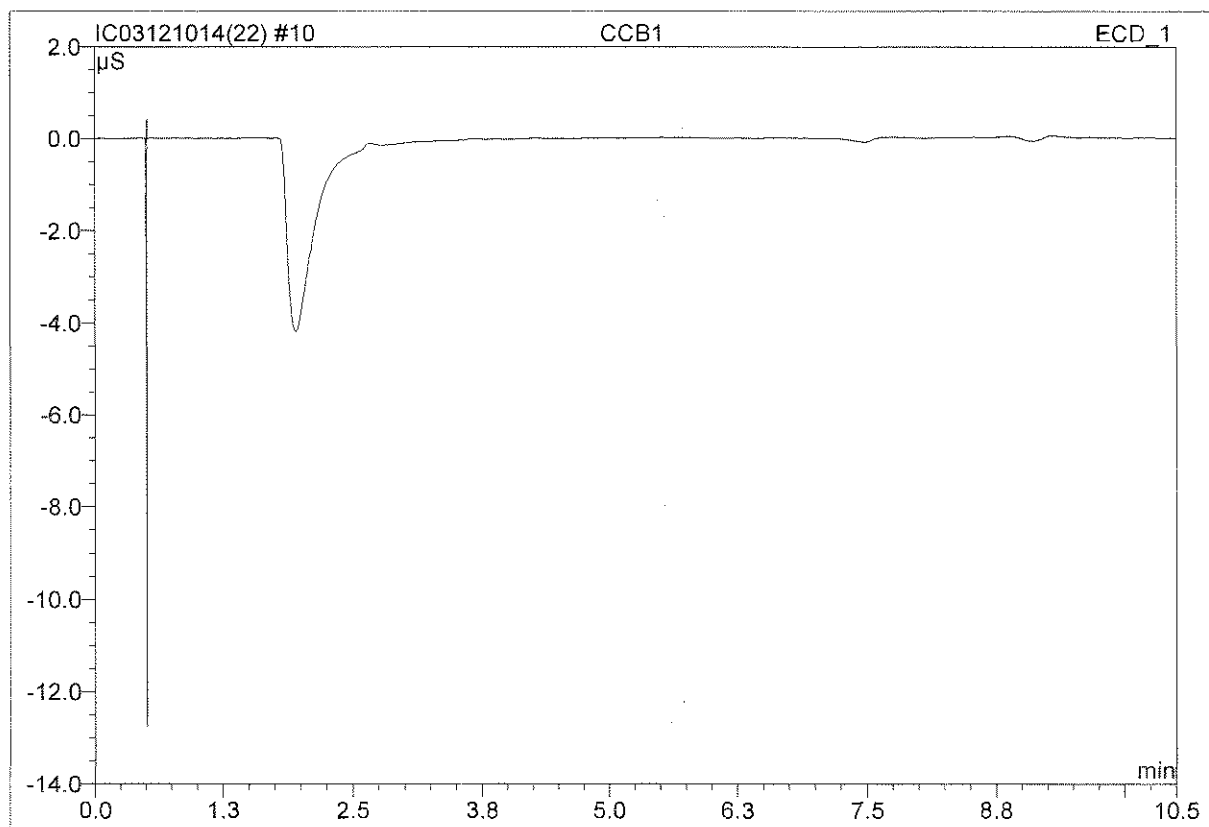
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.70	Fluoride	77.694	9.354	25.96	5.346	BMB
2	3.70	n.a.	62.195	6.852	19.02	n.a.	BMB
3	4.34	n.a.	44.316	5.941	16.49	n.a.	BMB
4	5.05	n.a.	8.646	1.157	3.21	n.a.	BMB
5	5.57	Bromide	57.011	8.300	23.04	17.092	BMB
6	9.03	n.a.	17.044	4.426	12.28	n.a.	BMB
Total:			266.905	36.031	100.00	22.438	

Before
DEC 10 2014

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12/10/14

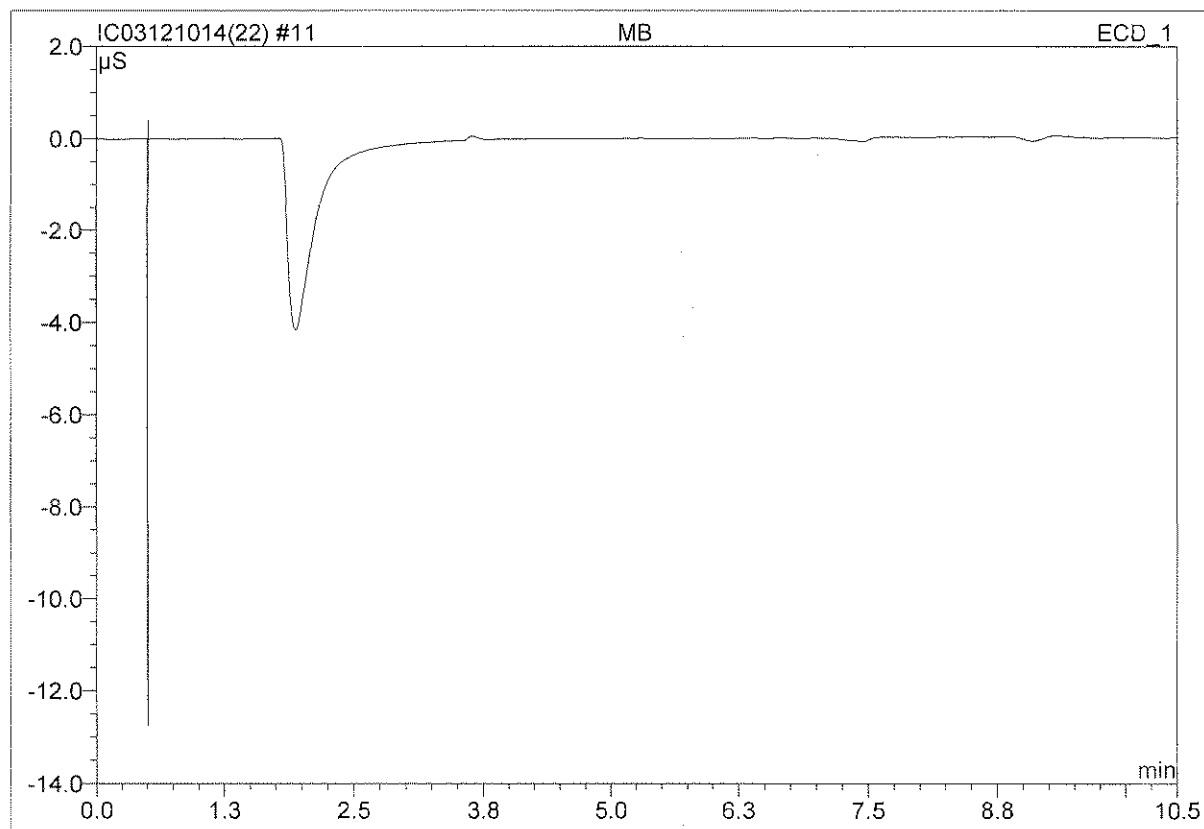
10 CCB1**CCB1**

Sample Name:	CCB1	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 7:19	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



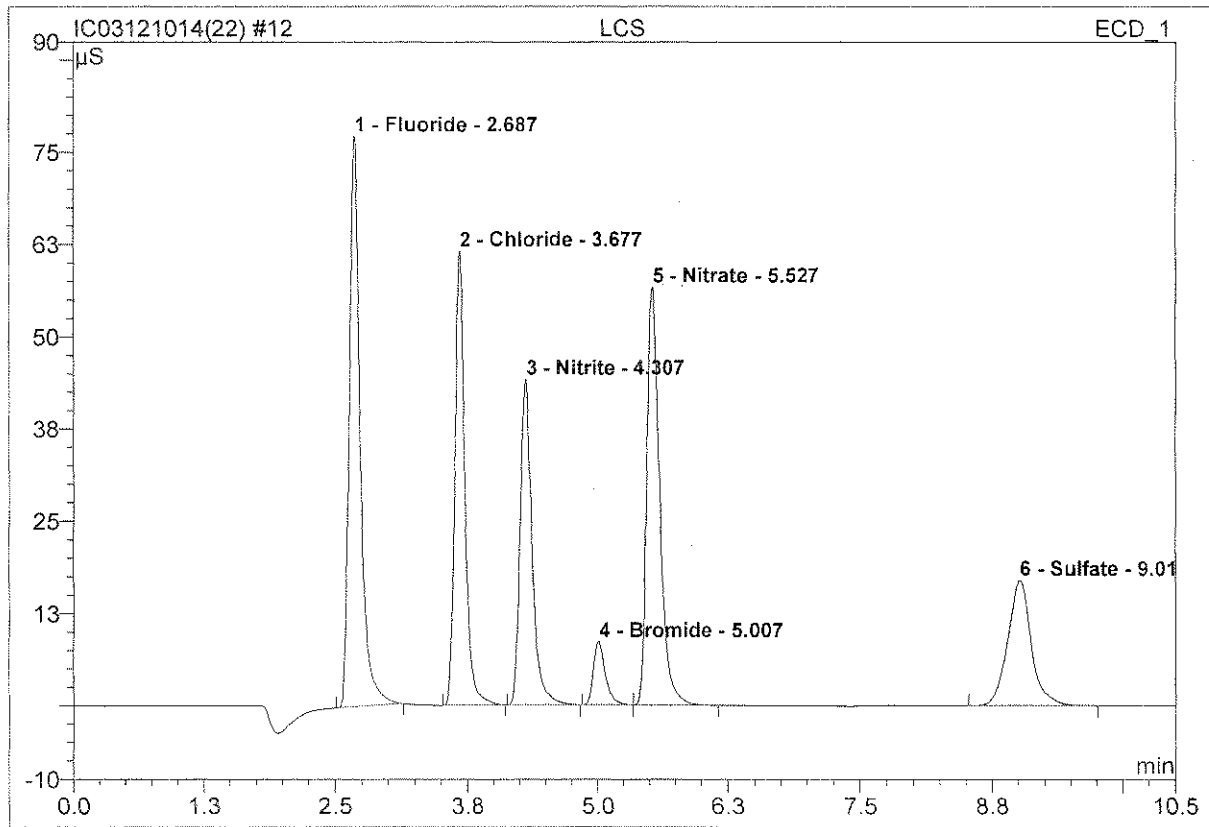
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11 MB			
Sample Name:	MB	Injection Volume:	200.0
Vial Number:	1	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 8:53	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



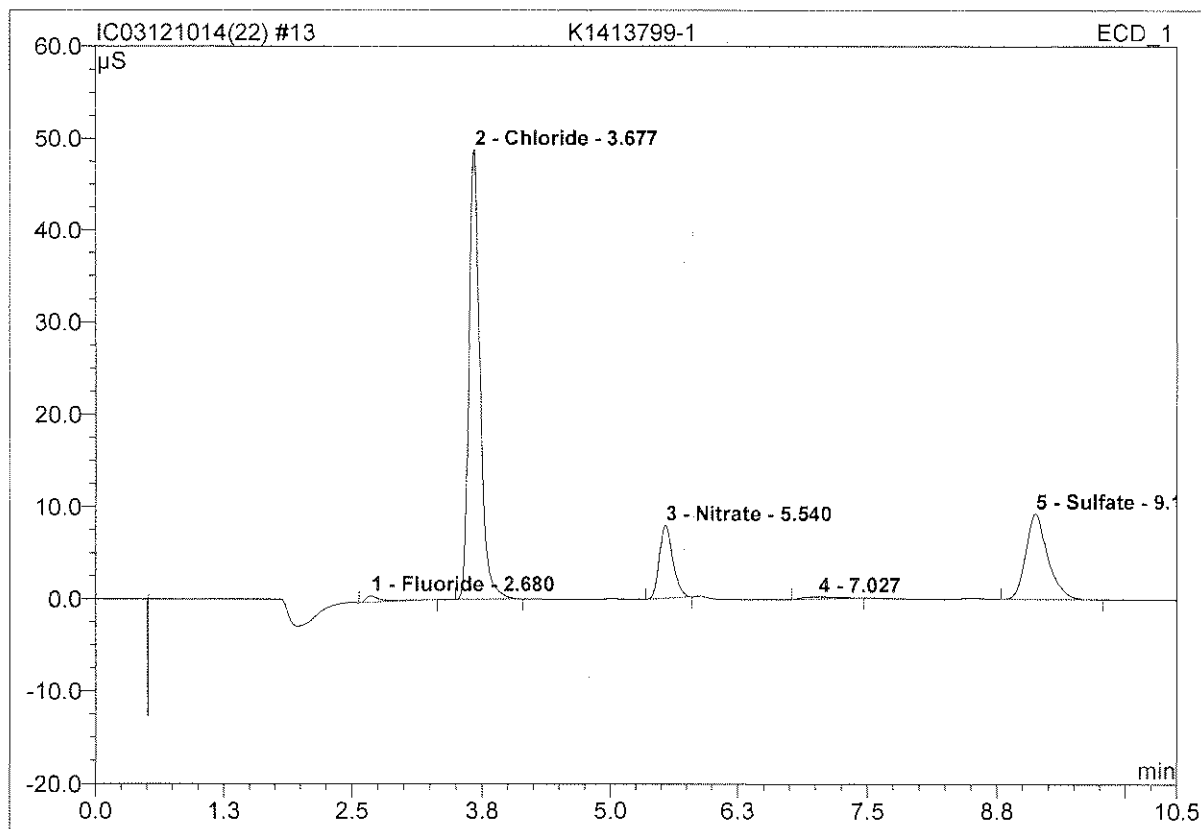
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

12 LCS			
LCS			
Sample Name:	LCS	Injection Volume:	200.0
Vial Number:	2	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 9:05	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	77.286	9.261	25.93	5.293	BMB
2	3.68	Chloride	61.514	6.831	19.13	4.940	BMB
3	4.31	Nitrite	44.133	5.887	16.49	2.414	BMB
4	5.01	Bromide	8.577	1.149	3.22	2.365	BMB
5	5.53	Nitrate	56.636	8.203	22.97	2.375	BMB
6	9.01	Sulfate	16.980	4.379	12.26	4.954	BMB
Total:			265.126	35.710	100.00	22.342	

13 K1413799-1			
Sample Name:	K1413799-1	Injection Volume:	200.0
Vial Number:	3	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 9:19	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000

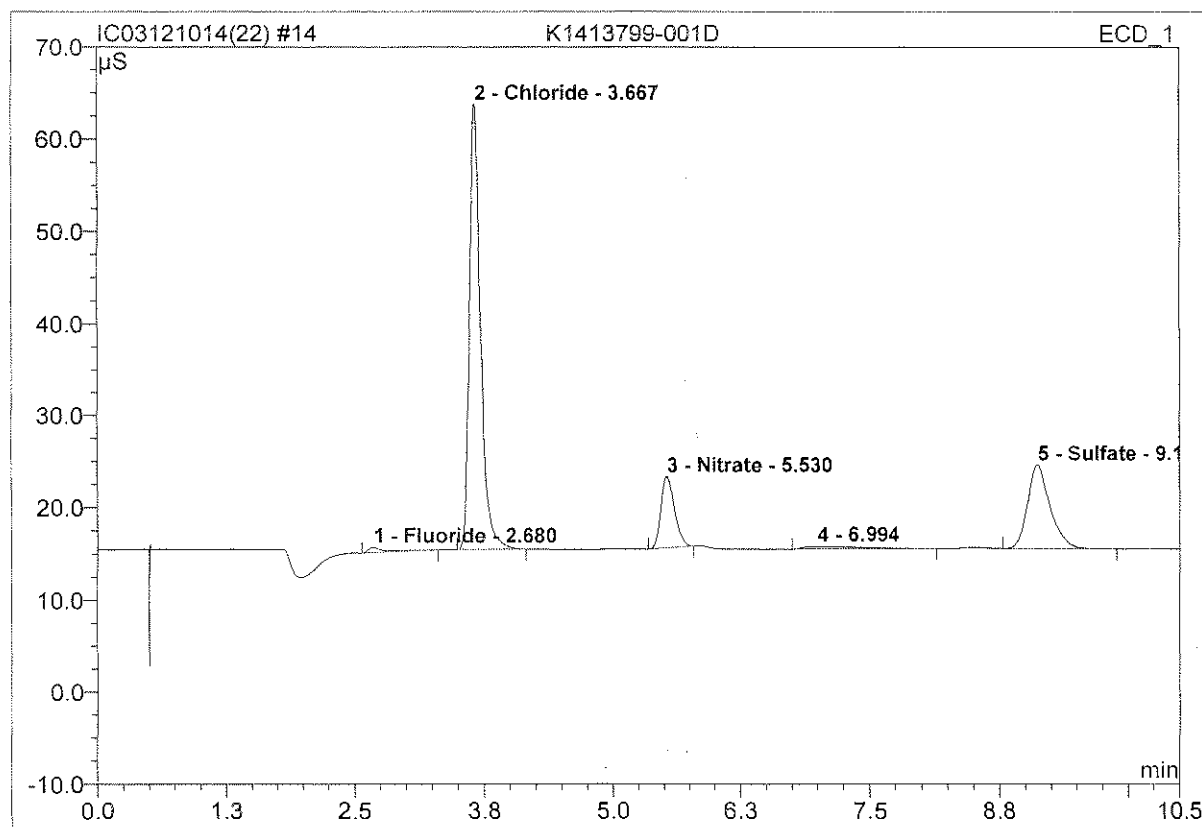


No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.703	0.132	1.36	0.151	BMB
2	3.68	Chloride	48.803	5.976	61.52	8.644	BMB
3	5.54	Nitrate	7.899	1.219	12.55	0.706	BMB
4	7.03	n.a.	0.228	0.095	0.98	n.a.	BMB
5	9.12	Sulfate	9.254	2.291	23.59	5.185	BMB
Total:			66.887	9.714	100.00	14.685	

14 K1413799-001D

D

Sample Name:	K1413799-001D	Injection Volume:	200.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 9:33	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000

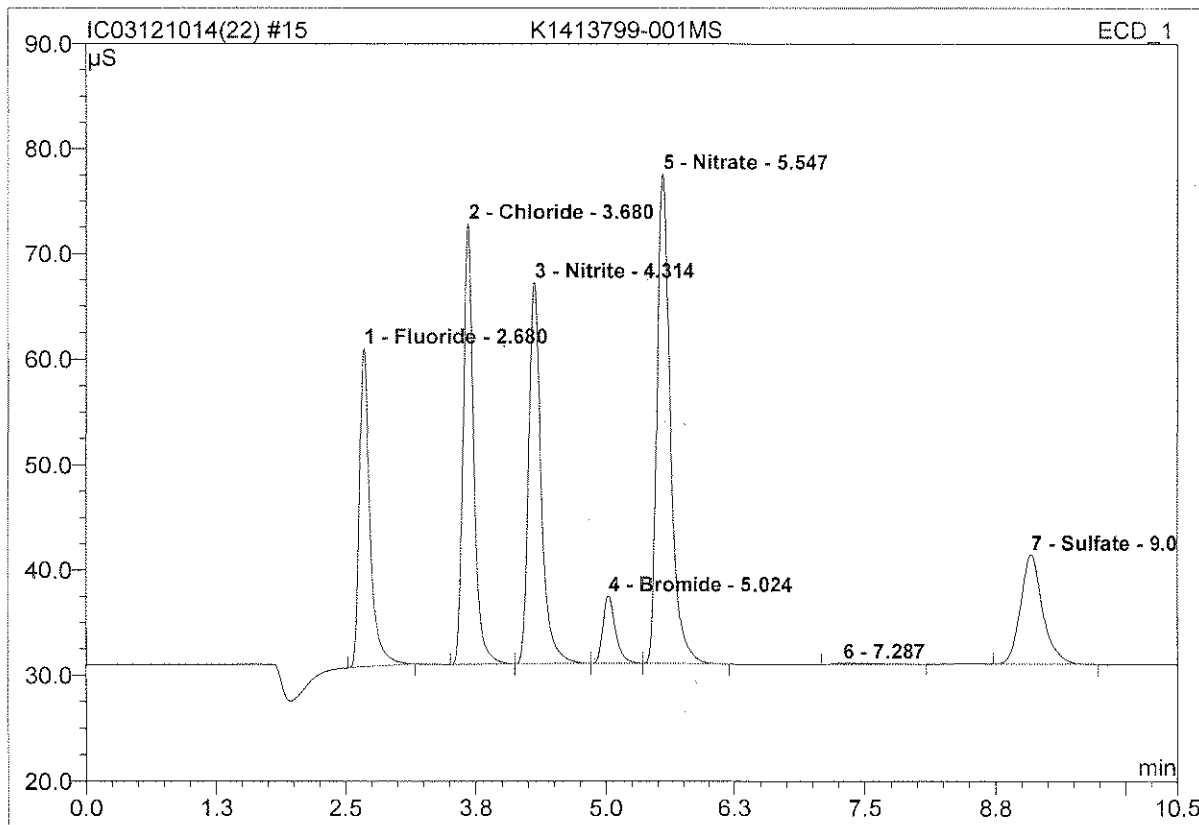


No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.568	0.109	1.12	0.124	BMB
2	3.67	Chloride	48.275	5.948	61.23	8.602	BMB
3	5.53	Nitrate	7.707	1.190	12.25	0.689	BMB
4	6.99	n.a.	0.294	0.197	2.03	n.a.	BMB
5	9.12	Sulfate	9.051	2.269	23.36	5.134	BMB
Total:			65.894	9.713	100.00	14.550	

15 K1413799-001MS

MS

Sample Name:	K1413799-001MS	Injection Volume:	200.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	12/10/2014 9:46	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



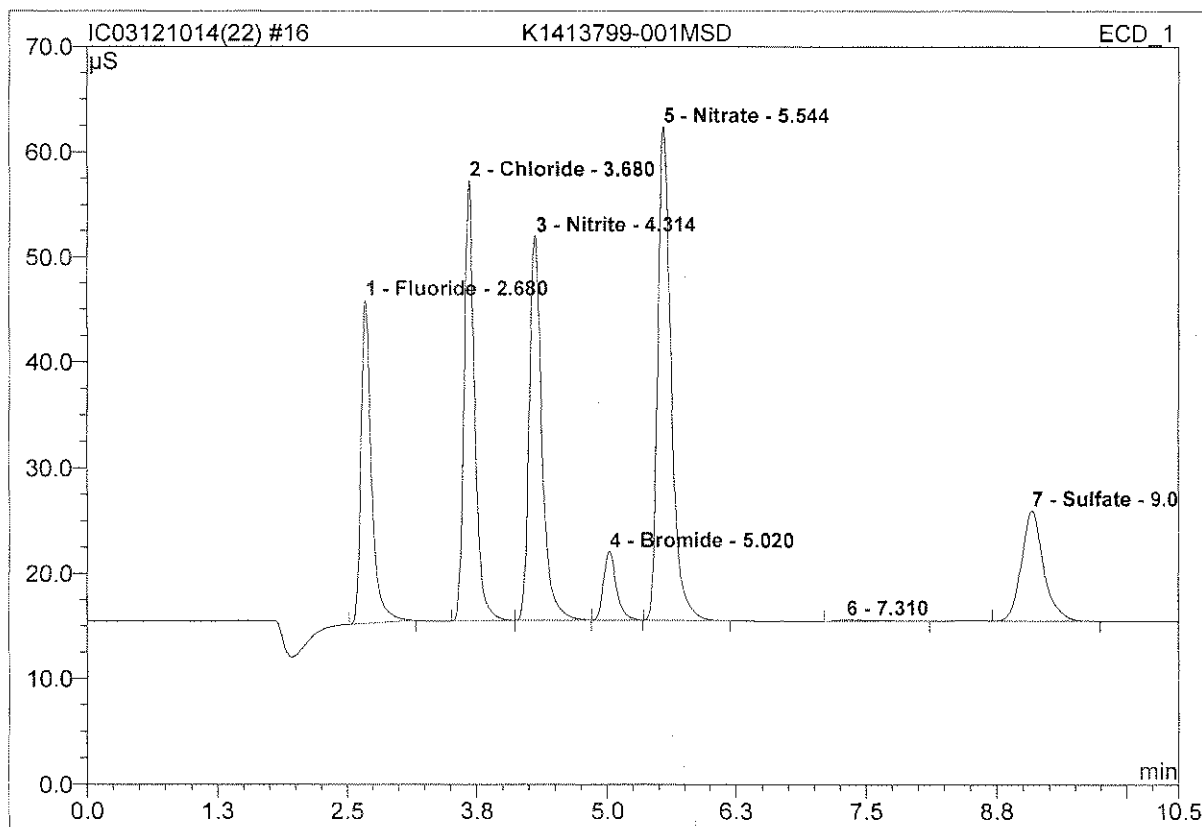
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	30.236	3.595	14.90	10.274	BMB
2	3.68	Chloride	41.814	4.913	20.36	17.765	BMB
3	4.31	Nitrite	36.171	5.035	20.87	10.324	BMB
4	5.02	Bromide	6.431	0.909	3.77	9.357	BMB
5	5.55	Nitrate	46.527	7.035	29.15	10.183	BMB
6	7.29	n.a.	0.142	0.068	0.28	n.a.	BMB
7	9.09	Sulfate	10.423	2.577	10.68	14.575	BMB
Total:			171.744	24.132	100.00	72.479	

5/12/14

16 K1413799-001MSD

MSD

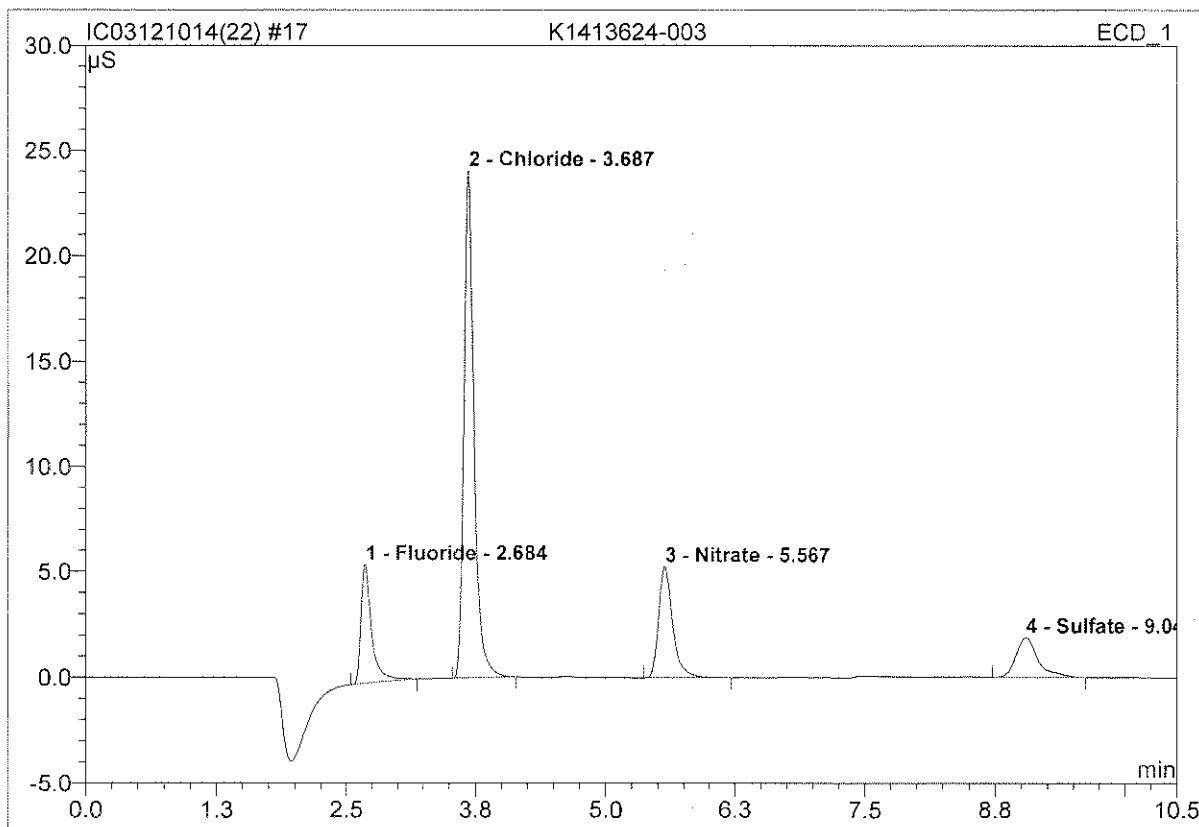
Sample Name:	K1413799-001MSD	Injection Volume:	200.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	12/10/2014 10:00	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	30.610	3.643	15.05	10.410	BMB
2	3.68	Chloride	41.755	4.898	20.24	17.709	BMB
3	4.31	Nitrite	36.454	5.056	20.89	10.366	BMB
4	5.02	Bromide	6.480	0.915	3.78	9.425	BMB
5	5.54	Nitrate	46.779	7.048	29.12	10.202	BMB
6	7.31	n.a.	0.141	0.067	0.28	n.a.	BMB
7	9.08	Sulfate	10.427	2.575	10.64	14.568	BMB
Total:			172.645	24.201	100.00	72.680	

17 K1413624-003

Sample Name:	K1413624-003	Injection Volume:	200.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 10:14	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000

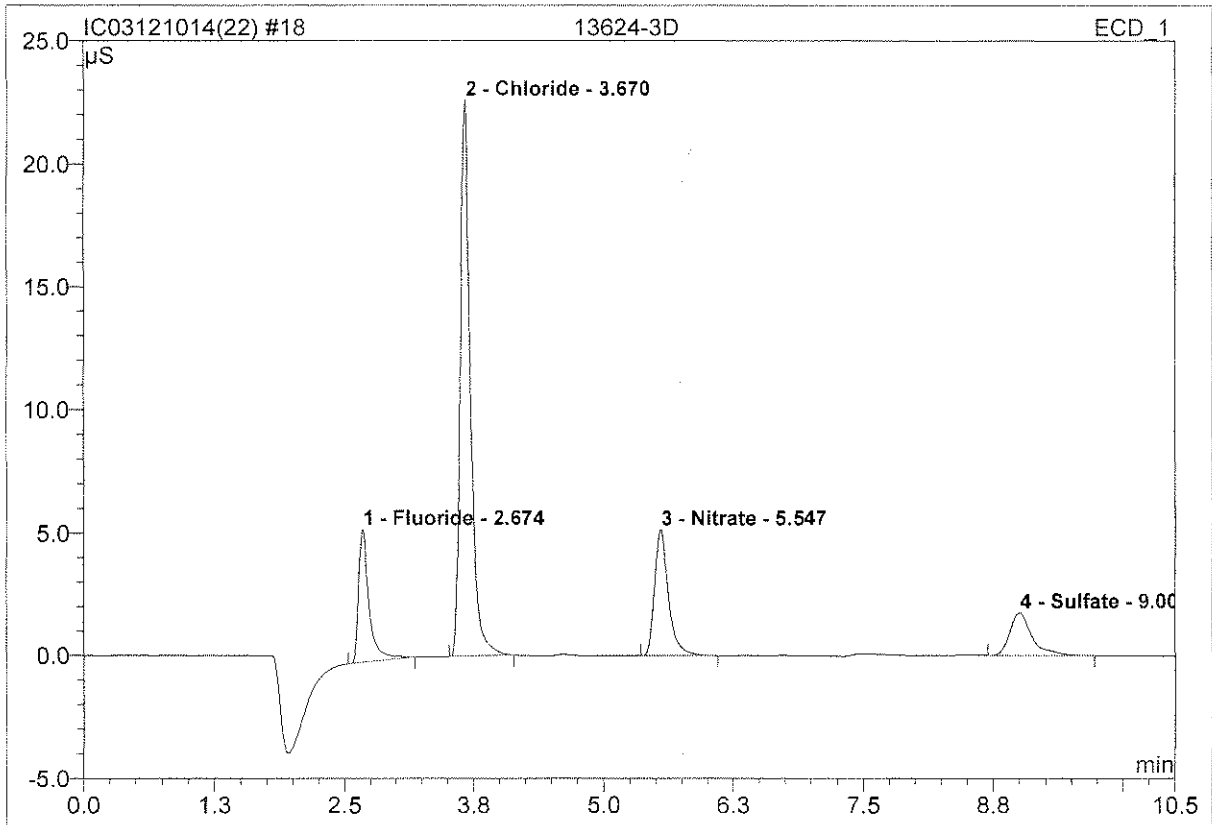


No.	Ret. Time min	Peak Name	Height μS	Area μS*min	Rel. Area %	Amount	Type
1	2.68	Fluoride	5.619	0.673	14.44	0.770	BMB
2	3.69	Chloride	24.067	2.713	58.20	3.923	BMB
3	5.57	Nitrate	5.249	0.817	17.54	0.473	BMB
4	9.04	Sulfate	1.878	0.458	9.82	1.036	BMB
Total:			36.814	4.661	100.00	6.202	

18 13624-3D

D

Sample Name:	13624-3D	Injection Volume:	200.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 10:27	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000

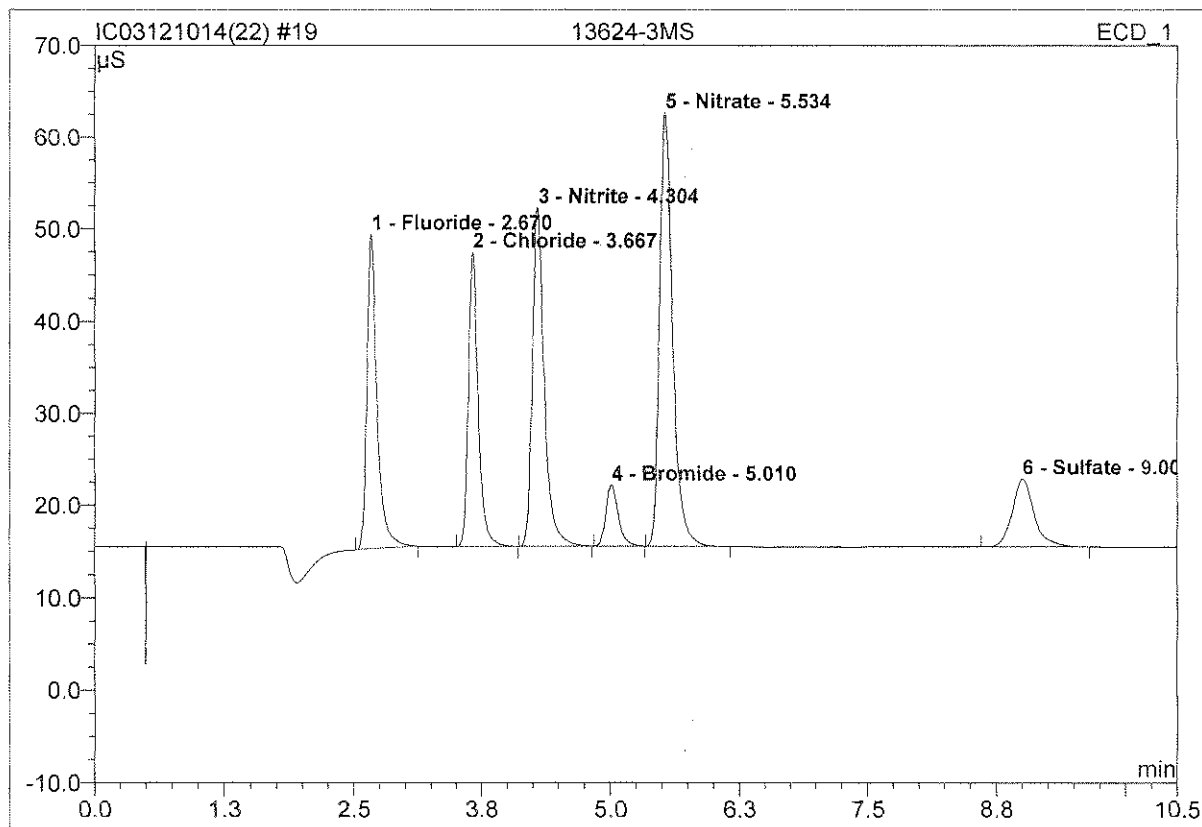


No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	5.424	0.645	14.55	0.738	BMB
2	3.67	Chloride	22.608	2.565	57.83	3.710	BMB
3	5.55	Nitrate	5.127	0.797	17.97	0.462	BMB
4	9.00	Sulfate	1.747	0.428	9.65	0.968	BMB
Total:			34.906	4.436	100.00	5.878	

19 13624-3MS

MS

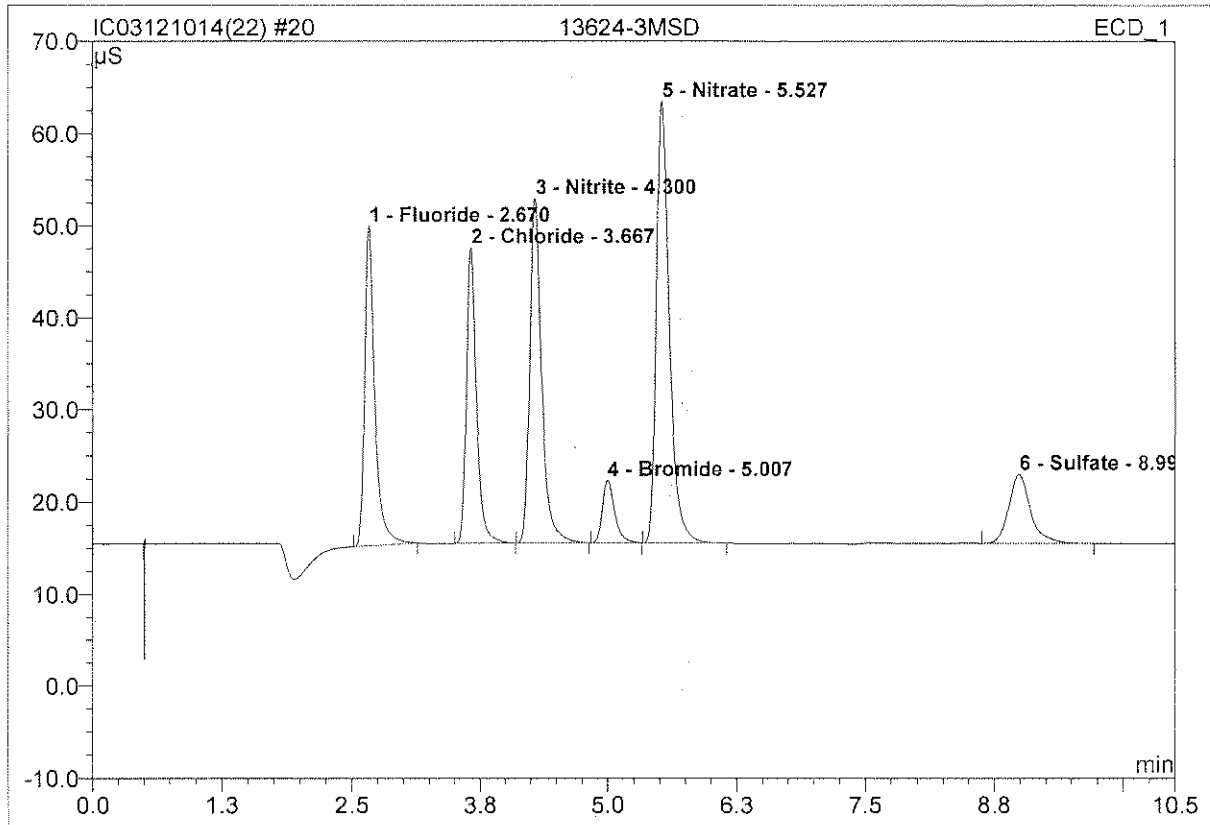
Sample Name:	13624-3MS	Injection Volume:	200.0
Vial Number:	9	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	12/10/2014 10:41	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	34.122	3.881	17.64	11.090	BMB
2	3.67	Chloride	31.937	3.594	16.34	12.995	BMB
3	4.30	Nitrite	36.743	4.932	22.42	10.113	BMB
4	5.01	Bromide	6.600	0.904	4.11	9.307	BMB
5	5.53	Nitrate	47.092	6.898	31.36	9.985	BMB
6	9.00	Sulfate	7.340	1.788	8.13	10.112	BMB
Total:			163.833	21.997	100.00	63.602	

5/16-10.10

20 13624-3MSD			
MSD			
Sample Name:	13624-3MSD	Injection Volume:	200.0
Vial Number:	10	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	12/10/2014 10:55	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



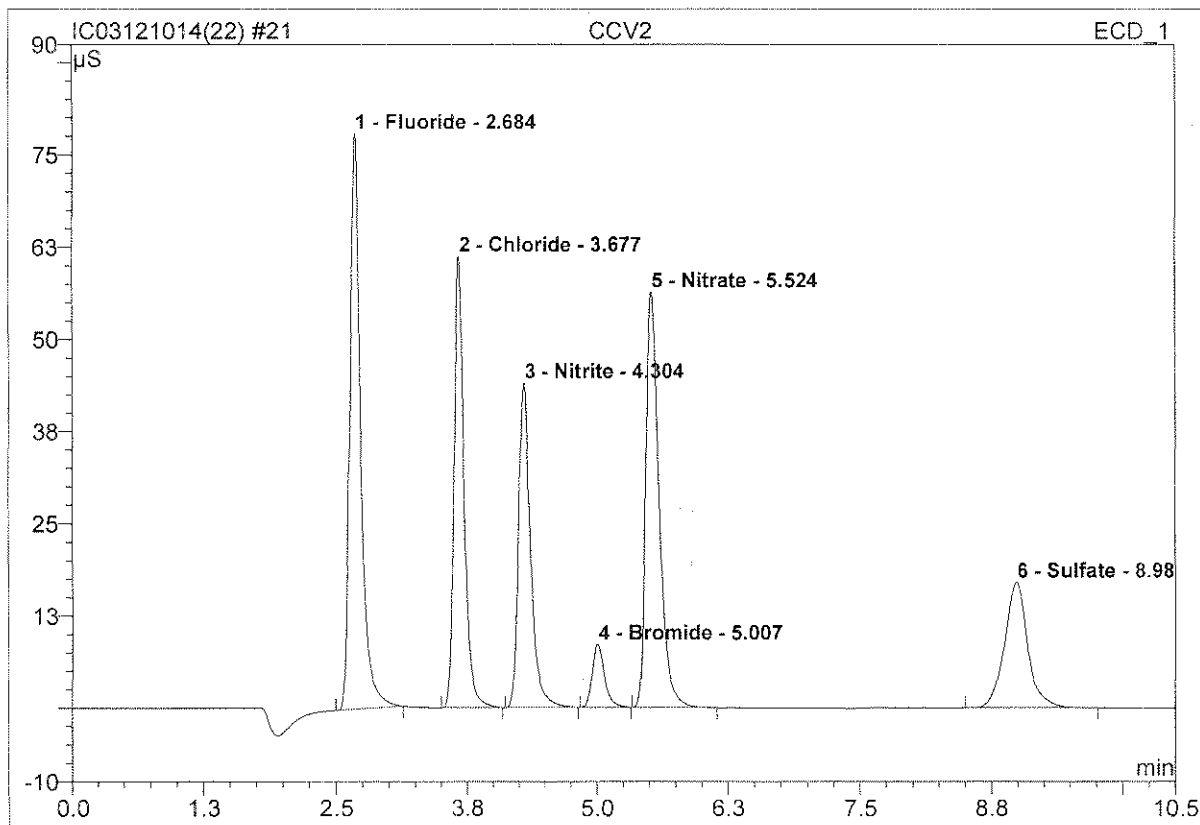
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	34.671	3.957	17.75	11.309	BMB
2	3.67	Chloride	32.087	3.624	16.25	13.103	BMB
3	4.30	Nitrite	37.389	4.990	22.38	10.232	BMB
4	5.01	Bromide	6.719	0.916	4.11	9.427	BMB
5	5.53	Nitrate	47.858	7.005	31.41	10.140	BMB
6	8.99	Sulfate	7.419	1.807	8.10	10.224	BMB
Total:			166.144	22.300	100.00	64.435	

2/11/14.6

21 CCV2

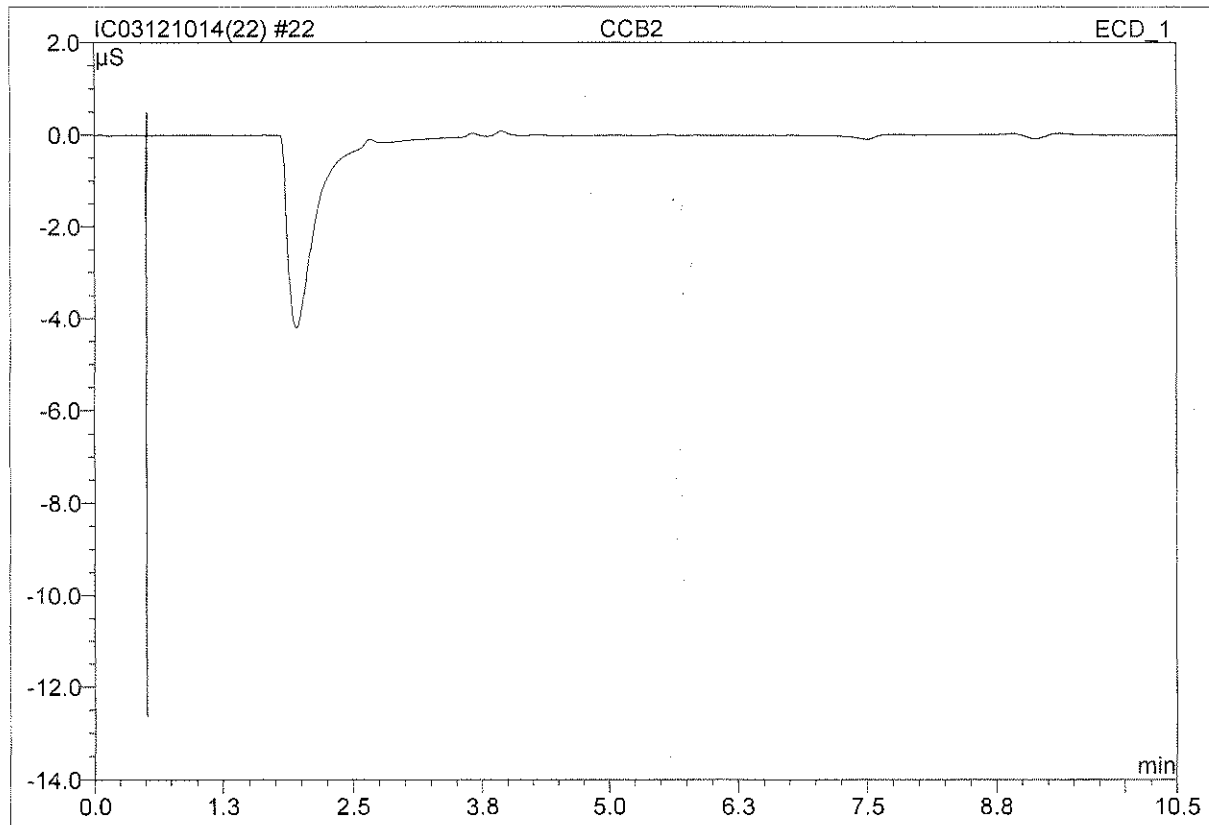
CCV2

Sample Name:	CCV2	Injection Volume:	200.0
Vial Number:	46	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 11:08	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	77.961	9.395	26.22	5.370	BMB
2	3.68	Chloride	61.190	6.826	19.05	4.936	BMB
3	4.30	Nitrite	44.002	5.894	16.45	2.417	BMB
4	5.01	Bromide	8.530	1.146	3.20	2.361	BMB
5	5.52	Nitrate	56.300	8.175	22.81	2.367	BMB
6	8.99	Sulfate	17.063	4.398	12.27	4.976	BMB
Total:			265.046	35.835	100.00	22.427	

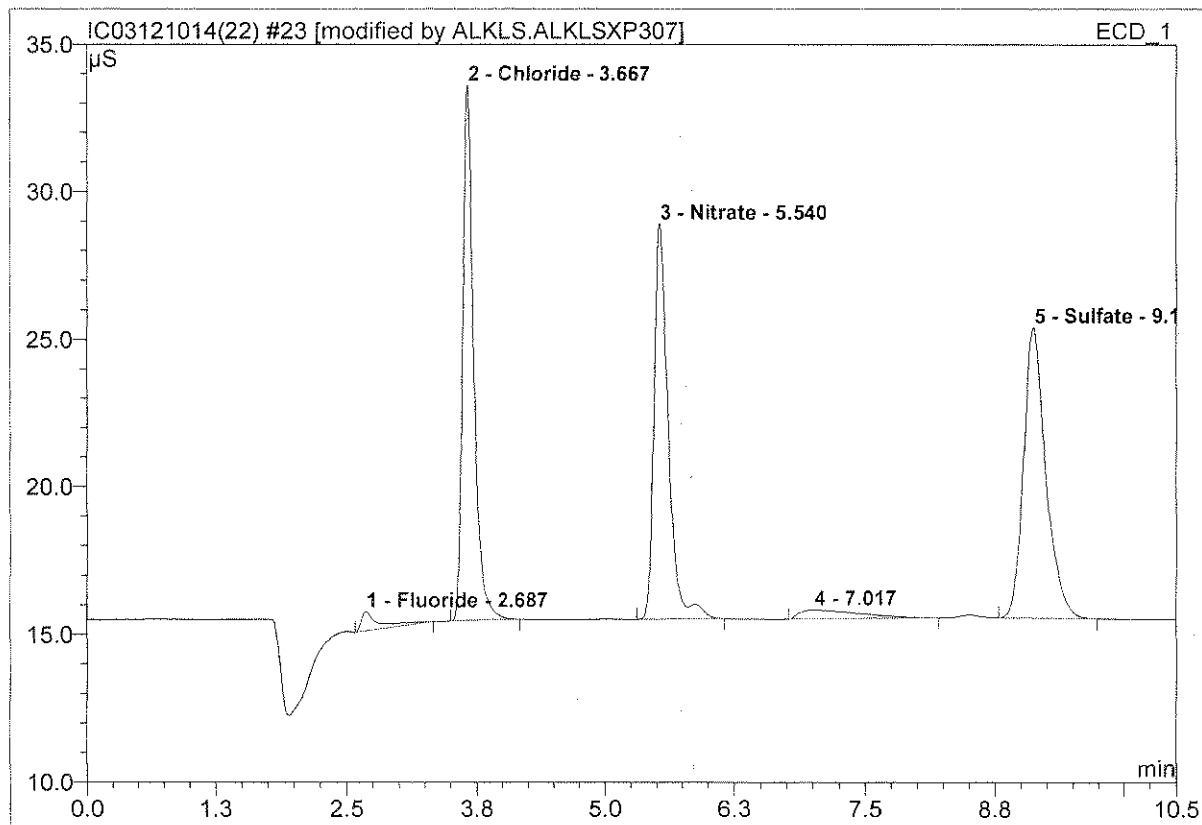
22 CCB2			
CCB2			
Sample Name:	CCB2	Injection Volume:	200.0
Vial Number:	47	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 11:22	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

23 K1413816-001

Sample Name:	K1413816-001	Injection Volume:	200.0
Vial Number:	11	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 12:37	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.646	0.127	1.77	0.145	BMB
2	3.67	Chloride	18.136	2.227	31.09	3.221	BMB
3	5.54	Nitrate	13.392	2.161	30.17	1.251	BMB*
4	7.02	n.a.	0.304	0.205	2.86	n.a.	BMB
5	9.12	Sulfate	9.854	2.443	34.10	5.527	BMB
Total:			42.331	7.163	100.00	10.146	

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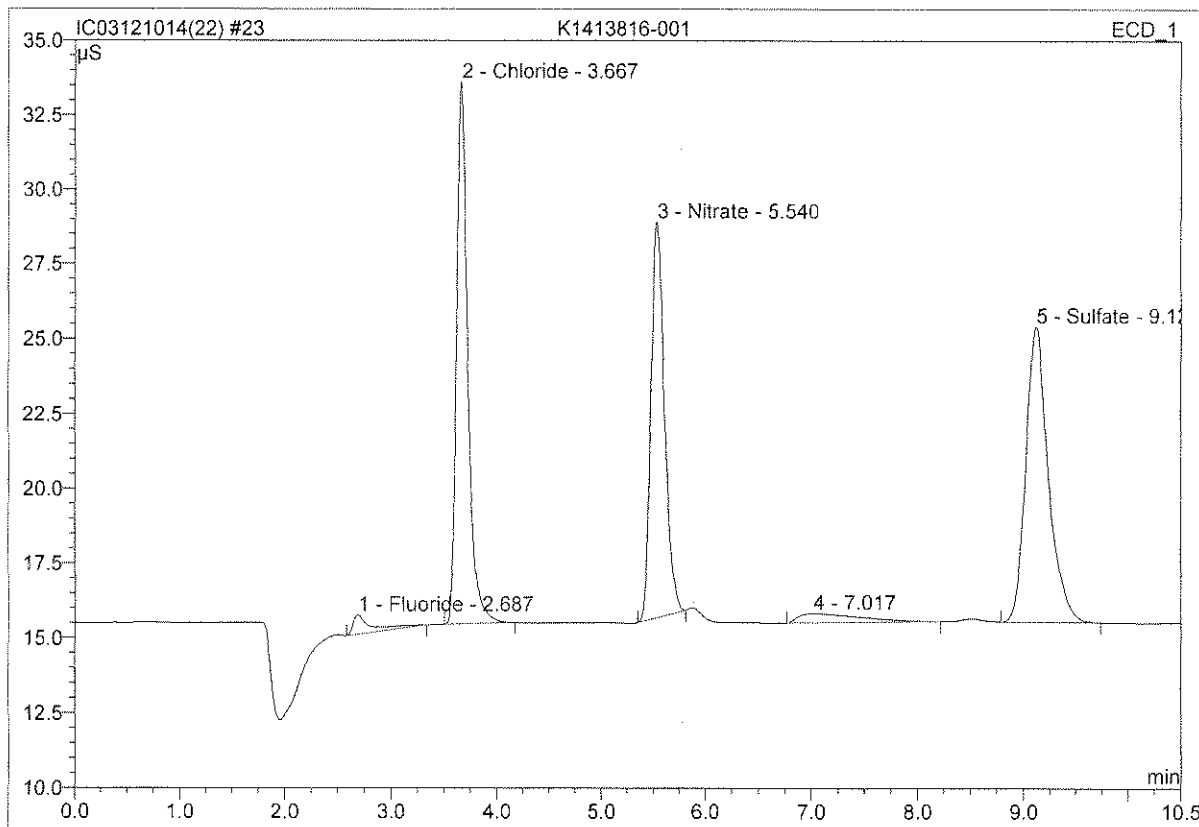
default/Integration

Wrong Peak/Peak not Found
 Baseline/shoulder Incorrect
 Other

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR11d Build 3302 (196279)

23 K1413816-001

Sample Name:	K1413816-001	Injection Volume:	200.0
Vial Number:	11	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 12:37	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000

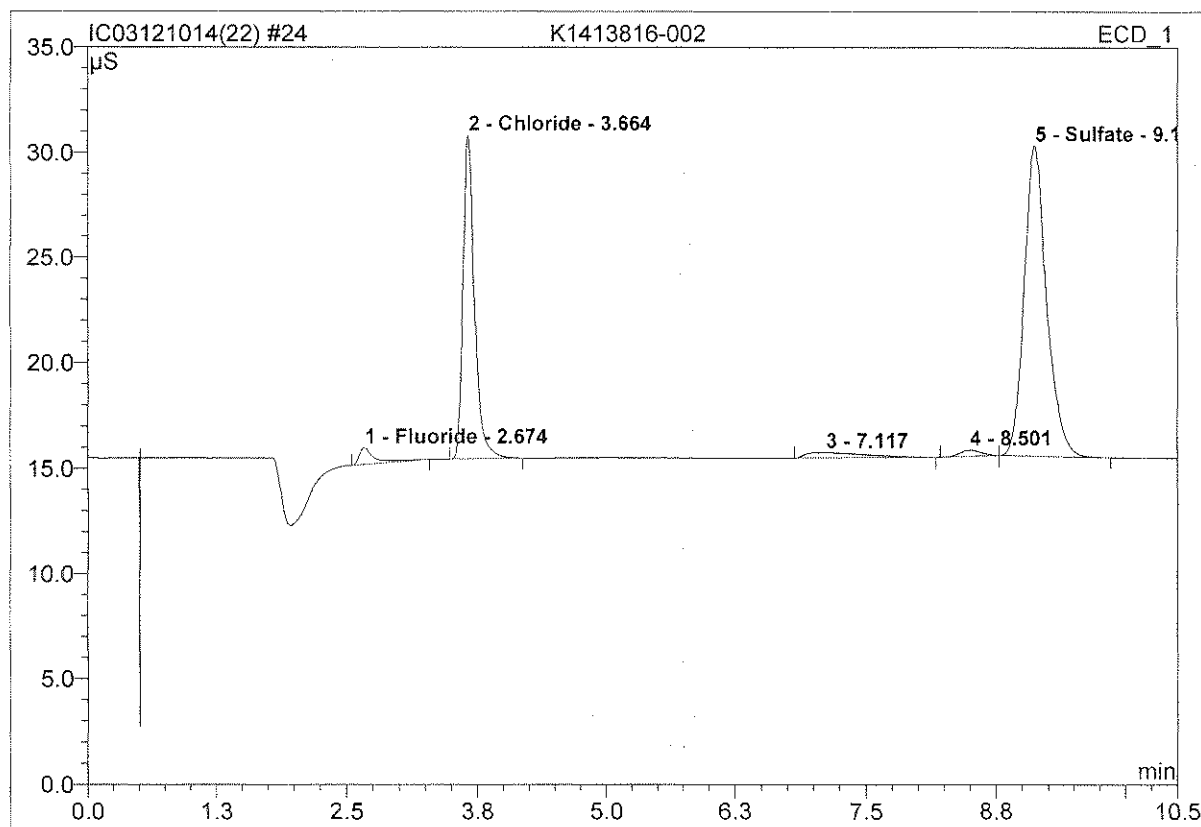


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.646	0.127	1.82	0.145	BMB
2	3.67	Chloride	18.136	2.227	31.86	3.221	BMB
3	5.54	Nitrate	13.220	1.988	28.44	1.151	BMB
4	7.02	n.a.	0.304	0.205	2.93	n.a.	BMB
5	9.12	Sulfate	9.854	2.443	34.95	5.527	BMB
Total:			42.160	6.990	100.00	10.045	

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24 K1413816-002

Sample Name:	K1413816-002	Injection Volume:	200.0
Vial Number:	12	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 12:51	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000

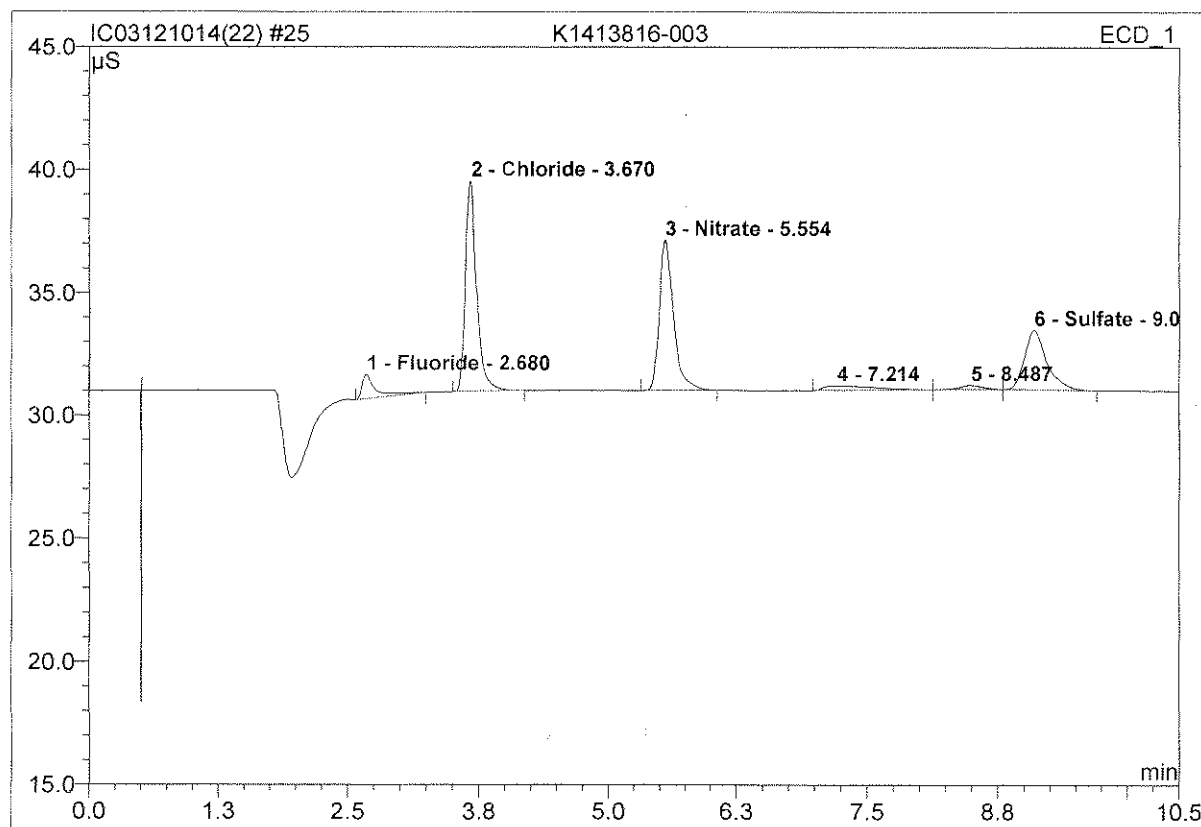


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	0.787	0.134	2.23	0.154	BMB
2	3.66	Chloride	15.358	1.960	32.57	2.834	BMB
3	7.12	n.a.	0.257	0.170	2.82	n.a.	BMB
4	8.50	n.a.	0.300	0.072	1.20	n.a.	BMB
5	9.12	Sulfate	14.744	3.680	61.18	8.328	bMB
Total:			31.446	6.016	100.00	11.316	

NO3 2010

25 K1413816-003

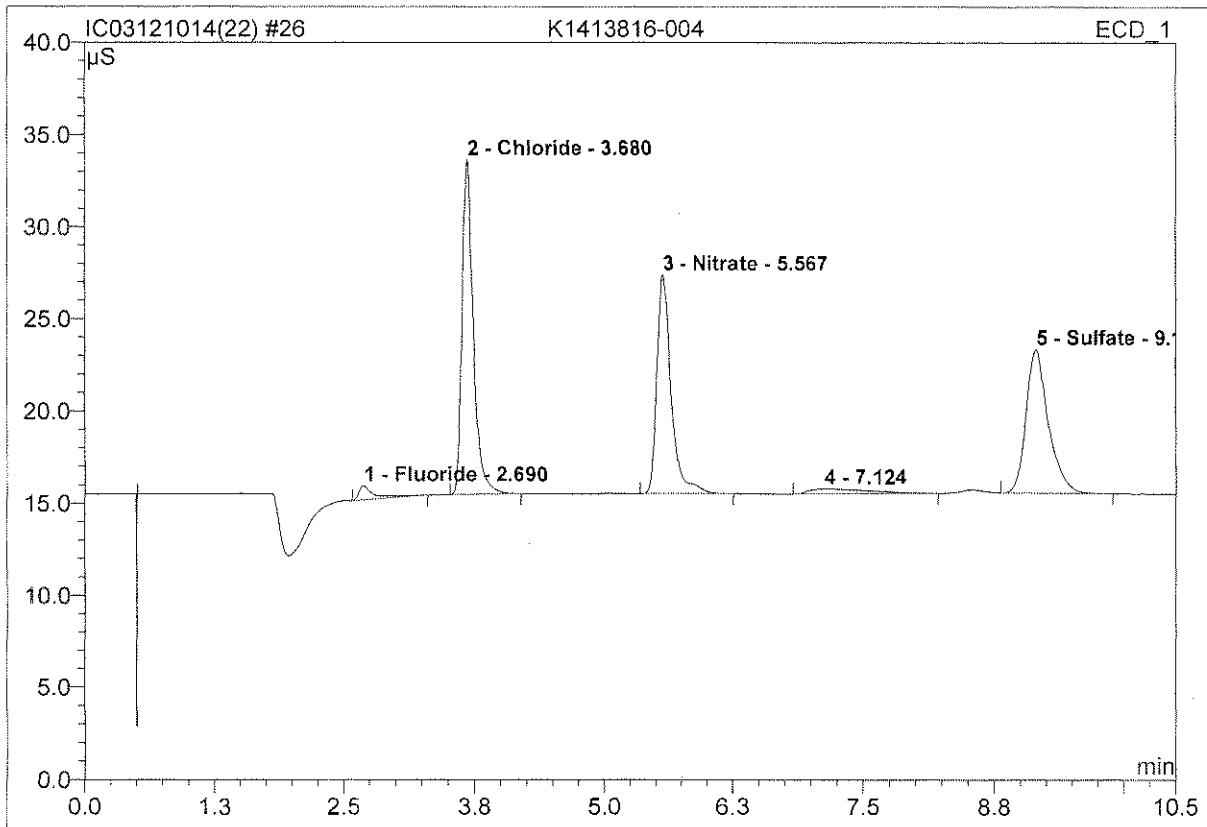
Sample Name:	K1413816-003	Injection Volume:	200.0
Vial Number:	13	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 13:04	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	0.987	0.149	5.04	0.170	BMB
2	3.67	Chloride	8.552	1.058	35.79	1.530	BMB
3	5.55	Nitrate	6.120	0.989	33.46	0.573	BMB
4	7.21	n.a.	0.194	0.109	3.68	n.a.	BMB
5	8.49	n.a.	0.173	0.046	1.54	n.a.	BMB
6	9.09	Sulfate	2.422	0.606	20.49	1.370	bMB
Total:			18.449	2.955	100.00	3.643	

26 K1413816-004

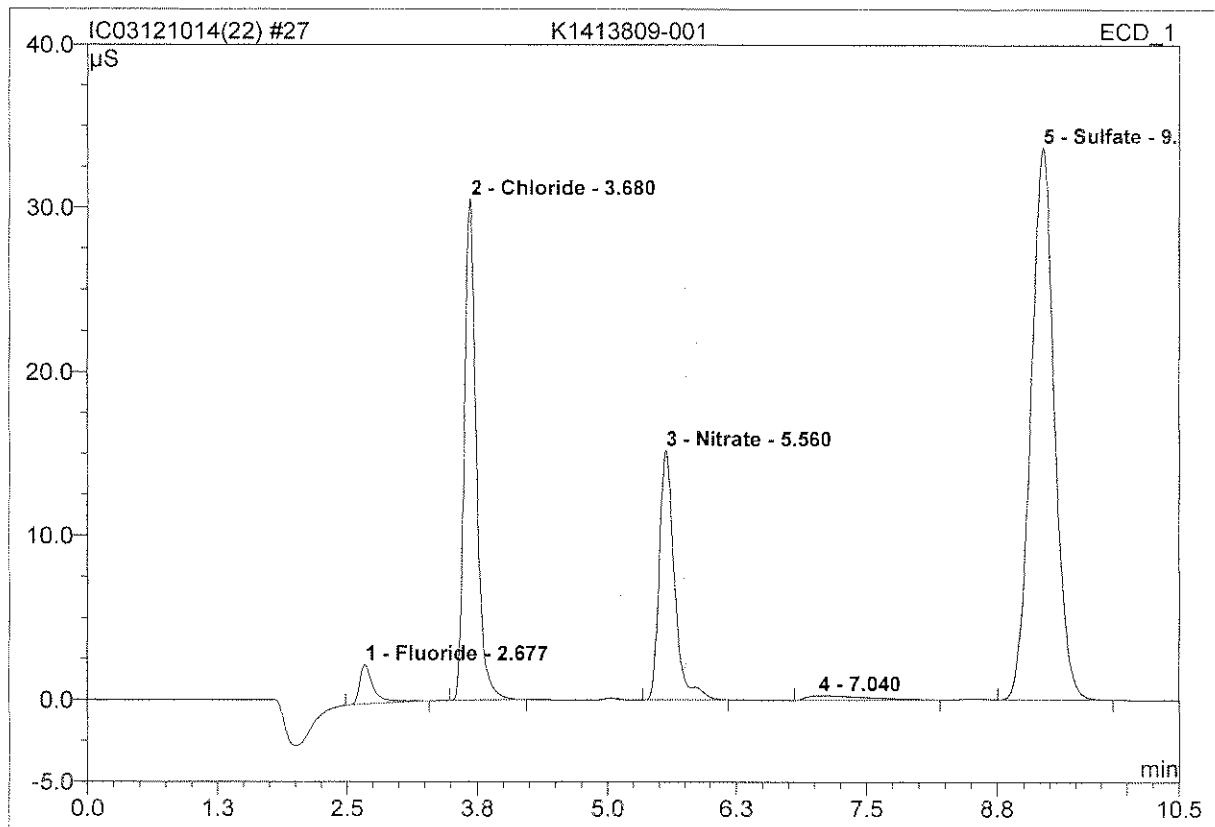
Sample Name:	K1413816-004	Injection Volume:	200.0
Vial Number:	14	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 13:18	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.753	0.127	1.98	0.145	BMB
2	3.68	Chloride	18.164	2.252	35.04	3.257	BMB
3	5.57	Nitrate	11.867	1.940	30.18	1.123	BMB
4	7.12	n.a.	0.264	0.171	2.66	n.a.	BMB
5	9.15	Sulfate	7.784	1.937	30.14	4.384	BMB
Total:			38.832	6.427	100.00	8.909	

27 K1413809-001

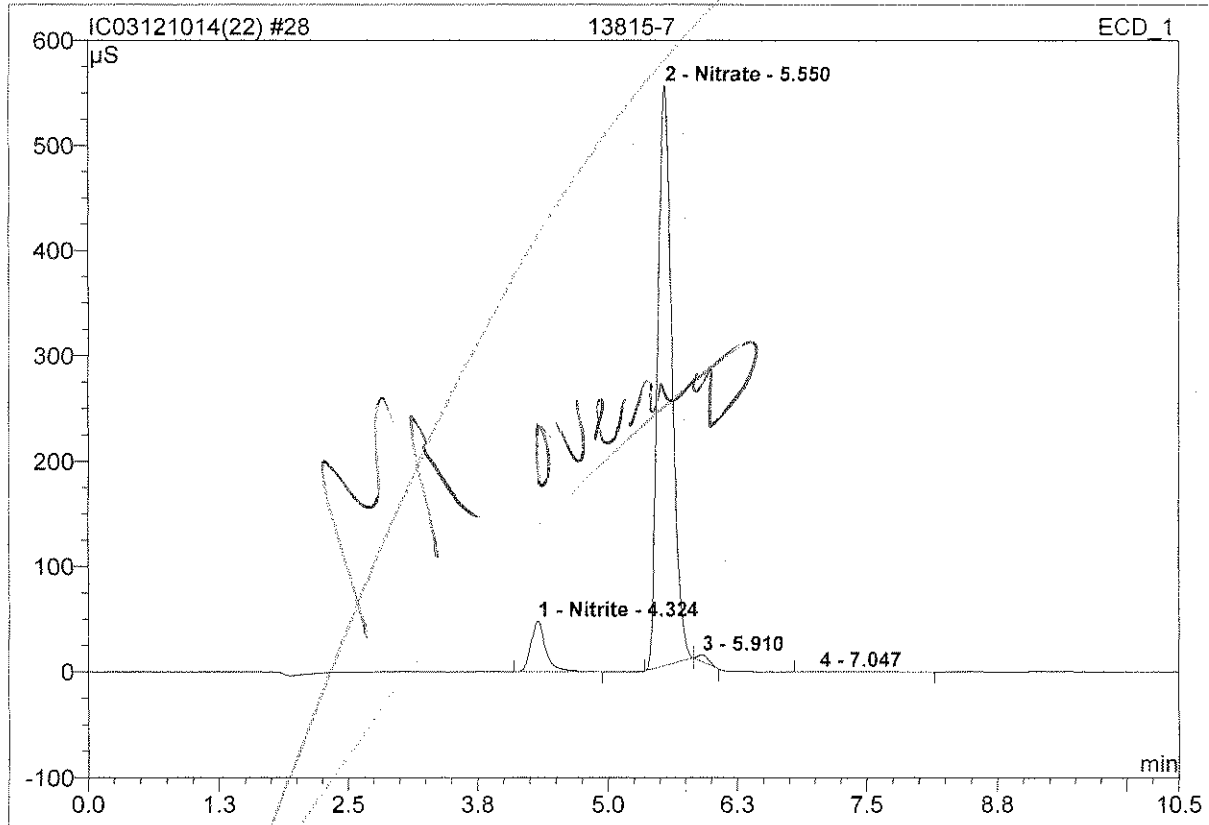
Sample Name:	K1413809-001	Injection Volume:	200.0
Vial Number:	15	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 13:32	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.68	Fluoride	2.389	0.367	2.29	0.419	BMB
2	3.68	Chloride	30.509	4.051	25.33	5.859	BMB
3	5.56	Nitrate	15.191	2.597	16.23	1.503	BMB
4	7.04	n.a.	0.285	0.190	1.19	n.a.	BMB
5	9.18	Sulfate	33.641	8.790	54.96	19.891	BMB
Total:			82.014	15.995	100.00	27.673	

28 13815-7

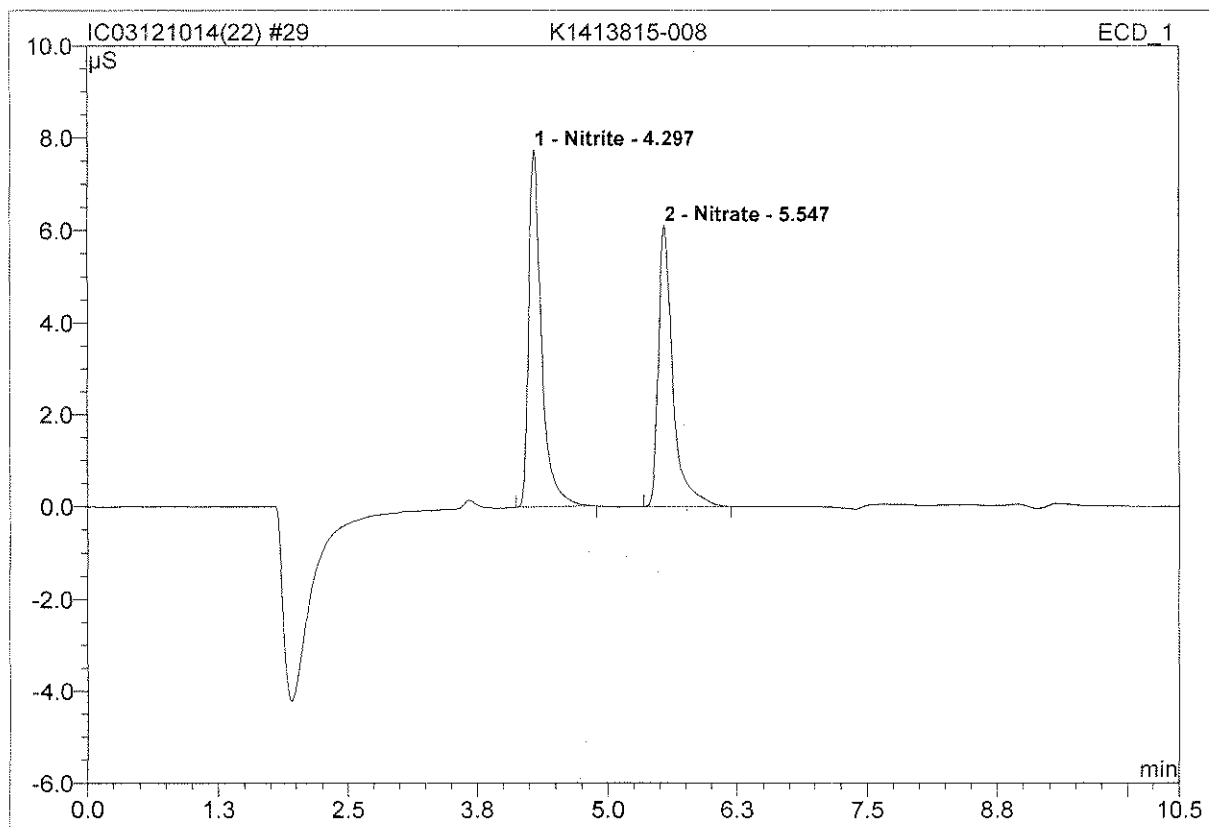
Sample Name:	13815-7	Injection Volume:	200.0
Vial Number:	16	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 13:45	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.32	Nitrite	48.090	7.826	8.08	6.418	BMB
2	5.55	Nitrate	551.314	88.049	90.92	50.981	BMB
3	5.91	n.a.	6.153	0.779	0.80	n.a.	bMB
4	7.05	n.a.	0.289	0.191	0.20	n.a.	BMB
Total:			605.846	96.844	100.00	57.399	

29 K1413815-008

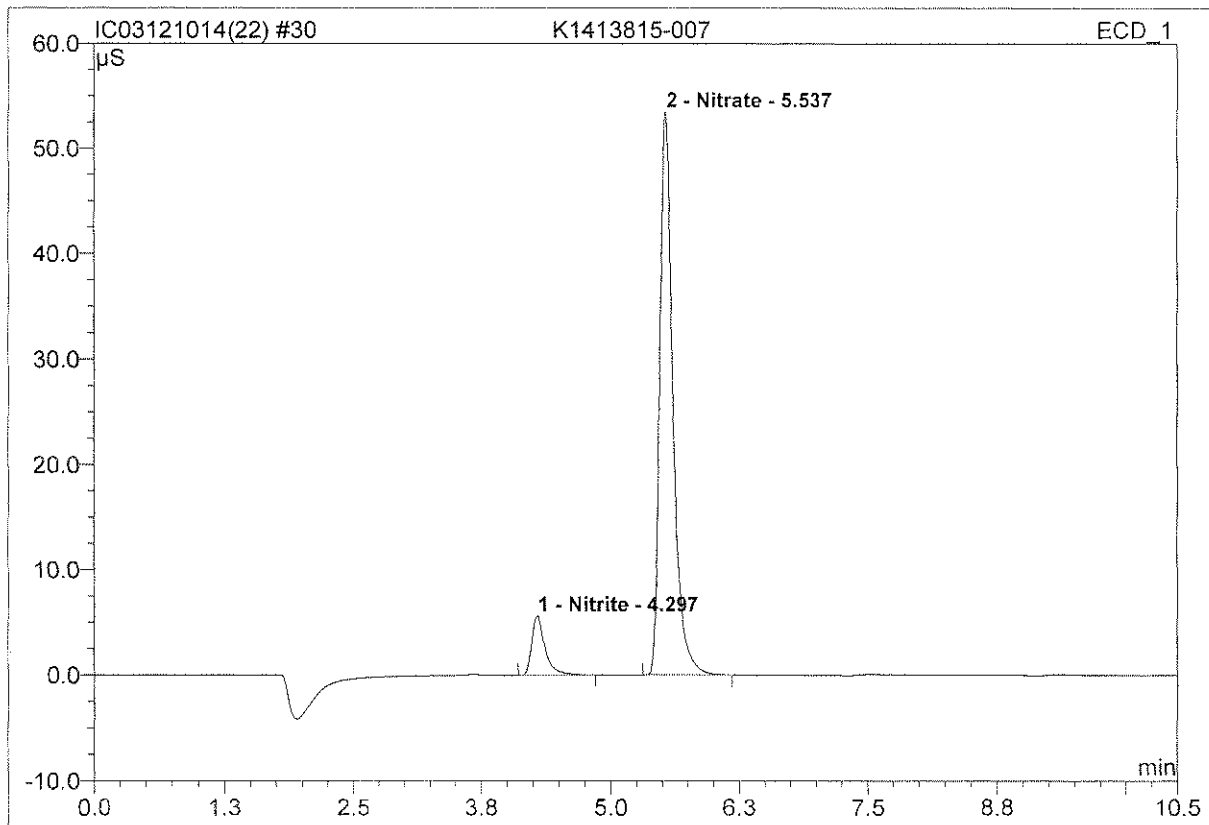
Sample Name:	K1413815-008	Injection Volume:	200.0
Vial Number:	17	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 13:59	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	4.30	Nitrite	7.743	1.094	52.25	0.897	BMB
2	5.55	Nitrate	6.102	1.000	47.75	0.579	BMB
Total:			13.846	2.094	100.00	1.476	

30 K1413815-007

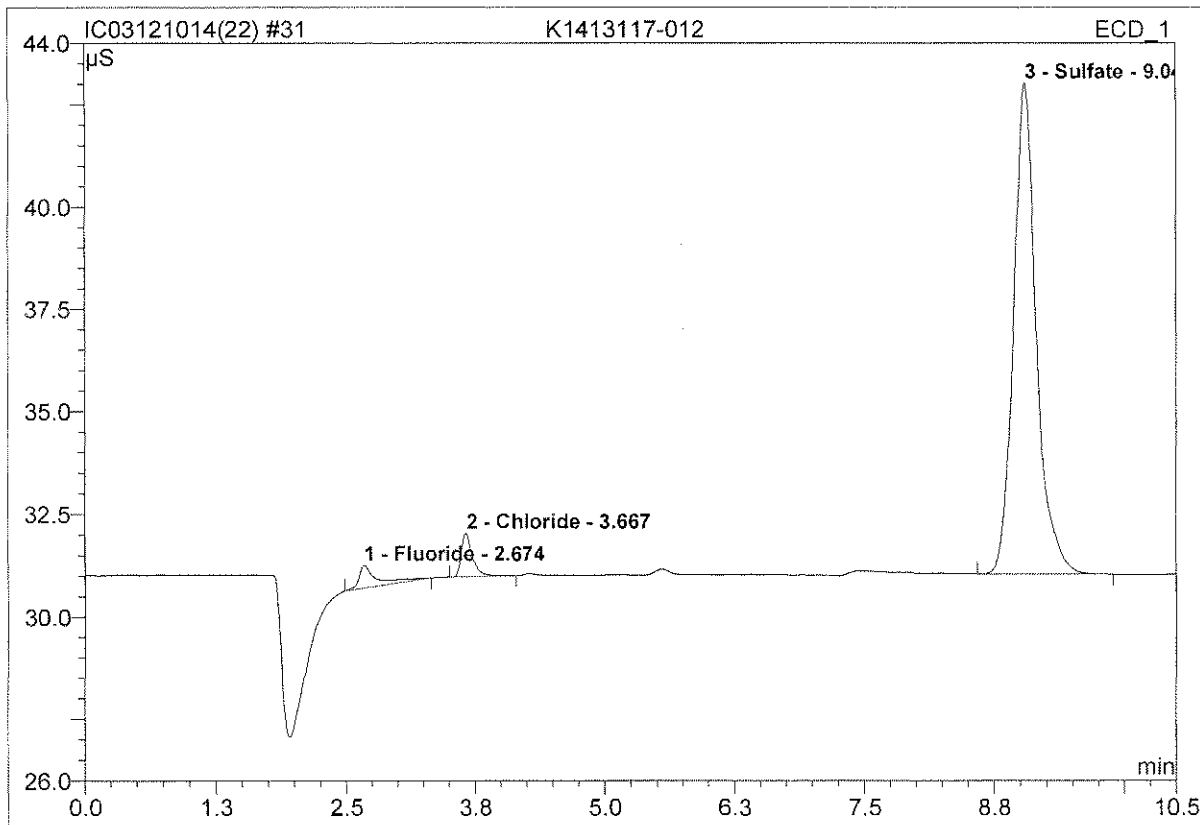
Sample Name:	K1413815-007	Injection Volume:	200.0
Vial Number:	19	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	12/10/2014 14:13	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	4.30	Nitrite	5.622	0.836	9.37	6.853	BMB
2	5.54	Nitrate	53.474	8.086	90.63	46.820	BMB
Total:			59.096	8.922	100.00	53.672	

31 K1413117-012

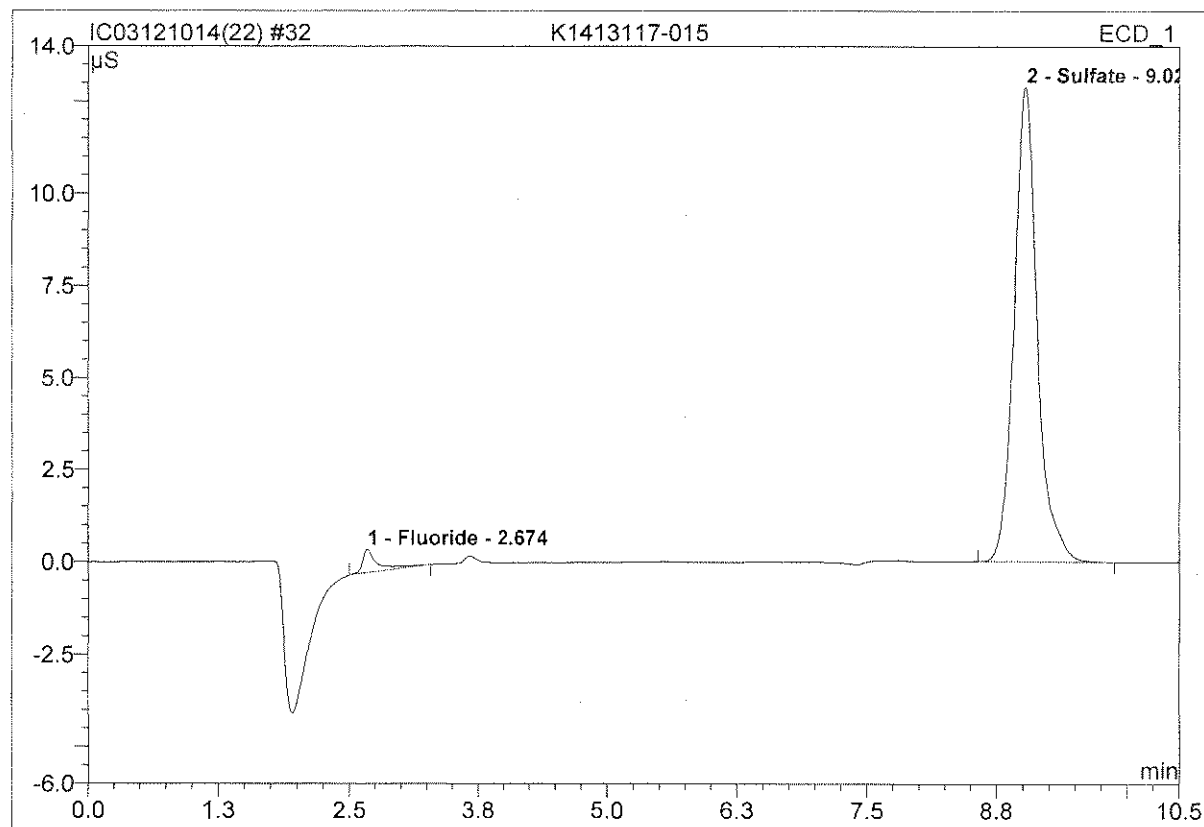
Sample Name:	K1413117-012	Injection Volume:	200.0
Vial Number:	20	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	10.0000
Recording Time:	12/10/2014 14:26	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	0.549	0.111	3.39	0.632	BMB
2	3.67	Chloride	1.049	0.131	4.02	0.947	BMB
3	9.05	Sulfate	11.984	3.020	92.59	34.167	BMB
Total:			13.582	3.261	100.00	35.747	

32 K1413117-015

Sample Name:	K1413117-015	Injection Volume:	200.0
Vial Number:	21	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	20.0000
Recording Time:	12/10/2014 14:40	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000

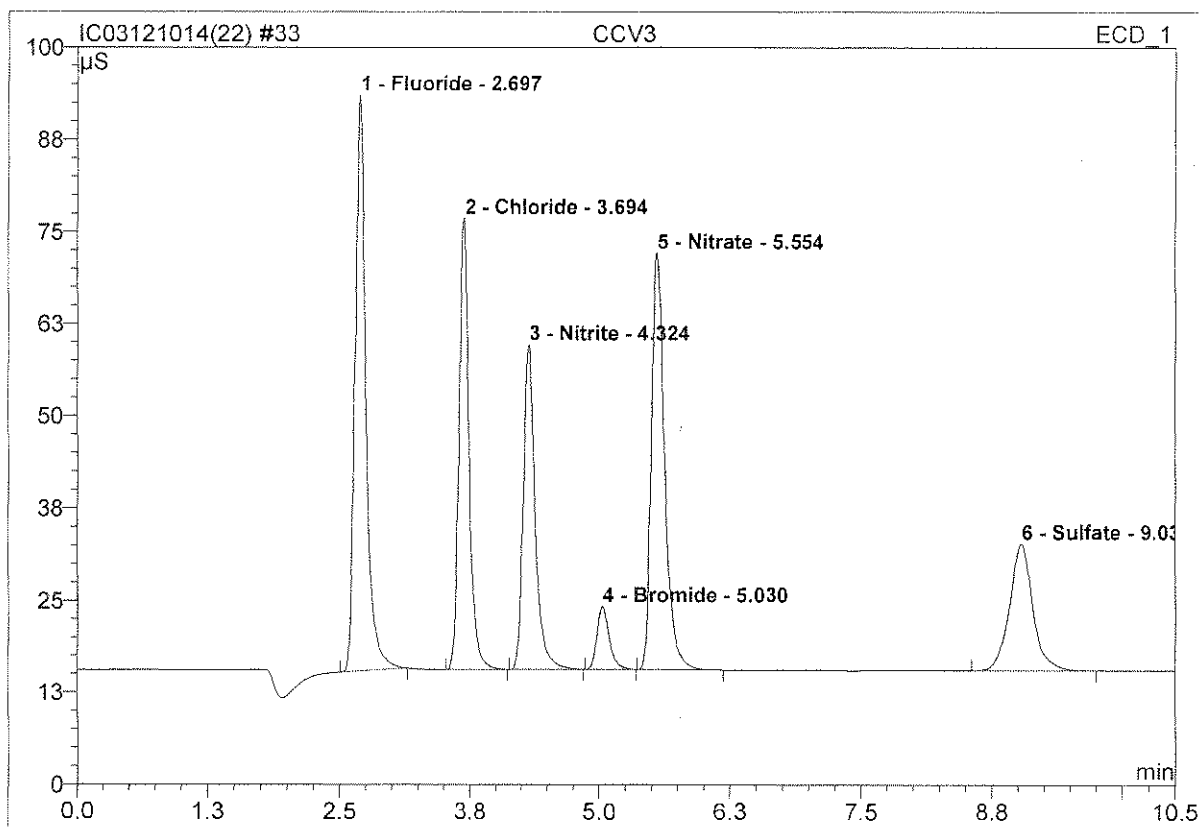


No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	0.622	0.106	3.14	1.212	BMB
2	9.03	Sulfate	12.881	3.275	96.86	74.119	BMB
Total:			13.502	3.382	100.00	75.331	

33 CCV3

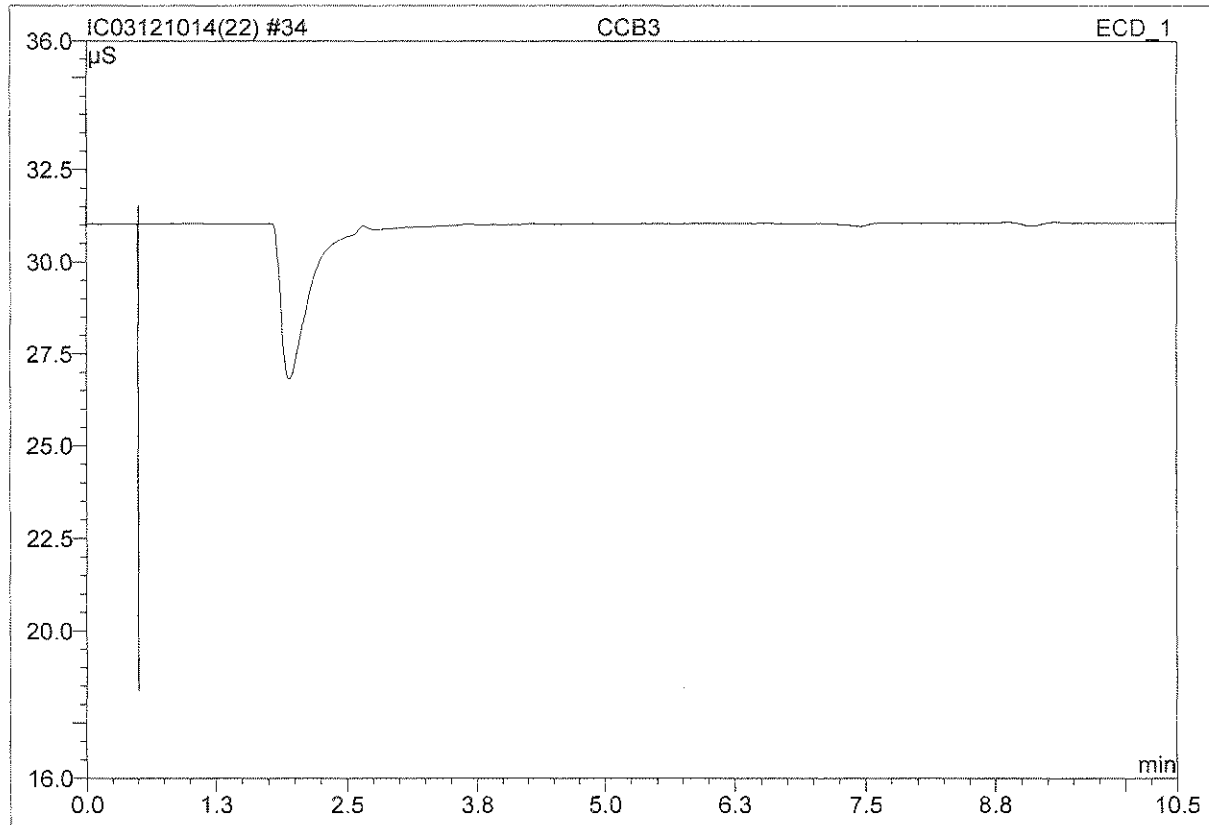
CCV3

Sample Name:	CCV3	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 14:54	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.70	Fluoride	78.108	9.452	26.20	108 5.402	BMB
2	3.69	Chloride	61.213	6.835	18.94	99 4.943	BMB
3	4.32	Nitrite	44.000	5.936	16.45	97 2.434	BMB
4	5.03	Bromide	8.556	1.159	3.21	96 2.387	BMB
5	5.55	Nitrate	56.500	8.259	22.89	96 2.391	BMB
6	9.04	Sulfate	17.185	4.438	12.30	100 5.021	BMB
Total:			265.563	36.079	100.00	22.578	

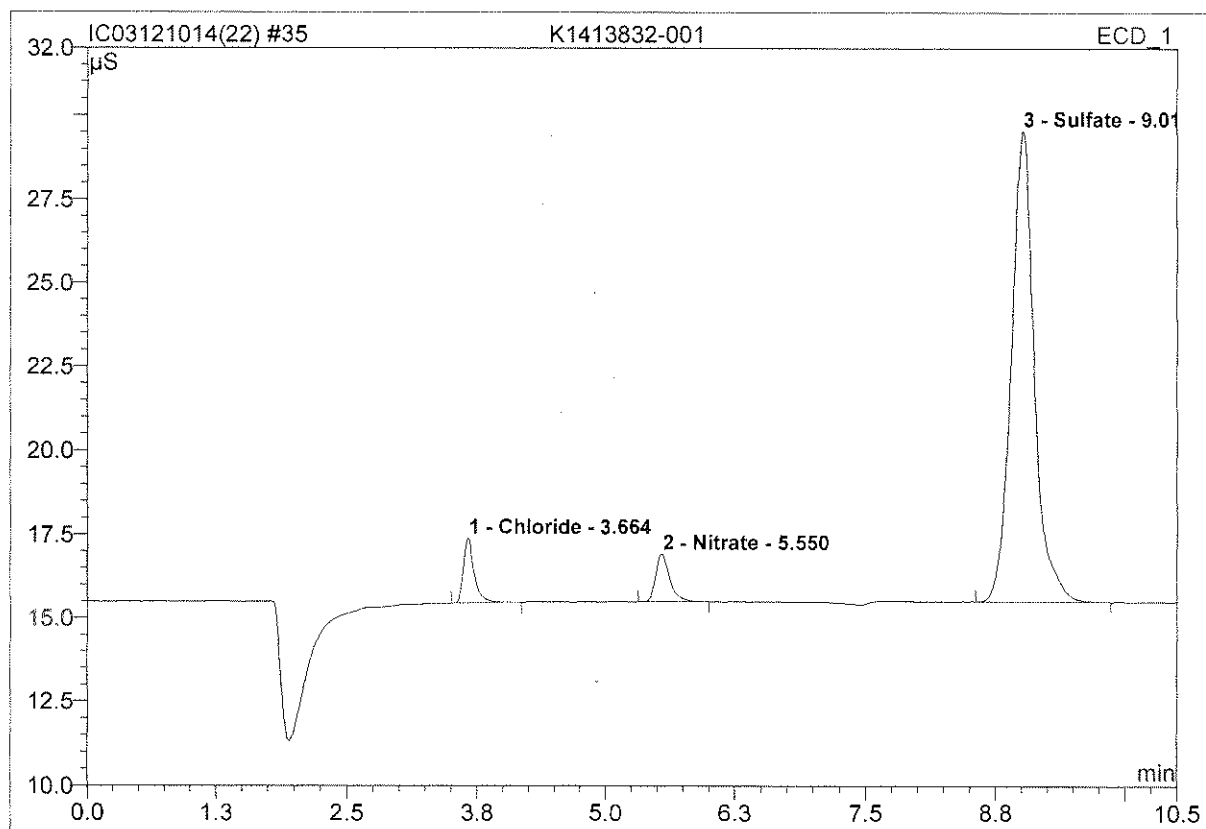
34 CCB3			
CCB3			
Sample Name:	CCB3	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 15:08	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

35 K1413832-001

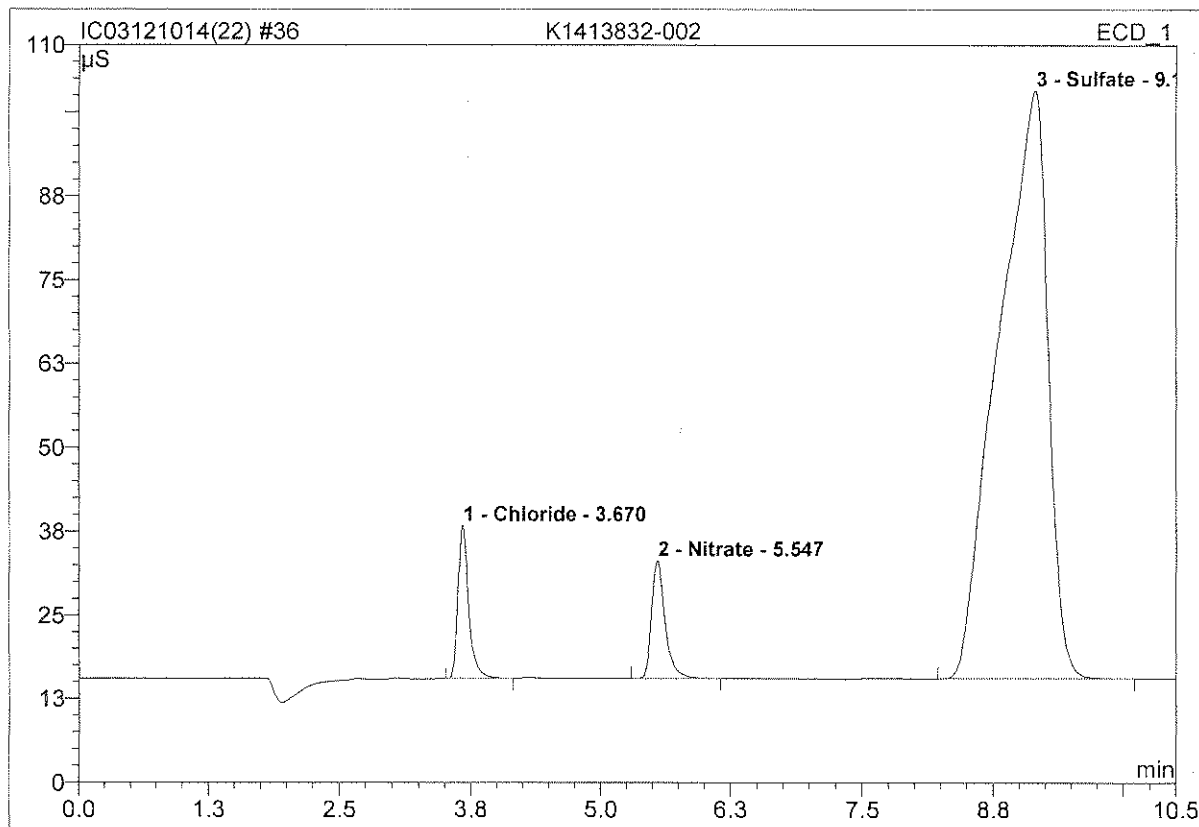
Sample Name:	K1413832-001	Injection Volume:	200.0
Vial Number:	22	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	50.0000
Recording Time:	12/10/2014 16:03	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret. Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel. Area %	Amount	Type
1	3.66	Chloride	1.931	0.232	5.71	8.398	BMB
2	5.55	Nitrate	1.424	0.223	5.48	3.227	BMB
3	9.01	Sulfate	14.040	3.612	88.81	204.334	BMB
Total:			17.395	4.067	100.00	215.959	

36 K1413832-002

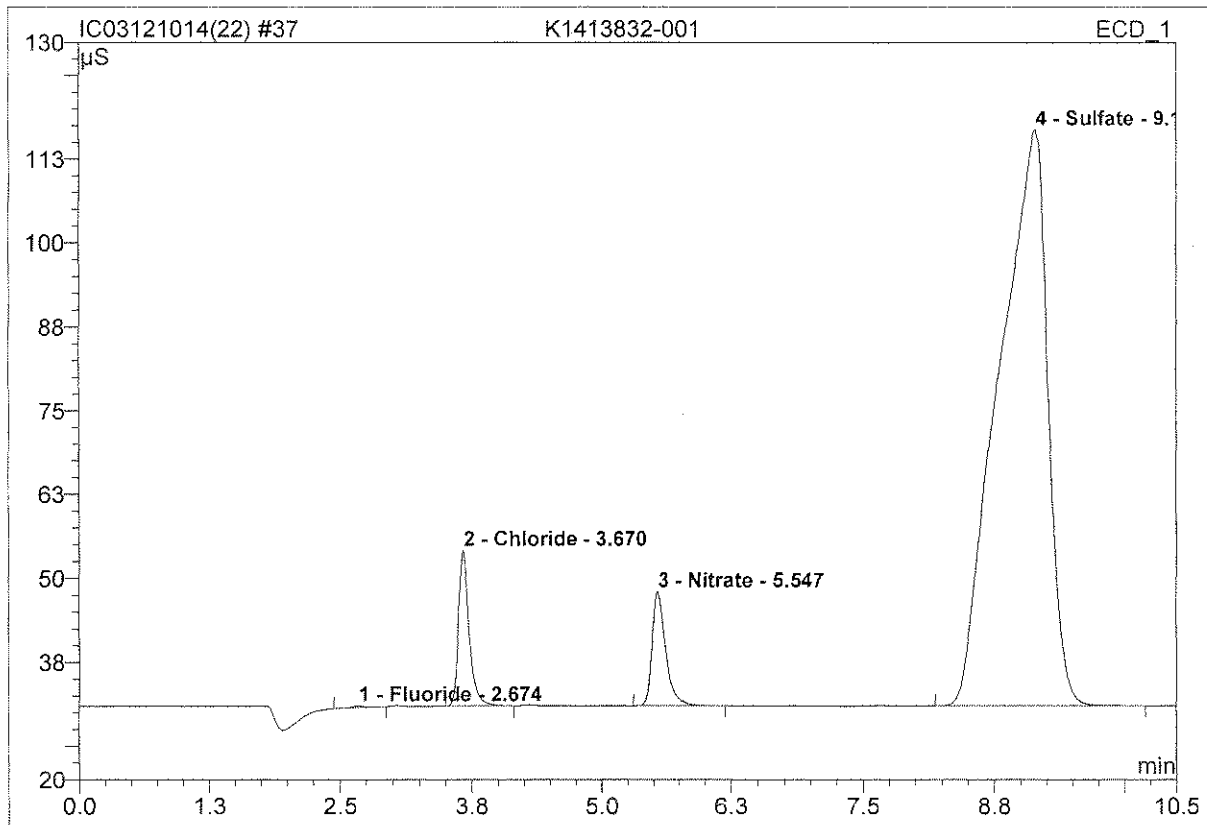
Sample Name:	K1413832-002	Injection Volume:	200.0
Vial Number:	23	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	12/10/2014 16:17	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.67	Chloride	22.886	2.706	5.12	9.783	BMB
2	5.55	Nitrate	17.610	2.692	5.09	3.896	BMB
3	9.15	Sulfate	87.701	47.473	89.79	268.558	BMB
Total:			128.197	52.870	100.00	282.237	

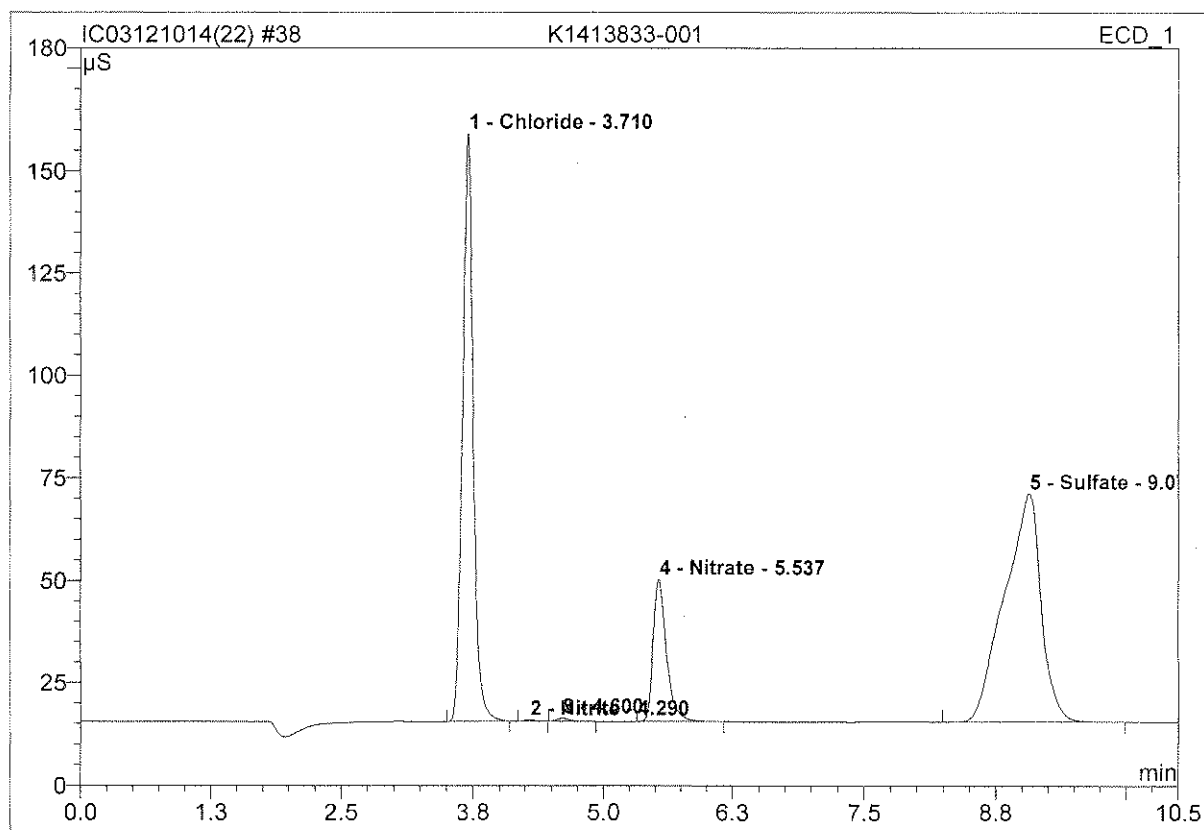
37 K1413832-001

Sample Name:	K1413832-001	Injection Volume:	200.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	12/10/2014 16:31	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



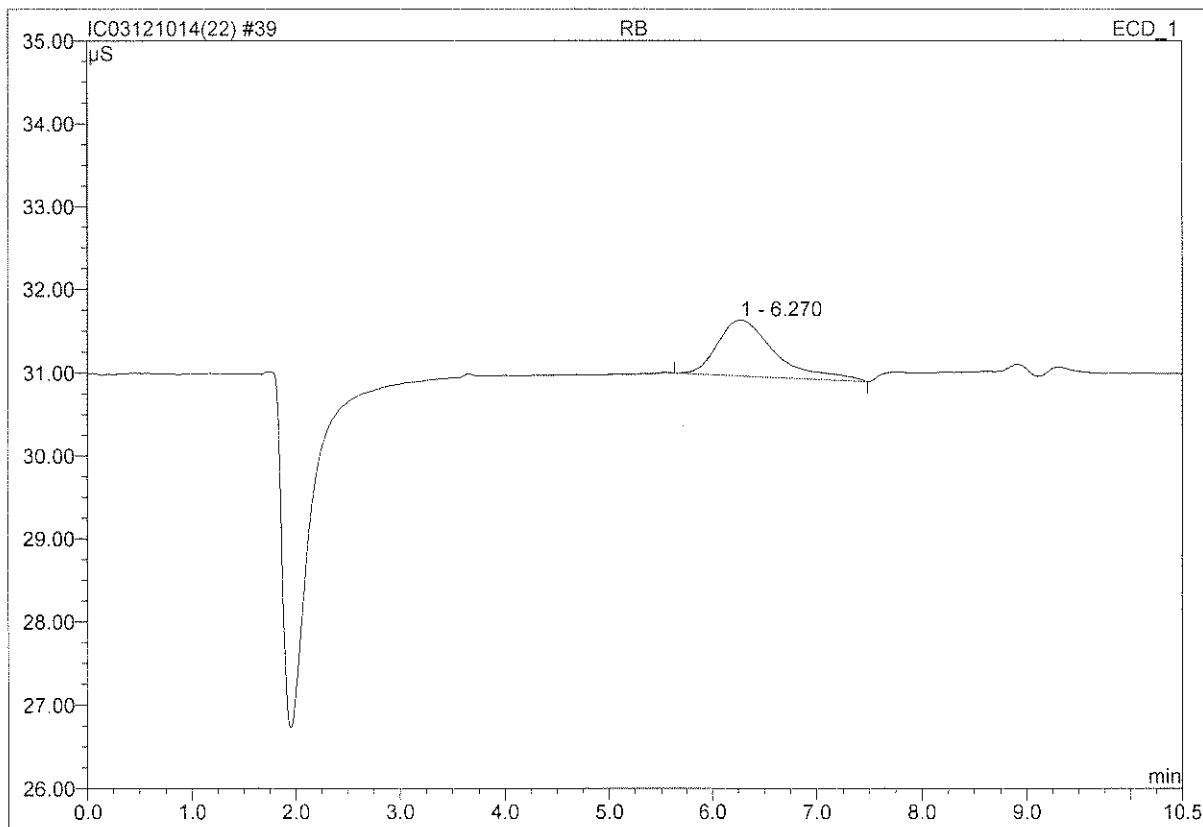
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	0.239	0.041	0.08	0.117	BMB
2	3.67	Chloride	23.112	2.737	5.34	9.895	BMB
3	5.55	Nitrate	16.925	2.598	5.07	3.760	BMB
4	9.15	Sulfate	85.854	45.899	89.52	259.654	BMB
Total:			126.131	51.274	100.00	273.426	

38 K1413833-001			
Sample Name:	K1413833-001	Injection Volume:	200.0
Vial Number:	25	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	5.0000
Recording Time:	12/10/2014 16:44	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	3.71	Chloride	143.525	16.682	37.47	60.317	BMB
2	4.29	Nitrite	0.351	0.041	0.09	0.085	BMB
3	4.60	n.a.	0.802	0.107	0.24	n.a.	BMB
4	5.54	Nitrate	34.802	5.159	11.59	7.468	BMB
5	9.07	Sulfate	55.689	22.533	50.61	127.472	BMB
Total:			235.169	44.523	100.00	195.342	

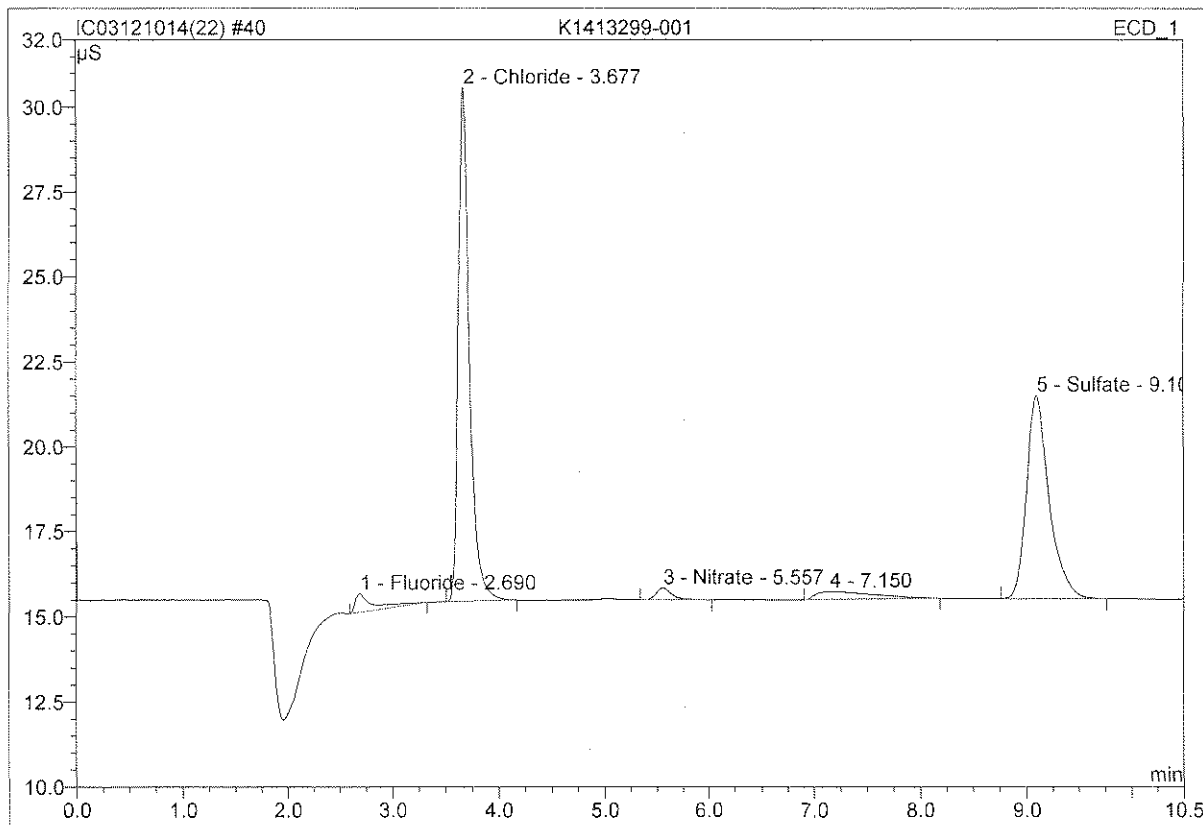
39 RB			
Sample Name:	RB	Injection Volume:	200.0
Vial Number:	27	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 16:58	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	6.27	n.a.	0.670	0.425	100.00	n.a.	BMB
Total:			0.670	0.425	100.00	0.000	

40 K1413299-001

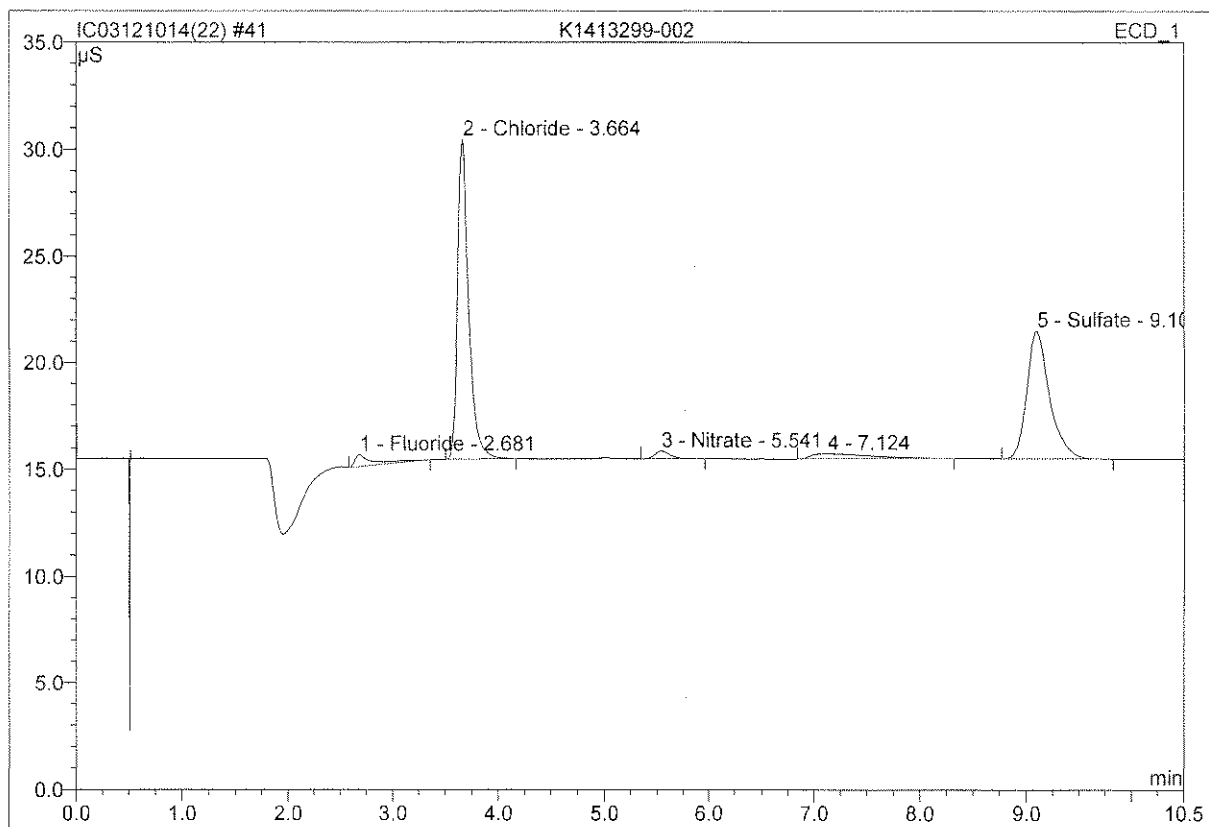
Sample Name:	K1413299-001	Injection Volume:	200.0
Vial Number:	28	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 17:12	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.69	Fluoride	0.544	0.107	2.96	0.122	BMB
2	3.68	Chloride	15.109	1.826	50.55	2.641	BMB
3	5.56	Nitrate	0.343	0.059	1.62	0.034	BMB
4	7.15	n.a.	0.226	0.141	3.89	n.a.	BMB
5	9.10	Sulfate	5.971	1.480	40.96	3.348	BMB
Total:			22.193	3.612	100.00	6.146	

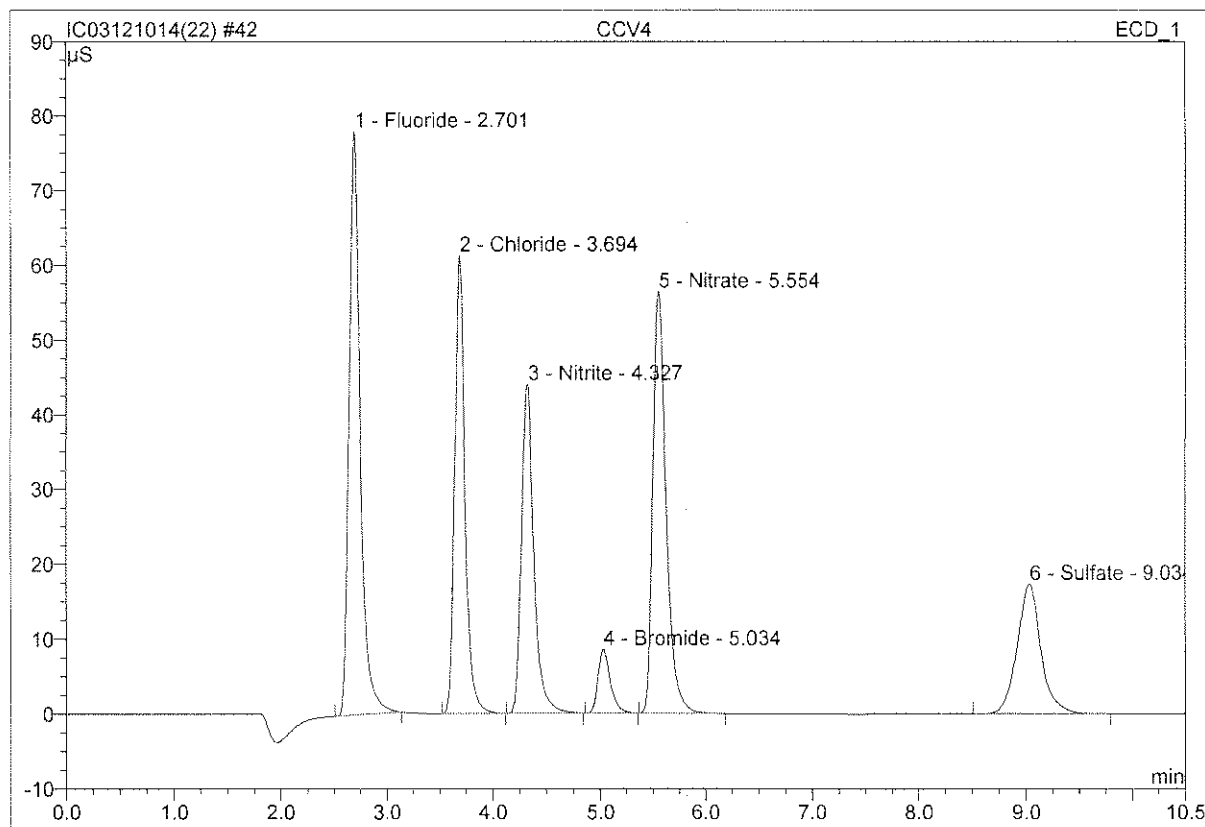
41 K1413299-002

Sample Name:	K1413299-002	Injection Volume:	200.0
Vial Number:	29	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	2.0000
Recording Time:	12/10/2014 17:25	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret. Time min	Peak Name	Height µS	Area µS*min	Rel. Area %	Amount	Type
1	2.68	Fluoride	0.551	0.113	3.12	0.129	BMB
2	3.66	Chloride	14.983	1.814	50.00	2.623	BMB
3	5.54	Nitrate	0.350	0.057	1.57	0.033	BMB
4	7.12	n.a.	0.238	0.159	4.38	n.a.	BMB
5	9.10	Sulfate	6.001	1.485	40.94	3.360	BMB
Total:			22.124	3.627	100.00	6.145	

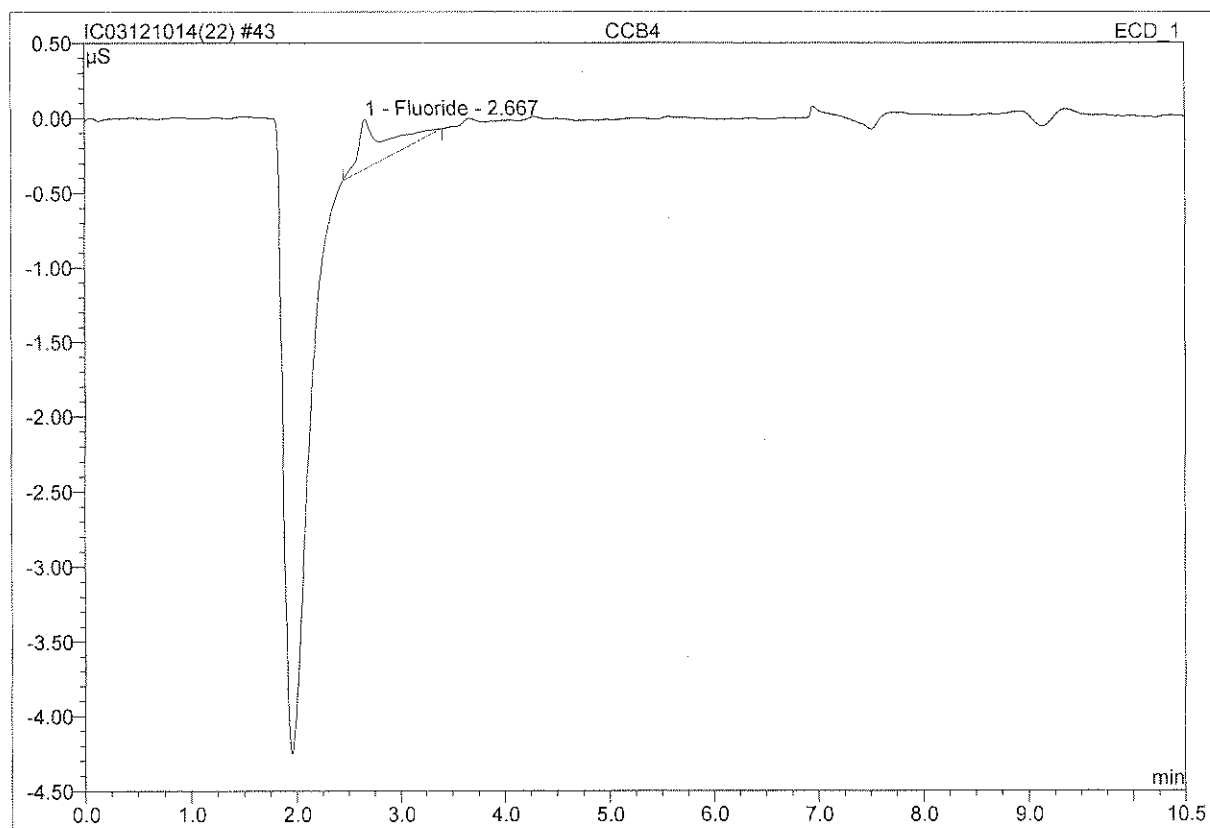
42 CCV4			
CCV4			
Sample Name:	CCV4	Injection Volume:	200.0
Vial Number:	48	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 17:39	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	2.70	Fluoride	78.083	9.418	26.15	108.5.383	BMB
2	3.69	Chloride	61.230	6.842	19.00	99.4.948	BMB
3	4.33	Nitrite	43.982	5.908	16.40	97.2.422	BMB
4	5.03	Bromide	8.551	1.158	3.21	95.2.384	BMB
5	5.55	Nitrate	56.362	8.242	22.89	96.2.386	BMB
6	9.03	Sulfate	17.310	4.447	12.35	107.5.031	BMB
Total:			265.518	36.014	100.00	22.554	

43 CCB4**CCB4**

Sample Name:	CCB4	Injection Volume:	200.0
Vial Number:	49	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	seth_test	Bandwidth:	n.a.
Quantif. Method:	epa300	Dilution Factor:	1.0000
Recording Time:	12/10/2014 17:54	Sample Weight:	1.0000
Run Time (min):	10.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.67	Fluoride	0.332	0.098	100.00	0.056	BMB
Total:			0.332	0.098	100.00	0.056	

Original
 Work Request # (K141) 3933, 4078, 3809, 3959, 3638, 3665, 3682, 3740, 3783, 3793
 Tier: II III IV IV II IV I III I I
 Date Analyzed: 12/19/14 3829, 3859, 3859, 3925, 3931, 3980
 Analyst: CES TOC 426606
 Analysis: TOC 426607
 426608

**DATA QUALITY REPORT
 INORGANICS**


Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1. Is the method name and number correct and appropriate? yes/no/NA
2. Holding times met for all analyses and for all samples? yes/no/NA
3. Are calculations correct? yes/no/NA
4. Is the reporting basis correct? (Dry Weight) yes/no/NA
5. All quality control criteria met? yes/no
6. Is the calibration curve correlation coefficient ≥ 0.995 ? yes/no/NA
7. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? yes/no/NA
8. Are ICVs, CCVs, and CCBs all within acceptance limits? yes/no/NA
9. Are results for methods blanks all ND? yes/no/NA
10. Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) yes/no/NA
11. Are all exceptions explained? yes/no/NA
12. Have all applicable service requests been reviewed? yes/no/NA
13. Are all samples labeled correctly? yes/no/NA
14. Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V) yes/no/NA
15. Are detection limits and units reported correctly? yes/no/NA
16. Is the unused space on the benchsheet crossed out? yes/no/NA
17. Was analysis turned in by the due date? (n-2) (If not record SR#) yes/no/NA

COMMENTS: \rightarrow 3638, 3682, 3783, 3793

3740-1/1d, 3740-2/2d, 3740-3/3d, 3740-4/4d, 3783-2/2d,
 3859-1/1d, 3925-2/2d RPD not within acceptance limits;
 the sample results are $< 5 \times$ the MRL.

RA 3980-3 - RPD not within acceptance limits

Final Approved by:  Date: 12/20/14
 DOREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 426606 Method/Testcode: SM 5310 C/TOC T

Ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
<1413638-001	Carbon, Total Organic	N/A		Water	1.99 mg/L	10 ml	1.99 mg/L	1	0.07	0.50			12/19/14 19:42	N II
<1413638-002	Carbon, Total Organic	N/A		Water	3.44 mg/L	10 ml	13.8 mg/L	4	0.3	2.0			12/19/14 19:42	Y II
<1413638-003	Carbon, Total Organic	N/A		Water	2.12 mg/L	10 ml	2.12 mg/L	1	0.07	0.50			12/19/14 19:42	N II
<1413663-003	Carbon, Total Organic	N/A		Water	1.72 mg/L	10 ml	1.72 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<1413663-005	Carbon, Total Organic	N/A		Water	5.18 mg/L	10 ml	10.4 mg/L	2	0.2	1.0			12/19/14 19:42	N V
<1413809-001	Carbon, Total Organic	N/A		Water	0.56 mg/L	10 ml	0.56 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<1413933-001	Carbon, Total Organic	N/A		Water	0.83 mg/L	10 ml	0.83 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<1413933-002	Carbon, Total Organic	N/A		Water	0.93 mg/L	10 ml	0.93 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<1413933-003	Carbon, Total Organic	N/A		Water	0.72 mg/L	10 ml	0.72 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<1413933-004	Carbon, Total Organic	N/A		Water	1.36 mg/L	10 ml	1.36 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<1413959-005	Carbon, Total Organic	N/A		Water	0.31 mg/L	10 ml	0.31 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<1414078-001	Carbon, Total Organic	N/A		Water	4.40 mg/L	10 ml	4.40 mg/L	1	0.07	0.50			12/19/14 19:42	N III
<1414078-002	Carbon, Total Organic	N/A		Water	1.76 mg/L	10 ml	1.76 mg/L	1	0.07	0.50			12/19/14 19:42	N III
<14146707-02	Carbon, Total Organic	DUP	K1413933-001	Water	0.74 mg/L	10 ml	0.74 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<14146707-03	Carbon, Total Organic	DUP	K1413933-002	Water	0.81 mg/L	10 ml	0.81 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<14146707-04	Carbon, Total Organic	DUP	K1413933-003	Water	0.83 mg/L	10 ml	0.83 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<14146707-05	Carbon, Total Organic	DUP	K1413933-004	Water	1.38 mg/L	10 ml	1.38 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<14146707-06	Carbon, Total Organic	MS	K1414078-001	Water	30.42 mg/L	10 ml	30.4 mg/L	1	0.07	0.50	104		12/19/14 19:42	N III
<14146707-07	Carbon, Total Organic	DUP	K1414078-001	Water	4.30 mg/L	10 ml	4.30 mg/L	1	0.07	0.50			12/19/14 19:42	N III
<14146707-08	Carbon, Total Organic	DUP	K1414078-002	Water	1.70 mg/L	10 ml	1.70 mg/L	1	0.07	0.50			12/19/14 19:42	N III
<14146707-09	Carbon, Total Organic	MS	K1413809-001	Water	25.69 mg/L	10 ml	25.7 mg/L	1	0.07	0.50	101		12/19/14 19:42:00	N V
<14146707-11	Carbon, Total Organic	MS	K1413959-005	Water	25.41 mg/L	10 ml	25.4 mg/L	1	0.07	0.50	100		12/19/14 19:42:00	N V
<14146707-13	Carbon, Total Organic	DUP	K1413638-001	Water	1.88 mg/L	10 ml	1.88 mg/L	1	0.07	0.50			12/19/14 19:42	N II
<14146707-14	Carbon, Total Organic	MS	K1413638-002	Water	29.78 mg/L	10 ml	119 mg/L	4	0.3	2.0	105		12/19/14 19:42	N II
<14146707-15	Carbon, Total Organic	DUP	K1413638-002	Water	3.32 mg/L	10 ml	13.3 mg/L	4	0.3	2.0			12/19/14 19:42	N II
<14146707-16	Carbon, Total Organic	DUP	K1413638-003	Water	1.99 mg/L	10 ml	1.99 mg/L	1	0.07	0.50			12/19/14 19:42	N II
<14146707-17	Carbon, Total Organic	DUP	K1413663-003	Water	1.64 mg/L	10 ml	1.64 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<14146707-18	Carbon, Total Organic	MS	K1413663-003	Water	26.28 mg/L	10 ml	26.3 mg/L	1	0.07	0.50	98		12/19/14 19:42	N V
<14146707-19	Carbon, Total Organic	DUP	K1413663-005	Water	5.15 mg/L	10 ml	10.3 mg/L	2	0.2	1.0		<1	12/19/14 19:42	N V
<14146707-20	Carbon, Total Organic	MS	K1413933-001	Water	26.17 mg/L	10 ml	26.2 mg/L	1	0.07	0.50	101		12/19/14 19:42	N V
<14146707-21	Carbon, Total Organic	MB		Water	0.23 mg/L	10 ml	0.23 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<14146707-21	Carbon, Total Organic	MB		Water	0.23 mg/L	10 ml	0.23 mg/L	1	0.07	0.50			12/19/14 19:42	N V
<14146707-22	Carbon, Total Organic	LCS		Water	17.72 mg/L	10 ml	17.7 mg/L	1	0.07	0.50	98		12/19/14 19:42	N V
<14146707-22	Carbon, Total Organic	LCS		Water	17.72 mg/L	10 ml	17.7 mg/L	1	0.07	0.50	98		12/19/14 19:42	N V
<14146707-22	Carbon, Total Organic	LCS		Water	17.72 mg/L	10 ml	17.7 mg/L	1	0.07	0.50	98		12/19/14 19:42	N V

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 426606 Method/Testcode: 9060/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1416707-23	Carbon, Total Organic	DUP	K1413809-001	Water	0.50 mg/L	10 mL	0.50 mg/L	J 1	0.07	0.50	99	12	12/19/14 19:42:00	N V
<Q1416707-24	Carbon, Total Organic	TRP	K1413809-001	Water	0.49 mg/L	10 mL	0.49 mg/L	J 1	0.07	0.50	99	8	12/19/14 19:42:00	N V
<Q1416707-25	Carbon, Total Organic	QUAD	K1413809-001	Water	0.46 mg/L	10 mL	0.46 mg/L	J 1	0.07	0.50	99	9	12/19/14 19:42:00	N V
<Q1416707-26	Carbon, Total Organic	DUP	K1413959-005	Water	0.27 mg/L	10 mL	0.27 mg/L	J 1	0.07	0.50	99	13	12/19/14 19:42:00	N V
<Q1416707-27	Carbon, Total Organic	TRP	K1413959-005	Water	0.22 mg/L	10 mL	0.22 mg/L	J 1	0.07	0.50	99	16	12/19/14 19:42:00	N V
<Q1416707-28	Carbon, Total Organic	QUAD	K1413959-005	Water	0.22 mg/L	10 mL	0.22 mg/L	J 1	0.07	0.50	99	16	12/19/14 19:42:00	N V
<Q1416707-29	Carbon, Total Organic	MB		Water	0.10 mg/L	10 ml	0.10 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-29	Carbon, Total Organic	MB		Water	0.10 mg/L	10 ml	0.10 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-29	Carbon, Total Organic	MB		Water	0.10 mg/L	10 ml	0.10 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-30	Carbon, Total Organic	LCS		Water	17.83 mg/L	10 mL	17.8 mg/L	1	0.07	0.50	99		12/19/14 19:42:00	N V
<Q1416707-30	Carbon, Total Organic	LCS		Water	17.83 mg/L	10 mL	17.8 mg/L	1	0.07	0.50	99		12/19/14 19:42:00	N V
<Q1416707-30	Carbon, Total Organic	LCS		Water	17.83 mg/L	10 mL	17.8 mg/L	1	0.07	0.50	99		12/19/14 19:42:00	N V
<Q1416707-31	Carbon, Total Organic	CCV		Water	24.45 mg/L	10 ml	24.5 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-31	Carbon, Total Organic	CCV		Water	24.45 mg/L	10 ml	24.5 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-31	Carbon, Total Organic	CCV		Water	24.45 mg/L	10 ml	24.5 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-32	Carbon, Total Organic	CCV		Water	24.57 mg/L	10 ml	24.6 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-32	Carbon, Total Organic	CCV		Water	24.57 mg/L	10 ml	24.6 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-32	Carbon, Total Organic	CCV		Water	24.57 mg/L	10 ml	24.6 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-33	Carbon, Total Organic	CCV		Water	24.66 mg/L	10 ml	24.7 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-33	Carbon, Total Organic	CCV		Water	24.66 mg/L	10 ml	24.7 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-33	Carbon, Total Organic	CCV		Water	24.66 mg/L	10 ml	24.7 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-34	Carbon, Total Organic	CCV		Water	24.37 mg/L	10 ml	24.4 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-34	Carbon, Total Organic	CCV		Water	24.37 mg/L	10 ml	24.4 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-34	Carbon, Total Organic	CCV		Water	24.37 mg/L	10 ml	24.4 mg/L	1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-35	Carbon, Total Organic	CCB		Water	0.05 mg/L	10 ml	0.50 mg/L	U 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-35	Carbon, Total Organic	CCB		Water	0.05 mg/L	10 ml	0.50 mg/L	U 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-35	Carbon, Total Organic	CCB		Water	0.05 mg/L	10 ml	0.50 mg/L	U 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-36	Carbon, Total Organic	CCB		Water	0.17 mg/L	10 ml	0.17 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-36	Carbon, Total Organic	CCB		Water	0.17 mg/L	10 ml	0.17 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-36	Carbon, Total Organic	CCB		Water	0.17 mg/L	10 ml	0.17 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-37	Carbon, Total Organic	CCB		Water	0.10 mg/L	10 ml	0.1 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-37	Carbon, Total Organic	CCB		Water	0.10 mg/L	10 ml	0.1 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-37	Carbon, Total Organic	CCB		Water	0.10 mg/L	10 ml	0.1 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-38	Carbon, Total Organic	CCB		Water	0.09 mg/L	10 ml	0.09 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-38	Carbon, Total Organic	CCB		Water	0.09 mg/L	10 ml	0.09 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V
<Q1416707-38	Carbon, Total Organic	CCB		Water	0.09 mg/L	10 ml	0.09 mg/L	J 1	0.07	0.50	99		12/19/14 19:42	N V

J indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01

Analyst: CSETHE

Analysis Lot: 426607

Method/Testcode: SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
1413682-001	Carbon, Total Organic	N/A		Water	2.98 mg/L	10 ml	2.98 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
1413682-002	Carbon, Total Organic	N/A		Water	2.09 mg/L	10 ml	8.4 mg/L	4	0.3	2.0			12/19/14 19:42	N 1
1413740-001	Carbon, Total Organic	N/A		Drinking Water	0.83 mg/L	10 ml	0.83 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413740-002	Carbon, Total Organic	N/A		Drinking Water	0.90 mg/L	10 ml	0.90 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413740-003	Carbon, Total Organic	N/A		Drinking Water	0.37 mg/L	10 ml	0.37 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413740-004	Carbon, Total Organic	N/A		Drinking Water	0.24 mg/L	10 ml	0.24 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413783-001	Carbon, Total Organic	N/A		Water	0.77 mg/L	10 ml	0.77 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
1413783-002	Carbon, Total Organic	N/A		Water	1.01 mg/L	10 ml	1.01 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
1413793-001	Carbon, Total Organic	N/A		Drinking Water	0.54 mg/L	10 ml	0.54 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
1413829-001	Carbon, Total Organic	N/A		Reagent Water	-0.01 mg/L	10 ml	0.50 mg/L	U	1	0.07	0.50		12/19/14 19:42	N 1
1413829-002	Carbon, Total Organic	N/A		Reagent Water	-0.07 mg/L	10 ml	0.50 mg/L	U	1	0.07	0.50		12/19/14 19:42	N 1
1413839-001	Carbon, Total Organic	N/A		Drinking Water	1.26 mg/L	10 ml	1.26 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
1413839-002	Carbon, Total Organic	N/A		Drinking Water	0.76 mg/L	10 ml	0.76 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
1413859-001	Carbon, Total Organic	N/A		Water	1.60 mg/L	10 ml	1.60 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
1413859-002	Carbon, Total Organic	N/A		Water	1.75 mg/L	10 ml	1.75 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413859-003	Carbon, Total Organic	N/A		Water	1.35 mg/L	10 ml	1.35 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413859-004	Carbon, Total Organic	N/A		Water	1.57 mg/L	10 ml	1.57 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413859-005	Carbon, Total Organic	N/A		Water	1.72 mg/L	10 ml	1.72 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413859-006	Carbon, Total Organic	N/A		Water	-0.03 mg/L	10 ml	0.50 mg/L	U	1	0.07	0.50		12/19/14 19:42	N V
1416824-01	Carbon, Total Organic	MS	K1413682-001	Water	29.00 mg/L	10 ml	29.0 mg/L	1	0.07	0.50	104		12/19/14 19:42	N 1
1416824-02	Carbon, Total Organic	DUP	K1413682-001	Water	3.00 mg/L	10 ml	3.00 mg/L	1	0.07	0.50		<1	12/19/14 19:42	N 1
1416824-03	Carbon, Total Organic	DUP	K1413682-002	Water	1.93 mg/L	10 ml	7.7 mg/L	4	0.3	2.0		8	12/19/14 19:42	N 1
1416824-04	Carbon, Total Organic	MS	K1413740-001	Drinking Water	25.97 mg/L	10 ml	26.0 mg/L	1	0.07	0.50	101		12/19/14 19:42	N V
1416824-05	Carbon, Total Organic	DUP	K1413740-001	Drinking Water	0.74 mg/L	10 ml	0.74 mg/L	1	0.07	0.50		11*	12/19/14 19:42	N V
1416824-06	Carbon, Total Organic	DUP	K1413740-002	Drinking Water	0.77 mg/L	10 ml	0.77 mg/L	1	0.07	0.50		15*	12/19/14 19:42	N V
1416824-07	Carbon, Total Organic	DUP	K1413740-003	Drinking Water	0.42 mg/L	10 ml	0.42 mg/L	1	0.07	0.50		11*	12/19/14 19:42	N V
1416824-08	Carbon, Total Organic	DUP	K1413740-004	Drinking Water	0.27 mg/L	10 ml	0.27 mg/L	1	0.07	0.50		14*	12/19/14 19:42	N V
1416824-09	Carbon, Total Organic	MS	K1413783-001	Water	26.50 mg/L	10 ml	26.5 mg/L	1	0.07	0.50	103		12/19/14 19:42	N 1
1416824-10	Carbon, Total Organic	DUP	K1413783-001	Water	0.76 mg/L	10 ml	0.76 mg/L	1	0.07	0.50		2	12/19/14 19:42	N 1
1416824-11	Carbon, Total Organic	DUP	K1413783-002	Water	0.91 mg/L	10 ml	0.91 mg/L	1	0.07	0.50		11*	12/19/14 19:42	N 1

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01

Analyst: CSETHE

Analysis Lot: 426607

Method/Testcode: SM 5310 C/TOC T

Ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
Q1416824-12	Carbon, Total Organic	DUP	K1413793-001	Drinking Water	0.50 mg/L	10 ml	0.50 mg/L	1	0.07	0.50		7	12/19/14 19:42	N 1
Q1416824-13	Carbon, Total Organic	DUP	K1413829-001	Reagent Water	-0.02 mg/L	10 ml	0.50 mg/L	1	0.07	0.50		NC	12/19/14 19:42	N 1
Q1416824-14	Carbon, Total Organic	DUP	K1413829-002	Reagent Water	-0.07 mg/L	10 ml	0.50 mg/L	1	0.07	0.50		NC	12/19/14 19:42	N 1
Q1416824-15	Carbon, Total Organic	DUP	K1413839-001	Drinking Water	1.28 mg/L	10 ml	1.28 mg/L	1	0.07	0.50		1	12/19/14 19:42	N 1
Q1416824-16	Carbon, Total Organic	DUP	K1413839-002	Drinking Water	0.80 mg/L	10 ml	0.80 mg/L	1	0.07	0.50		5	12/19/14 19:42	N 1
Q1416824-17	Carbon, Total Organic	DUP	K1413859-001	Water	1.43 mg/L	10 ml	1.43 mg/L	1	0.07	0.50		11*	12/19/14 19:42	N V
Q1416824-18	Carbon, Total Organic	DUP	K1413859-002	Water	1.70 mg/L	10 ml	1.70 mg/L	1	0.07	0.50		2	12/19/14 19:42	N V
Q1416824-19	Carbon, Total Organic	DUP	K1413859-003	Water	1.37 mg/L	10 ml	1.37 mg/L	1	0.07	0.50		2	12/19/14 19:42	N V
Q1416824-20	Carbon, Total Organic	MS	K1413859-004	Water	26.44 mg/L	10 ml	26.4 mg/L	1	0.07	0.50	100		12/19/14 19:42	N V
Q1416824-21	Carbon, Total Organic	DUP	K1413859-004	Water	1.52 mg/L	10 ml	1.52 mg/L	1	0.07	0.50		3	12/19/14 19:42	N V
Q1416824-22	Carbon, Total Organic	DUP	K1413859-005	Water	1.62 mg/L	10 ml	1.62 mg/L	1	0.07	0.50		6	12/19/14 19:42	N V
Q1416824-23	Carbon, Total Organic	DUP	K1413859-006	Water	0.01 mg/L	10 ml	0.50 mg/L	1	0.07	0.50		NC	12/19/14 19:42	N V
Q1416824-24	Carbon, Total Organic	CCV		Water	24.66 mg/L	10 ml	24.7 mg/L	1				44	12/19/14 19:42	N 1
Q1416824-25	Carbon, Total Organic	CCV		Water	24.37 mg/L	10 ml	24.4 mg/L	1				48	12/19/14 19:42	N 1
Q1416824-26	Carbon, Total Organic	CCV		Water	24.08 mg/L	10 ml	24.1 mg/L	1				46	12/19/14 19:42	N 1
Q1416824-27	Carbon, Total Organic	CCV		Water	24.32 mg/L	10 ml	24.3 mg/L	1				47	12/19/14 19:42	N 1
Q1416824-28	Carbon, Total Organic	CCB		Water	0.10 mg/L	10 ml	0.1 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
Q1416824-29	Carbon, Total Organic	CCB		Water	0.09 mg/L	10 ml	0.09 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
Q1416824-30	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
Q1416824-31	Carbon, Total Organic	CCB		Water	-0.02 mg/L	10 ml	0.50 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
Q1416824-32	Carbon, Total Organic	MB		Water	-0.05 mg/L	10 ml	0.50 mg/L	1	0.07	0.50			12/19/14 19:42	N 1
Q1416824-33	Carbon, Total Organic	LCS		Water	17.57 mg/L	10 ml	17.6 mg/L	1	0.07	0.50		97	12/19/14 19:42	N 1

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 426608 Method/Testcode: SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
1413925-001	Carbon, Total Organic	N/A		Water	1.28 mg/L	10 ml	1.28 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413925-002	Carbon, Total Organic	N/A		Water	0.83 mg/L	10 ml	0.83 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413925-003	Carbon, Total Organic	N/A		Water	1.10 mg/L	10 ml	1.10 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1413925-005	Carbon, Total Organic	N/A		Water	1.49 mg/L	10 ml	1.49 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1413925-006	Carbon, Total Organic	N/A		Water	1.17 mg/L	10 ml	1.17 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1413925-007	Carbon, Total Organic	N/A		Water	0.94 mg/L	10 ml	0.94 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1413931-001	Carbon, Total Organic	N/A		Water	6.75 mg/L	10 ml	6.75 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1413931-002	Carbon, Total Organic	N/A		Water	3.32 mg/L	10 ml	3.32 mg/L	4	0.3	2.0			12/30/99 00:00	N V
1413931-003	Carbon, Total Organic	N/A		Water	1.43 mg/L	10 ml	1.43 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1413980-001	Carbon, Total Organic	N/A		Water	4.02 mg/L	10 ml	8.0 mg/L	2	0.2	1.0			12/30/99 00:00	N V
1413980-002	Carbon, Total Organic	N/A		Water	11.43 mg/L	10 ml	45.7 mg/L	4	0.3	2.0			12/30/99 00:00	N V
1413980-003	Carbon, Total Organic	N/A		Water	1.02 mg/L	10 ml	4.1 mg/L	4	0.3	2.0			12/30/99 00:00	N V
1413980-004	Carbon, Total Organic	N/A		Water	8.22 mg/L	10 ml	16.4 mg/L	2	0.2	1.0			12/30/99 00:00	N V
1413980-005	Carbon, Total Organic	N/A		Water	5.30 mg/L	10 ml	10.6 mg/L	2	0.2	1.0			12/30/99 00:00	N V
1413980-006	Carbon, Total Organic	N/A		Water	6.01 mg/L	10 ml	6.01 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1413980-007	Carbon, Total Organic	N/A		Water	6.67 mg/L	10 ml	26.7 mg/L	4	0.3	2.0			12/30/99 00:00	N V
1413980-008	Carbon, Total Organic	N/A		Water	3.94 mg/L	10 ml	15.7 mg/L	4	0.3	2.0			12/30/99 00:00	N V
1413980-009	Carbon, Total Organic	N/A		Water	5.82 mg/L	10 ml	5.82 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1416827-001	Carbon, Total Organic	MS	K1413925-001	Water	26.41 mg/L	10 ml	26.4 mg/L	1	0.07	0.50	101		12/19/14 19:42	N V
1416827-002	Carbon, Total Organic	DUP	K1413925-001	Water	1.30 mg/L	10 ml	1.30 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1416827-003	Carbon, Total Organic	DUP	K1413925-002	Water	0.74 mg/L	10 ml	0.74 mg/L	1	0.07	0.50		11*	12/19/14 19:42	N V
1416827-004	Carbon, Total Organic	DUP	K1413925-003	Water	1.13 mg/L	10 ml	1.13 mg/L	1	0.07	0.50			12/19/14 19:42	N V
1416827-005	Carbon, Total Organic	DUP	K1413925-005	Water	1.43 mg/L	10 ml	1.43 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1416827-006	Carbon, Total Organic	DUP	K1413925-006	Water	1.21 mg/L	10 ml	1.21 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1416827-007	Carbon, Total Organic	DUP	K1413925-007	Water	0.92 mg/L	10 ml	0.92 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1416827-008	Carbon, Total Organic	MS	K1413931-001	Water	32.98 mg/L	10 ml	33.0 mg/L	1	0.07	0.50	105		12/30/99 00:00	N V
1416827-009	Carbon, Total Organic	DUP	K1413931-001	Water	6.61 mg/L	10 ml	6.61 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1416827-010	Carbon, Total Organic	DUP	K1413931-002	Water	3.17 mg/L	10 ml	12.7 mg/L	4	0.3	2.0			12/30/99 00:00	N V
1416827-011	Carbon, Total Organic	DUP	K1413931-003	Water	1.37 mg/L	10 ml	1.37 mg/L	1	0.07	0.50			12/30/99 00:00	N V
1416827-012	Carbon, Total Organic	MS	K1413980-001	Water	29.92 mg/L	10 ml	59.8 mg/L	2	0.2	1.0	104		12/30/99 00:00	N V
1416827-013	Carbon, Total Organic	DUP	K1413980-001	Water	3.92 mg/L	10 ml	7.8 mg/L	2	0.2	1.0			12/30/99 00:00	N V
1416827-014	Carbon, Total Organic	DUP	K1413980-002	Water	11.23 mg/L	10 ml	44.9 mg/L	4	0.3	2.0			12/30/99 00:00	N V
1416827-015	Carbon, Total Organic	DUP	K1413980-003	Water	1.14 mg/L	10 ml	4.6 mg/L	4	0.3	2.0		11*	12/30/99 00:00	N V
1416827-016	Carbon, Total Organic	DUP	K1413980-004	Water	8.12 mg/L	10 ml	16.2 mg/L	2	0.2	1.0			12/30/99 00:00	N V
1416827-017	Carbon, Total Organic	DUP	K1413980-005	Water	5.29 mg/L	10 ml	10.6 mg/L	2	0.2	1.0			12/30/99 00:00	N V
1416827-018	Carbon, Total Organic	DUP	K1413980-006	Water	5.89 mg/L	10 ml	5.89 mg/L	1	0.07	0.50			12/30/99 00:00	N V

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

CES 12/26/14

Analytical Results Summary

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 426608 Method/Testcode: SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
<Q1416827-19	Carbon, Total Organic	DUP	K1413980-007	Water	6.47 mg/L	10 ml	25.9 mg/L	4	0.3	2.0	96	3	12/30/99 00:00	N 1
<Q1416827-20	Carbon, Total Organic	DUP	K1413980-008	Water	3.84 mg/L	10 ml	15.4 mg/L	4	0.3	2.0	97	3	12/30/99 00:00	N 1
<Q1416827-21	Carbon, Total Organic	DUP	K1413980-009	Water	5.79 mg/L	10 ml	5.79 mg/L	1	0.07	0.50	96	<1	12/30/99 00:00	N 1
<Q1416827-22	Carbon, Total Organic	CCV		Water	24.08 mg/L	10 ml	24.1 mg/L	1	0.07	0.50	97		12/19/14 19:42	N V
<Q1416827-23	Carbon, Total Organic	CCV		Water	24.32 mg/L	10 ml	24.3 mg/L	1	0.07	0.50	97		12/19/14 19:42	N V
<Q1416827-24	Carbon, Total Organic	CCV		Water	24.31 mg/L	10 ml	24.3 mg/L	1	0.07	0.50	97		12/30/99 00:00	N V
<Q1416827-25	Carbon, Total Organic	CCV		Water	24.25 mg/L	10 ml	24.3 mg/L	1	0.07	0.50	97		12/30/99 00:00	N V
<Q1416827-26	Carbon, Total Organic	CCV		Water	24.08 mg/L	10 ml	24.1 mg/L	1	0.07	0.50	96		12/30/99 00:00	N V
<Q1416827-27	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L	1	0.07	0.50	96		12/19/14 19:42	N V
<Q1416827-28	Carbon, Total Organic	CCB		Water	-0.02 mg/L	10 ml	0.50 mg/L	1	0.07	0.50	96		12/19/14 19:42	N V
<Q1416827-29	Carbon, Total Organic	CCB		Water	-0.12 mg/L	10 ml	0.50 mg/L	1	0.07	0.50	96		12/30/99 00:00	N V
<Q1416827-30	Carbon, Total Organic	CCB		Water	-0.05 mg/L	10 ml	0.50 mg/L	1	0.07	0.50	96		12/30/99 00:00	N V
<Q1416827-31	Carbon, Total Organic	CCB		Water	-0.09 mg/L	10 ml	0.50 mg/L	1	0.07	0.50	96		12/30/99 00:00	N V
<Q1416827-32	Carbon, Total Organic	MB		Water	-0.10 mg/L	10 ml	0.50 mg/L	1	0.07	0.50	96		12/30/99 00:00	N V
<Q1416827-33	Carbon, Total Organic	LCS		Water	17.40 mg/L	10 ml	17.4 mg/L	1	0.07	0.50	96		12/30/99 00:00	N V

* indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method: Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc., mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L
CBA	RB	1		0.4137	-0.4137	-0.4137	<0.5
2	CCV1	1	24.866	0.4137	24.4526	24.4526	24.5
3	CCB1	1	0.468	0.4137	0.0544	0.0544	<0.5
4	MB1	1	0.640	0.4137	0.2267	0.2267	<0.5
5	LCS1	1	18.132	0.4137	17.7180	17.718	17.7
6	K1413933-001	1	1.241	0.4137	0.8275	0.8275	0.83
7	K1413933-001d	1	1.151	0.4137	0.7371	0.7371	0.74
8	K1413933-001ms	1	26.588	0.4137	26.1744	26.1744	26.2
9	K1413933-002	1	1.341	0.4137	0.9273	0.9273	0.93
10	K1413933-002d	1	1.220	0.4137	0.8067	0.8067	0.81
11	K1413933-003	1	1.135	0.4137	0.7213	0.7213	0.72
12	K1413933-003d	1	1.241	0.4137	0.8271	0.8271	0.83
13	K1413933-004	1	1.776	0.4137	1.3624	1.3624	1.36
14	K1413933-004d	1	1.794	0.4137	1.3806	1.3806	1.38
15	K1414078-001	1	4.814	0.4137	4.4007	4.4007	4.40
16	K1414078-001d	1	4.718	0.4137	4.3039	4.3039	4.30
17	K1414078-001ms	1	30.832	0.4137	30.4185	30.4185	30.4
18	CCV2	1	24.988	0.4137	24.5744	24.5744	24.6
19	CCB2	1	0.584	0.4137	0.1700	0.17	<0.5
20	K1414078-002	1	2.170	0.4137	1.7567	1.7567	1.76
21	K1414078-002d	1	2.111	0.4137	1.6969	1.6969	1.70
22	K1413809-001	1	0.978	0.4137	0.5640	0.564	0.56
23	K1413809-001d	1	0.913	0.4137	0.4997	0.4997	<0.5
24	K1413809-001ms	1	26.106	0.4137	25.6922	25.6922	25.7
25	K1413959-005	1	0.719	0.4137	0.3057	0.3057	<0.5

ICAL Date 1/11/14 ICAL ID#:11-GEN-05-27L

LCS =18.1 ppm APG 4013 Lot #270812 (REF# 11-GEN-05-33M)

CCV = 25.0 ppm (Ref.#11-GEN-05-33L)

Spike: 0.05 ml of 5000 ppm stock ---> 10.0 ml so =25.0 x Dilution Factor (Ref.# 11-GEN-05-33K)

Analyzed By: <i>CCS</i>	Date Analyzed	12/19/2014	19:42:00
Reviewed By: <i>K</i>	Date Reviewed	<i>12/20/14</i>	

Revision 1, 2010 R:\WET\ANALYSES\TOC\TEMPLATE\TOCwaterLIMS

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method: Oxidation EPA 415.1/9060

Printout	Sample #	Dil. Factor	Solution Conc., mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L
26	K1413959-005d	1	0.683	0.4137	0.2688	0.2688	<0.5
27	K1413959-005ms	1	25.827	0.4137	25.4129	25.4129	25.4
28	K1413638-001	1	2.402	0.4137	1.9882	1.9882	1.99
29	K1413638-001d	1	2.298	0.4137	1.8839	1.8839	1.88
30	K1413638-002	4	3.852	0.4137	3.4380	13.752	13.8
31	K1413638-002d	4	3.737	0.4137	3.3235	13.294	13.3
32	K1413638-002ms	4	30.198	0.4137	29.7841	119.1364	119
33	K1413638-003	1	2.538	0.4137	2.1247	2.1247	2.12
34	K1413638-003d	1	2.402	0.4137	1.9887	1.9887	1.99
35	K1413663-003	1	2.129	0.4137	1.7154	1.7154	1.72
36	K1413663-003d	1	2.059	0.4137	1.6448	1.6448	1.64
37	CCV3	1	25.075	0.4137	24.6612	24.6612	24.7
38	CCB3	1	0.511	0.4137	0.0969	0.0969	<0.5
39	MB2	1	0.516	0.4137	0.1024	0.1024	<0.5
40	LCS2	1	18.248	0.4137	17.8344	17.8344	17.8
41	K1413663-003ms	1	26.691	0.4137	26.2777	26.2777	26.3
42	K1413663-005	2	5.589	0.4137	5.1750	10.35	10.4
43	K1413663-005d	2	5.561	0.4137	5.1468	10.2936	10.3
44	K1413682-001	1	3.395	0.4137	2.9812	2.9812	2.98
45	K1413682-001d	1	3.409	0.4137	2.9956	2.9956	3.00
46	K1413682-001ms	1	29.417	0.4137	29.0028	29.0028	29.0
47	K1413682-002	4	2.506	0.4137	2.0921	8.3684	8.37
48	K1413682-002d	4	2.346	0.4137	1.9325	7.73	7.73
49	K1413740-001	1	1.246	0.4137	0.8326	0.8326	0.83
50	K1413740-001d	1	1.159	0.4137	0.7449	0.7449	0.74

Analyzed By: CES	Date Analyzed
Reviewed By: ✓	Date Reviewed 12/20/14

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method: Oxidation EPA 415.1/9060

Printout	Sample #	Dil. Factor	Solution Conc. ,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L
51	K1413740-001ms	1	26.381	0.4137	25.9673	25.9673	26.0
52	K1413740-002	1	1.315	0.4137	-0.9014	0.9014	0.90
53	K1413740-002d	1	1.186	0.4137	0.7720	0.772	0.77
54	CCV4	1	24.780	0.4137	24.3664	24.3664	24.4
55	CCB4	1	0.500	0.4137	0.0866	0.0866	<0.5
56	K1413740-003	1	0.788	0.4137	0.3744	0.3744	<0.5
57	K1413740-003d	1	0.833	0.4137	0.4189	0.4189	<0.5
58	K1413740-004	1	0.649	0.4137	0.2354	0.2354	<0.5
59	K1413740-004d	1	0.684	0.4137	0.2702	0.2702	<0.5
60	K1413783-001	1	1.186	0.4137	0.7719	0.7719	0.77
61	K1413783-001d	1	1.172	0.4137	0.7579	0.7579	0.76
62	K1413783-001ms	1	26.914	0.4137	26.5002	26.5002	26.5
63	K1413783-002	1	1.427	0.4137	1.0128	1.0128	1.01
64	K1413783-002d	1	1.325	0.4137	0.9110	0.911	0.91
65	K1413793-001	1	0.951	0.4137	0.5374	0.5374	0.54
66	K1413793-001d	1	0.917	0.4137	0.5032	0.5032	0.50
67	K1413829-001	1	0.405	0.4137	-0.0083	-0.0083	<0.5
68	K1413829-001d	1	0.398	0.4137	-0.0153	-0.0153	<0.5
69	K1413829-002	1	0.344	0.4137	-0.0697	-0.0697	<0.5
70	K1413829-002d	1	0.346	0.4137	-0.0675	-0.0675	<0.5
71	K1413839-001	1	1.674	0.4137	1.2605	1.2605	1.26
72	K1413839-001d	1	1.690	0.4137	1.2764	1.2764	1.28
73	K1413839-002	1	1.174	0.4137	0.7598	0.7598	0.76
74	K1413839-002d	1	1.209	0.4137	0.7950	0.795	0.80
75	CCV5	1	24.496	0.4137	24.0825	24.0825	24.1

Analyzed By: <i>LES</i>	Date Analyzed
Reviewed By: <i>F</i>	Date Reviewed <i>12/29/14</i>

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method: Oxidation EPA 415.1/9060

Printout	Sample #	Dil. Factor	Solution Conc., mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L
76	CCB5	1	0.383	0.4137	-0.0303	-0.0303	<0.5
77	MB3	1	0.363	0.4137	-0.0512	-0.0512	<0.5
78	LCS3	1	17.981	0.4137	17.5670	17.567	17.6
79	K1413859-001	1	2.009	0.4137	1.5951	1.5951	1.60
80	K1413859-001d	1	1.846	0.4137	1.4325	1.4325	1.43
81	K1413859-002	1	2.161	0.4137	1.7470	1.747	1.75
82	K1413859-002d	1	2.118	0.4137	1.7041	1.7041	1.70
83	K1413859-003	1	1.759	0.4137	1.3453	1.3453	1.35
84	K1413859-003d	1	1.783	0.4137	1.3695	1.3695	1.37
85	K1413859-004	1	1.980	0.4137	1.5658	1.5658	1.57
86	K1413859-004d	1	1.936	0.4137	1.5222	1.5222	1.52
87	K1413859-004ms	1	26.858	0.4137	26.4440	26.444	26.4
88	K1413859-005	1	2.131	0.4137	1.7177	1.7177	1.72
89	K1413859-005d	1	2.035	0.4137	1.6215	1.6215	1.62
90	K1413859-006	1	0.387	0.4137	-0.0263	-0.0263	<0.5
91	K1413859-006d	1	0.425	0.4137	0.0115	0.0115	<0.5
92	K1413925-001	1	1.691	0.4137	1.2768	1.2768	1.28
93	K1413925-001d	1	1.718	0.4137	1.3045	1.3045	1.30
94	CCV6	1	24.731	0.4137	24.3169	24.3169	24.3
95	CCB6	1	0.390	0.4137	-0.0241	-0.0241	<0.5
96	K1413925-001ms	1	26.823	0.4137	26.4093	26.4093	26.4
97	K1413925-002	1	1.247	0.4137	0.8332	0.8332	0.83
98	K1413925-002d	1	1.157	0.4137	0.7435	0.7435	0.74
99	K1413925-003	1	1.510	0.4137	1.0965	1.0965	1.10
100	K1413925-003d	1	1.546	0.4137	1.1326	1.1326	1.13

Analyzed By: <i>CEG</i>	Date Analyzed
Reviewed By: <i>[Signature]</i>	Date Reviewed <i>12/20/14</i>

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method: Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc. ,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L
CBA	RB	1		0.4137	-0.4137	-0.4137	<0.5
2	K1413925-005	1	1.904	0.4137	1.4902	1.4902	1.49
3	K1413925-005d	1	1.848	0.4137	1.4342	1.4342	1.43
4	K1413925-006	1	1.585	0.4137	1.1710	1.171	1.17
5	K1413925-006d	1	1.623	0.4137	1.2090	1.209	1.21
6	K1413925-007	1	1.349	0.4137	0.9352	0.9352	0.94
7	K1413925-007	1	1.333	0.4137	0.9188	0.9188	0.92
8	K1413931-001	1	7.168	0.4137	6.7547	6.7547	6.75
9	K1413931-001d	1	7.028	0.4137	6.6142	6.6142	6.61
10	K1413931-001ms	1	33.393	0.4137	32.9788	32.9788	33.0
11	K1413931-002	4	3.739	0.4137	3.3249	13.2996	13.3
12	K1413931-002d	4	3.585	0.4137	3.1708	12.6832	12.7
13	K1413931-003	1	1.843	0.4137	1.4289	1.4289	1.43
14	K1413931-003d	1	1.788	0.4137	1.3740	1.374	1.37
15	CCV7	1	24.722	0.4137	24.3084	24.3084	24.3
16	CCB7	1	0.296	0.4137	-0.1179	-0.1179	<0.5
17	MB4	1	0.318	0.4137	-0.0953	-0.0953	<0.5
18	LCS4	1	17.817	0.4137	17.4031	17.4031	17.4
19	K1413980-001	2	4.431	0.4137	4.0174	8.0348	8.03
20	K1413980-001d	2	4.332	0.4137	3.9178	7.8356	7.84
21	K1413980-001ms	2	30.331	0.4137	29.9170	59.834	59.8
22	K1413980-002	4	11.848	0.4137	11.4341	45.7364	45.7
23	K1413980-002d	4	11.642	0.4137	11.2281	44.9124	44.9
24	K1413980-003	4	1.433	0.4137	1.0193	4.0772	4.08
25	K1413980-003d	4	1.557	0.4137	1.1434	4.5736	4.57

ICAL Date 1/11/14 ICAL ID#:11-GEN-05-27L

LCS =18.1 ppm APG 4013 Lot #270812 (REF# 11-GEN-05-33M)

CCV = 25.0 ppm (Ref.#11-GEN-05-33L)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml sol =25.0 x Dilution Factor (Ref.# 11-GEN-05-33K)

Analyzed By: <i>CCS</i>	Date Analyzed	date	time
Reviewed By: <i>[Signature]</i>	Date Reviewed		

Revision I, 2010 R:\WET\ANALYSES\TOC\TEMPLATE\TOCwaterLIMS

0.468	0.468	0.468	0.468	OBSERVATIONS	13	0.4681
0.640				STD Deviation	0.10884	ABOVE
0.584				AVERAGE	0.43522	ABOVE
0.511	0.511			UCL	0.54406	0.5106
0.516	0.516			LCL	0.32637	0.5161
0.500	0.500	0.500				0.5003
0.383	0.383	0.383	0.383			0.3834
0.363	0.363			OBSERVATIONS	8	0.3625
0.390	0.390	0.390	0.390	STD Deviation	0.06811	0.3896
0.296				AVERAGE	0.43698	BELOW
0.318				UCL	0.50509	BELOW
0.365	0.365			LCL	0.36886	0.3652
0.324						BELOW
						BELOW
				OBSERVATIONS	4	BELOW
				STD Deviation	0.05797	BELOW
				AVERAGE	0.43535	BELOW
				UCL	0.49332	BELOW
				LCL	0.37738	BELOW
						BELOW
						BELOW
				OBSERVATIONS	3	BELOW
				STD Deviation	0.05782	BELOW
				AVERAGE	0.41370	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

TOC: 426606
 426607
 426608

Schedule: 121914

Version: 8

Instrument: Fusion1

Last Saved by: Gen Chem Lab (Fusion1)

Last Saved on: 2014/12/19 19:18 - Friday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Done
(Clean)	Clean	Clean		1	True	Done
(Clean)	Clean	Clean		1	True	Done
(Clean)	Clean	Progen/ACB/Blank		1	True	Done
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Running
B	Check Standard	[TOC] CCV 25 [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Check Standard	[TOC] LCS [18.1 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K1413933-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K1413933-001.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
5	Sample	K1413933-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K1413933-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K1413933-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K1414078-001.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K1414078-001.04 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K1414078-002.04	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K1413603-001.06	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
12	Sample	K1413603-001.06 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
13	Sample	K1413603-002.01	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
14	Sample	K1413603-002.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
15	Sample	K1413603-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K1413603-002.01 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K1413603-002.01 ms 4x	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
18	Sample	K1413603-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K1413603-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Check Standard	[TOC] LCS [18.1 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K1413663-002.15 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
22	Sample	K1413663-002.15 2x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K1413663-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K1413663-001.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
25	Sample	K1413663-002.01 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K1413663-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K1413663-001.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
28	Sample	K1413663-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K1413740-003.08	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K1413740-004.08	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K1413743-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K1413743-001.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
33	Sample	K1413743-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K1413743-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K1413743-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K1413743-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K1413743-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K1413743-012.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Printed on: December 19, 2014 19:18:49

Schedule: 121914

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Check Standard	[TOC] LCS [18.1 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
40	Sample	K1413859-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K1413859-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K1413859-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K1413859-004.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K1413859-004.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
45	Sample	K1413859-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K1413859-006.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K1413925-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
48	Sample	K1413925-001.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
49	Sample	K1413925-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
50	Sample	K1413925-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
51	Sample	K1413925-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
52	Sample	K1413925-006.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
53	Sample	K1413925-007.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
54	Sample	K1413931-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K1413931-001.01 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
56	Sample	K1413931-002.01 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K1413931-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
58	Sample	MB4	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Check Standard	[TOC] LCS [18.1 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
59	Sample	K1413980-001.02 2x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K1413980-001.02 ms 2x	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
61	Sample	K1413980-002.02 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
62	Sample	K1413980-003.02 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
63	Sample	K1413980-004.02 2x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
64	Sample	K1413980-005.02 2x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
65	Sample	K1413980-006.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
66	Sample	K1413980-007.02 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
67	Sample	K1413980-008.02 4x	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
68	Sample	K1413980-009.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCS [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 121914

Friday, December 19, 2014 05:38 PM

(View - Repts, Unused Repts, Meta-Data, Signature, History)
 Printed on 2014/12/22 16:37 - Monday

Report Summary Information

Company Location: Gen Chem Lab
 Schedule Name: 121914
 Instrument Name: Fusion1
 Report Version: 1 of 1
 Report Creation by Operators (schedule version): Gen Chem Lab (Fusion1) (v1)
 Gen Chem Lab (Fusion1) (v2)
 Gen Chem Lab (Fusion1) (v4)
 Gen Chem Lab (Fusion1) (v5)
 Gen Chem Lab (Fusion1) (v7)
 Gen Chem Lab (Fusion1) (v8)

Engine Version: 1.1.0.189
 Firmware Version: 1.2.0696
 Connection: RS232 COM1

Comment:

Report Results

Sample Type: Clean From Schedule Version 1

Pos	Analysis Type	Sample ID	Start Time
<input type="checkbox"/> (clean)		Clean	2014/12/19 17:38

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	14.54	20.20	5.67	50.36	05:17
2	TC Clean	11.82	15.47	3.65	51.19	04:00
3	TC Clean	3.62	7.77	4.15	50.65	03:44
4	TC Clean	2.25	6.43	4.18	51.24	03:52

Sample Type: Clean From Schedule Version 2

Pos	Analysis Type	Sample ID	Start Time
<input type="checkbox"/> (clean)		Clean	2014/12/19 18:00

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.52	17.60	4.08	49.63	05:17
2	TC Clean	5.89	10.16	4.27	50.72	03:57

3	TC Clean	2.76	6.98	4.22	51.27	03:43
4	TC Clean	2.28	6.46	4.18	51.47	03:46

Sample Type: Clean

From Schedule Version 4

Pos	Analysis Type	Sample ID	Start Time
<input type="checkbox"/> (clean)		Clean	2014/12/19 18:21

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.54	17.51	3.97	49.53	05:16
2	TC Clean	5.72	9.89	4.17	50.91	03:58
3	TC Clean	2.65	6.77	4.11	51.41	03:44
4	TC Clean	2.00	6.39	4.39	50.50	03:42

Sample Type: Blank (Creating v654)

From Schedule Version 5

Pos	Analysis Type	Sample ID	Start Time
<input type="checkbox"/> (blank)		Reagent/Acid Blank	2014/12/19 18:43

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.06	5.04	3.98	49.94	05:09
2	TC Clean	5.29	9.74	4.45	51.02	04:00
3	TC Clean	2.54	6.80	4.26	51.30	03:44
4	TC Clean	2.23	6.51	4.28	51.43	03:43
5	Reagent Blank	5.30	9.48	4.17	51.41	05:05
6	Acid Blank	1.12	5.43	4.31	49.55	05:22

Sample Type: Check Standard --> CCB

From Schedule Version 7

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
<input type="checkbox"/> D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.5741 ppm (PASS)	0.0000 ppm	0%	2014/12/19 19:16

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.5741	5.7405	12.23	16.39	4.17	60.28	09:47

Completion State **Success Action** **Method** **Calibration** **STD Conc - Pos D**
 Success - Criteria met. Do Nothing CAS_salt_010711 (v3) CAS_salt_010711 (v10) 0 ppmC

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
□ B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8563 ppm (PASS)	0.0000 ppm	0%	2014/12/19 19:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8663	248.6632	198.37	202.55	4.18	60.19	09:52

Completion State **Success Action** **Method** **Calibration** **STD Conc - Pos B**
 Success - Criteria met. Do Nothing CAS_salt_010711 (v3) CAS_salt_010711 (v10) 50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
□ D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.4681 ppm (PASS)	0.0000 ppm	0%	2014/12/19 19:44

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.4681	4.6808	11.41	15.61	4.20	60.54	09:45

Completion State **Success Action** **Method** **Calibration** **STD Conc - Pos D**
 Success - Criteria met. Do Nothing CAS_salt_010711 (v3) CAS_salt_010711 (v10) 0 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
□ 1	TOC	MB1	0.6404 ppm	0.0000 ppm	0.0000%	2014/12/19 19:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6404	6.4035	12.31	16.50	4.20	60.69	09:46

Dilution **Blank Contribution** **Method** **Calibration**
 1:10 7.3982 (v654) CAS_salt_010711 (v3) CAS_salt_010711 (v10)

Sample Type: Check Standard --> LCS From Schedule Version 8

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Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
2	TOC	18.1000	1:1	[TOC] LCS [18.1 ppm]	0 / infinity (NA / NA)	18.1317 ppm (PASS)	0.0000 ppm	0%	2014/12/19 20:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
2	TOC	18.1 ppm	1	18.1317	181.3166	146.76	150.81	4.05	60.41	09:48

Completion State	Success Action	Method	Calibration	STD Conc - Pos 2
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	18.1 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
3	TOC	K1413933-001.02	1.1960 ppm	0.0640 ppm	5.3500%	2014/12/19 20:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2412	12.4119	16.91	20.95	4.04	60.27	09:40
2	TOC	1.1508	11.5076	16.22	20.34	4.12	60.46	09:43

Dilution	Blank Contribution	Method	Calibration
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
4	TOC	K1413933-001.02 ms	26.5881 ppm	0.0000 ppm	0.0000%	2014/12/19 20:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.5881	265.8807	211.13	214.92	3.79	60.16	09:46

Dilution	Blank Contribution	Method	Calibration
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
5	TOC	K1413933-002.02	1.2807 ppm	0.0853 ppm	6.6600%	2014/12/19 21:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3410	13.4103	17.67	21.80	4.12	60.17	09:37
2	TOC	1.2204	12.2044	16.75	21.13	4.38	60.23	09:38

Dilution	Blank Contribution	Method	Calibration
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
6	TOC	K1413933-003.02	1.1879 ppm	0.0748 ppm	6.3000%	2014/12/19 21:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1350	11.3496	16.10	20.60	4.50	60.63	09:42
2	TOC	1.2408	12.4080	16.91	21.15	4.24	60.32	09:39

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
7	TOC	K1413933-004.02	1.7852 ppm	0.0128 ppm	0.7200%	2014/12/19 21:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7761	17.7613	21.01	25.03	4.02	60.25	09:36
2	TOC	1.7943	17.9427	21.15	25.36	4.21	60.80	09:40

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
8	TOC	K1414078-001.04	4.7660 ppm	0.0685 ppm	1.4400%	2014/12/19 22:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.8144	48.1439	44.29	48.52	4.23	60.75	09:39
2	TOC	4.7176	47.1756	43.55	47.78	4.23	60.29	09:42

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
9	TOC	K1414078-001.04 ms	30.8322 ppm	0.0000 ppm	0.0000%	2014/12/19 22:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.8322	308.3219	243.65	247.88	4.23	60.23	09:46

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9881 ppm (PASS)	0.0000 ppm	0%	2014/12/19 23:03

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

B	TOC	25 ppm	1	24.9881	249.8808	199.30	203.61	4.31	60.63	09:46
<u>Completion State</u>		<u>Success Action</u>		<u>Method</u>		<u>Calibration</u>		<u>STD Conc - Pos B</u>		
Success - Criteria met.		Do Nothing		CAS_salt_010711 (v3)		CAS_salt_010711 (v10)		50 ppmC		

Sample Type: Check Standard --> CCB

From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time	
□	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.5837 ppm (PASS)	0.0000 ppm	0%	2014/12/19 23:17

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.5837	5.8371	12.30	16.46	4.16	60.27	09:44

<u>Completion State</u>		<u>Success Action</u>		<u>Method</u>		<u>Calibration</u>		<u>STD Conc - Pos D</u>		
Success - Criteria met.		Do Nothing		CAS_salt_010711 (v3)		CAS_salt_010711 (v10)		0 ppmC		

Sample Type: Sample

From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time	
□	10	TOC	K1414078-002.04	2.1405 ppm	0.0423 ppm	1.9700%	2014/12/19 23:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1704	21.7038	24.03	28.30	4.27	60.27	09:43
2	TOC	2.1106	21.1061	23.57	27.87	4.30	60.73	09:42

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time	
□	11	TOC	K1413809-001.06	0.9167 ppm	0.0433 ppm	4.7300%	2014/12/19 23:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9777	9.7771	14.89	19.04	4.15	60.35	09:34
2	TOC	0.9134	9.1337	14.40	18.73	4.33	60.73	09:42
3	TOC	0.8990	8.9901	14.29	18.84	4.56	60.23	09:40
4	TOC	0.8768	8.7683	14.12	18.45	4.33	60.25	09:39

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time	
□	12	TOC	K1413809-001.06 ms	26.1059 ppm	0.0000 ppm	0.0000%	2014/12/20 00:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.1059	261.0586	207.44	211.76	4.32	60.45	09:46

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
13	TOC	K1413959-005.01	0.6681 ppm	0.0409 ppm	6.1200%	2014/12/20 01:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7194	7.1944	12.91	17.27	4.36	60.38	09:41
2	TOC	0.6825	6.8251	12.63	16.90	4.27	60.23	09:40
3	TOC	0.6358	6.3579	12.27	16.48	4.21	60.40	09:40
4	TOC	0.6346	6.3461	12.26	16.46	4.19	60.75	09:44

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
14	TOC	K1413959-005.01 ms	25.8266 ppm	0.0000 ppm	0.0000%	2014/12/20 01:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	25.8266	258.2658	205.30	209.41	4.11	60.22	09:42

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
15	TOC	K1413638-001.01	2.3498 ppm	0.0737 ppm	3.1400%	2014/12/20 02:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4019	24.0190	25.80	30.20	4.40	60.36	09:40
2	TOC	2.2976	22.9762	25.00	29.28	4.28	60.42	09:41

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
16	TOC	K1413638-002.01 4x	3.7944 ppm	0.0809 ppm	2.1300%	2014/12/20 02:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8517	38.5167	36.91	41.06	4.15	60.79	09:43
2	TOC	3.7372	37.3721	36.03	40.13	4.09	60.79	09:40

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 Calibration CAS_salt_010711

(v3) (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
17	TOC	K1413638-002.01 ms 4x	30.1978 ppm	0.0000 ppm	0.0000%	2014/12/20 03:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.1978	301.9781	238.79	242.79	4.00	60.41	09:43

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
18	TOC	K1413638-003.01	2.4704 ppm	0.0962 ppm	3.8900%	2014/12/20 03:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5384	25.3840	26.85	31.07	4.22	60.64	09:42
2	TOC	2.4024	24.0242	25.81	30.22	4.42	60.28	09:37

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
19	TOC	K1413663-003.15	2.0938 ppm	0.0499 ppm	2.3800%	2014/12/20 03:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1291	21.2914	23.71	27.85	4.13	60.38	09:39
2	TOC	2.0585	20.5854	23.17	27.51	4.34	60.37	09:39

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0749 ppm (PASS)	0.0000 ppm	0%	2014/12/20 04:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0749	250.7487	199.97	204.10	4.14	60.45	09:47

Completion State Success - Criteria met. Success Action Do Nothing Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10) STD Conc - Pos B 50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time	
□	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.5106 ppm (PASS)	0.0000 ppm	0%	2014/12/20 04:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.5106	5.1063	11.74	16.08	4.34	60.46	09:41

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	0 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time	
□	20	TOC	MB2	0.5161 ppm	0.0000 ppm	0.0000%	2014/12/20 04:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5161	5.1611	11.35	15.49	4.13	60.22	09:46

Dilution	Blank Contribution	Method	Calibration
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Sample Type: Check Standard --> LCS From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time	
□	2	TOC	18.1000	1:1	[TOC] LCS [18.1 ppm]	0 / infinity (NA / NA)	18.2481 ppm (PASS)	0.0000 ppm	0%	2014/12/20 04:47

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
2	TOC	18.1 ppm	1	18.2481	182.4807	147.65	151.78	4.13	60.17	09:45

Completion State	Success Action	Method	Calibration	STD Conc - Pos 2
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	18.1 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time	
□	21	TOC	K1413663-003.15 ms	26.6914 ppm	0.0000 ppm	0.0000%	2014/12/20 05:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
(PASS)										
D	TOC	0 ppm	1	0.5003	5.0032	11.66	15.65	3.99	60.24	09:42
<u>Completion State</u>		<u>Success Action</u>		<u>Method</u>		<u>Calibration</u>		<u>STD Conc - Pos D</u>		
Success - Criteria met.		Do Nothing		CAS_salt_010711 (v3)		CAS_salt_010711 (v10)		0 ppmC		

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
29	TOC	K1413740-003.08	0.8103 ppm	0.0315 ppm	3.8800%	2014/12/20 08:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7881	7.8808	13.44	17.86	4.43	60.53	09:38
2	TOC	0.8326	8.3259	13.78	17.97	4.19	60.42	09:41

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
30	TOC	K1413740-004.08	0.6665 ppm	0.0246 ppm	3.7000%	2014/12/20 08:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6491	6.4910	12.37	16.55	4.18	60.34	09:41
2	TOC	0.6839	6.8394	12.64	16.60	3.96	60.18	09:39

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
31	TOC	K1413783-001.01	1.1786 ppm	0.0099 ppm	0.8400%	2014/12/20 09:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1856	11.8560	16.48	20.73	4.25	60.79	09:45
2	TOC	1.1716	11.7164	16.38	20.78	4.41	60.28	09:39

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
32	TOC	K1413783-001.01 ms	26.9139 ppm	0.0000 ppm	0.0000%	2014/12/20 09:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	26.9139	269.1394	213.63	217.78	4.16	60.67	09:46
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Dilution Blank Contribution Method Calibration
 1:10 7.3982 (v654) CAS_salt_010711 (v3) CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
33	TOC	K1413783-002.01	1.3756 ppm	0.0720 ppm	5.2300%	2014/12/20 09:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4265	14.2651	18.33	22.63	4.30	60.52	09:43
2	TOC	1.3247	13.2472	17.55	22.00	4.45	60.70	09:40

Dilution Blank Contribution Method Calibration
 1:10 7.3982 (v654) CAS_salt_010711 (v3) CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
34	TOC	K1413793-001.01	0.9340 ppm	0.0242 ppm	2.5900%	2014/12/20 10:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9511	9.5108	14.69	18.65	3.96	60.41	09:43
2	TOC	0.9169	9.1689	14.42	18.57	4.15	60.61	09:40

Dilution Blank Contribution Method Calibration
 1:10 7.3982 (v654) CAS_salt_010711 (v3) CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
35	TOC	K1413829-001	0.4019 ppm	0.0050 ppm	1.2400%	2014/12/20 10:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4054	4.0545	10.50	14.48	3.98	60.69	09:40
2	TOC	0.3984	3.9840	10.45	14.49	4.04	60.52	09:43

Dilution Blank Contribution Method Calibration
 1:10 7.3982 (v654) CAS_salt_010711 (v3) CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
36	TOC	K1413829-002	0.3451 ppm	0.0016 ppm	0.4500%	2014/12/20 11:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3440	3.4398	10.03	13.88	3.85	60.64	09:41
2	TOC	0.3462	3.4620	10.05	14.25	4.20	60.28	09:41

Dilution Blank Contribution Method Calibration
 1:10 7.3982 (v654) CAS_salt_010711 (v3) CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
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<input type="checkbox"/>	37	TOC	K1413839-001.02	1.6822 ppm	0.0113 ppm	0.6700%	2014/12/20 11:37		
Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time	
1	TOC	1.6742	16.7421	20.23	24.21	3.99	60.67	09:41	
2	TOC	1.6901	16.9013	20.35	24.56	4.21	60.57	09:40	
<u>Dilution</u>		<u>Blank Contribution</u>		<u>Method</u>	<u>Calibration</u>				
1:10		7.3982 (v654)		CAS_salt_010711 (v3)	CAS_salt_010711 (v10)				
Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time			
<input type="checkbox"/>	38	TOC	K1413839-002.02	1.1911 ppm	0.0249 ppm	2.0900%	2014/12/20 12:03		
Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time	
1	TOC	1.1735	11.7346	16.39	20.63	4.24	60.62	09:43	
2	TOC	1.2087	12.0870	16.66	20.69	4.03	60.52	09:39	
<u>Dilution</u>		<u>Blank Contribution</u>		<u>Method</u>	<u>Calibration</u>				
1:10		7.3982 (v654)		CAS_salt_010711 (v3)	CAS_salt_010711 (v10)				

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time	
<input type="checkbox"/>	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4962 ppm (PASS)	0.0000 ppm	0%	2014/12/20 12:29
Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4962	244.9621	195.53	199.49	3.96	60.18	09:44
<u>Completion State</u>		<u>Success Action</u>		<u>Method</u>	<u>Calibration</u>	<u>STD Conc - Pos B</u>				
Success - Criteria met.		Do Nothing		CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	50 ppmC				

Sample Type: Check Standard --> CCB From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time	
<input type="checkbox"/>	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3834 ppm (PASS)	0.0000 ppm	0%	2014/12/20 12:43
Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3834	3.8338	10.76	15.08	4.31	60.59	09:48
<u>Completion State</u>		<u>Success Action</u>		<u>Method</u>	<u>Calibration</u>	<u>STD Conc - Pos D</u>				
Success - Criteria met.		Do Nothing		CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	0 ppmC				

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
39	TOC	MB3	0.3625 ppm	0.0000 ppm	0.0000%	2014/12/20 12:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3625	3.6251	10.18	14.13	3.96	60.57	09:50

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Sample Type: Check Standard --> LCS From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
2	TOC	18.1000	1:1	[TOC] LCS [18.1 ppm]	0 / infinity (NA / NA)	17.9807 ppm (PASS)	0.0000 ppm	0%	2014/12/20 13:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
2	TOC	18.1 ppm	1	17.9807	179.8067	145.61	149.85	4.24	60.51	09:48

<u>Completion State</u>	<u>Success Action</u>	<u>Method</u>	<u>Calibration</u>	<u>STD Conc - Pos 2</u>
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	18.1 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
40	TOC	K1413859-001.01	1.9275 ppm	0.1150 ppm	5.9700%	2014/12/20 13:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0088	20.0882	22.79	26.79	4.00	60.51	09:39
2	TOC	1.8462	18.4621	21.54	26.08	4.54	60.65	09:37

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
41	TOC	K1413859-002.01	2.1393 ppm	0.0304 ppm	1.4200%	2014/12/20 13:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1607	21.6073	23.96	28.03	4.08	60.52	09:44
2	TOC	2.1178	21.1779	23.63	27.81	4.18	60.66	09:38

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
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1	TOC	0.3874	3.8744	10.37	14.55	4.18	60.41	09:38
2	TOC	0.4252	4.2515	10.66	14.62	3.96	60.31	09:37

Dilution 1:10 **Blank Contribution** 7.3982 (v654) **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
47	TOC	K1413925-001.01	1.7044 ppm	0.0196 ppm	1.1500%	2014/12/20 16:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6905	16.9052	20.35	24.48	4.12	60.68	09:45
2	TOC	1.7182	17.1819	20.56	24.88	4.32	60.35	09:41

Dilution 1:10 **Blank Contribution** 7.3982 (v654) **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7306 ppm (PASS)	0.0000 ppm	0%	2014/12/20 16:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7306	247.3060	197.33	201.55	4.22	60.69	09:46

Completion State Success - Criteria met. **Success Action** Do Nothing **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10) **STD Conc - Pos B** 50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3896 ppm (PASS)	0.0000 ppm	0%	2014/12/20 16:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3896	3.8965	10.81	15.14	4.33	60.57	09:45

Completion State Success - Criteria met. **Success Action** Do Nothing **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10) **STD Conc - Pos D** 0 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
48	TOC	K1413925-001.01 ms	26.8230 ppm	0.0000 ppm	0.0000%	2014/12/20 17:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.8230	268.2298	212.93	217.13	4.20	60.29	09:44

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
49	TOC	K1413925-002.01	1.2020 ppm	0.0635 ppm	5.2800%	2014/12/20 17:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2469	12.4694	16.95	21.12	4.17	60.62	09:39
2	TOC	1.1572	11.5715	16.26	20.47	4.20	60.45	09:35

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
50	TOC	K1413925-003.01	1.5282 ppm	0.0256 ppm	1.6700%	2014/12/20 17:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5102	15.1016	18.97	23.23	4.26	60.36	09:42
2	TOC	1.5463	15.4631	19.25	23.42	4.17	60.65	09:40

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
51	TOC	K1413925-005.01	1.8759 ppm	0.0396 ppm	2.1100%	2014/12/20 18:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9039	19.0389	21.99	26.02	4.03	60.62	09:42
2	TOC	1.8479	18.4791	21.56	25.98	4.42	60.54	09:39

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
52	TOC	K1413925-006.01	1.6037 ppm	0.0269 ppm	1.6700%	2014/12/20 18:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5847	15.8468	19.54	23.92	4.37	60.54	09:39
2	TOC	1.6227	16.2266	19.83	24.03	4.20	60.70	09:42

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
53	TOC	K1413925-007.01	1.3407 ppm	0.0115 ppm	0.8600%	2014/12/20 19:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3489	13.4886	17.73	21.81	4.07	60.25	09:37
2	TOC	1.3325	13.3255	17.61	21.93	4.32	60.32	09:41

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
54	TOC	K1413931-001.01	7.0981 ppm	0.0994 ppm	1.4000%	2014/12/20 19:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.1684	71.6842	62.33	66.49	4.17	60.72	09:42
2	TOC	7.0279	70.2787	61.25	65.39	4.14	60.55	09:40

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
55	TOC	K1413931-001.01 ms	33.3925 ppm	0.0000 ppm	0.0000%	2014/12/20 20:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	33.3925	333.9255	263.27	267.48	4.21	60.77	09:47

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
56	TOC	K1413931-002.01 4x	3.6616 ppm	0.1090 ppm	2.9800%	2014/12/20 20:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.7386	37.3865	36.05	40.31	4.26	60.29	09:37
2	TOC	3.5845	35.8452	34.86	39.13	4.27	60.18	09:42

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
57	TOC	K1413931-003.01	1.8152 ppm	0.0388 ppm	2.1400%	2014/12/20 20:40

Rep	Base	Adjusted	Baseline	Pressure	Run
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#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	1.8426	18.4256	21.52	25.62	4.10	60.19	09:38
2	TOC	1.7877	17.8775	21.10	25.25	4.16	60.72	09:39

Dilution 1:10 **Blank Contribution** 7.3982 (v654) **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7221 ppm (PASS)	0.0000 ppm	0%	2014/12/20 21:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7221	247.2212	197.26	201.29	4.03	60.75	09:47

Completion State Success - Criteria met. **Success Action** Do Nothing **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10) **STD Conc - Pos B** 50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.2958 ppm (PASS)	0.0000 ppm	0%	2014/12/20 21:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2958	2.9582	10.09	14.31	4.21	60.74	09:44

Completion State Success - Criteria met. **Success Action** Do Nothing **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10) **STD Conc - Pos D** 0 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
58	TOC	MB4	0.3184 ppm	0.0000 ppm	0.0000%	2014/12/20 21:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3184	3.1840	9.84	13.97	4.14	60.62	09:47

Dilution 1:10 **Blank Contribution** 7.3982 (v654) **Method** CAS_salt_010711 (v3) **Calibration** CAS_salt_010711 (v10)

Sample Type: Check Standard --> LCS From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
2	TOC	18.1000	1:1	[TOC] LCS [18.1 ppm]	0 / infinity (NA / NA)	17.8168 ppm (PASS)	0.0000 ppm	0%	2014/12/20 21:47

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
2	TOC	18.1 ppm	1	17.8168	178.1676	144.35	148.70	4.35	60.26	09:47

<u>Completion State</u>	<u>Success Action</u>	<u>Method</u>	<u>Calibration</u>	<u>STD Conc - Pos 2</u>
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	18.1 ppmC

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
59	TOC	K1413980-001.02 2x	4.3813 ppm	0.0704 ppm	1.6100%	2014/12/20 22:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4311	44.3110	41.35	45.50	4.15	60.26	09:44
2	TOC	4.3315	43.3153	40.59	44.67	4.08	60.32	09:40

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
60	TOC	K1413980-001.02 ms 2x	30.3307 ppm	0.0000 ppm	0.0000%	2014/12/20 22:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.3307	303.3066	239.81	244.04	4.23	60.46	09:48

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
61	TOC	K1413980-002.02 4x	11.7448 ppm	0.1456 ppm	1.2400%	2014/12/20 22:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.8478	118.4778	98.18	102.28	4.10	60.16	09:42
2	TOC	11.6418	116.4184	96.60	100.98	4.38	60.69	09:43

<u>Dilution</u>	<u>Blank Contribution</u>	<u>Method</u>	<u>Calibration</u>
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
62	TOC	K1413980-003.02 4x	1.4951 ppm	0.0878 ppm	5.8700%	2014/12/20 23:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4330	14.3304	18.38	22.67	4.29	60.64	09:45
2	TOC	1.5571	15.5714	19.33	23.48	4.15	60.79	09:40

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
63	TOC	K1413980-004.02 2x	8.5824 ppm	0.0740 ppm	0.8600%	2014/12/20 23:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.6348	86.3477	73.56	77.69	4.12	60.31	09:41
2	TOC	8.5301	85.3010	72.76	77.05	4.29	60.73	09:45

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
64	TOC	K1413980-005.02 2x	5.7059 ppm	0.0059 ppm	0.1000%	2014/12/20 23:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.7100	57.1004	51.15	55.20	4.05	60.32	09:40
2	TOC	5.7017	57.0169	51.09	55.34	4.25	60.75	09:44

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
65	TOC	K1413980-006.02	6.3624 ppm	0.0860 ppm	1.3500%	2014/12/21 00:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.4232	64.2325	56.62	60.71	4.09	60.73	09:42
2	TOC	6.3016	63.0162	55.68	59.76	4.08	60.68	09:38

Dilution 1:10 Blank Contribution 7.3982 (v654) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v10)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
66	TOC	K1413980-007.02 4x	6.9855 ppm	0.1452 ppm	2.0800%	2014/12/21 00:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.0882	70.8816	61.71	65.87	4.16	60.66	09:43

2	TOC	6.8828	68.8275	60.14	64.31	4.17	60.75	09:40
<u>Dilution</u>		<u>Blank Contribution</u>		<u>Method</u>		<u>Calibration</u>		
1:10		7.3982 (v654)		CAS_salt_010711 (v3)		CAS_salt_010711 (v10)		

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6661 ppm (PASS)	0.0000 ppm	0%	2014/12/21 01:18

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6661	246.6613	196.83	201.21	4.38	60.27	09:42

<u>Completion State</u>		<u>Success Action</u>		<u>Method</u>		<u>Calibration</u>		<u>STD Conc - Pos B</u>	
Success - Criteria met.		Do Nothing		CAS_salt_010711 (v3)		CAS_salt_010711 (v10)		50 ppmC	

Sample Type: Check Standard --> CCB From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3652 ppm (PASS)	0.0000 ppm	0%	2014/12/21 01:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3652	3.6524	10.63	14.85	4.22	60.21	09:46

<u>Completion State</u>		<u>Success Action</u>		<u>Method</u>		<u>Calibration</u>		<u>STD Conc - Pos D</u>	
Success - Criteria met.		Do Nothing		CAS_salt_010711 (v3)		CAS_salt_010711 (v10)		0 ppmC	

Sample Type: Sample From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
67	TOC	K1413980-008.02 4x	4.3018 ppm	0.0692 ppm	1.6100%	2014/12/21 01:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3507	43.5071	40.74	45.03	4.30	60.27	09:39
2	TOC	4.2528	42.5284	39.99	44.45	4.47	60.34	09:41

<u>Dilution</u>		<u>Blank Contribution</u>		<u>Method</u>		<u>Calibration</u>	
1:10		7.3982 (v654)		CAS_salt_010711 (v3)		CAS_salt_010711 (v10)	

	<u>Analysis</u>		<u>Std. Dev.</u>
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Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
68	TOC	K1413980-009.02	6.2192 ppm	0.0169 ppm	0.2700%	2014/12/21 02:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.2311	62.3114	55.14	59.41	4.26	60.85	09:45
2	TOC	6.2073	62.0726	54.96	59.32	4.35	60.53	09:39

Dilution	Blank Contribution	Method	Calibration
1:10	7.3982 (v654)	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4953 ppm (PASS)	0.0000 ppm	0%	2014/12/21 02:38

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4953	244.9530	195.52	199.52	4.00	60.58	09:43

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3237 ppm (PASS)	0.0000 ppm	0%	2014/12/21 02:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3237	3.2374	10.31	14.33	4.03	60.59	09:45

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v3)	CAS_salt_010711 (v10)	0 ppmC

Meta Data Used in this Report

Blanks

Reagent	Acid	DI IC	DI TC	DI TOC

Version	(Abs)	(Abs)	(Abs)	(Abs)	(Abs)	Save Time	Operator
v653	1.3860	1.4280	0.0000	0.0000	0.0000	2014/12/15 23:58	Gen Chem Lab (Fusion1)
v654	1.7680	1.1210	0.0000	0.0000	0.0000	2014/12/19 19:16	Gen Chem Lab (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v10
 Ver Creation: 2014/01/11 00:38
 Comment:
 Operator: Gen Chem Lab (Fusion1)
 Basic Analysis Type: TOC

Calibration curve formula: TOC: $y = 7.663x + 7.827$
 r^2 value: TOC: $r^2 = 0.99975$

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.2520	0.0000		2014/01/10 23:17
0.500 ppm	13.1920	0.5000		2014/01/10 23:31
1.0 ppm	16.7430	1.0000		2014/01/10 23:44
5.0 ppm	45.8920	5.0000		2014/01/10 23:57
10 ppm	81.5580	10.0000		2014/01/11 00:11
25 ppm	196.1300	25.0000		2014/01/11 00:24
50 ppm	393.1520	50.0000		2014/01/11 00:37

Methods

Name: CAS_salt_010711 (TOC)

Version: v3
 Ver Creation: 2013/02/04 11:45
 Comment:

Operator: Gen Chem Lab (Fusion1)

Parameter	Value	Advanced Parameter	Value
SampleVolume	10.0 mL	NeedleRinseVolume	5.0 ml
Dilution	1:10	VialPrimeVolume	2.0 ml
AcidVolume	0.5 ml	ICSamplePrimeVolume	2.0 ml
ReagentVolume	2.0 ml	ICSpurgeRinseVolume	12.0 ml
UVReactorPrerinse	Off	BaselineStabilizeTime	0.70 min
UVReactorPrerinseVolume	5.0	DetectorPressureFlow	150 ml/min
NumberOfUVReactorPrerinses	1	SyringeSpeedWaste	10
ICSpurgeTime	1.00 mins	SyringeSpeedAcid	7
DetectorSweepFlow	500 ml/min	SyringeSpeedReagent	7
PreSpurgeTime	2.00 mins	SyringeSpeedDIWater	7
SystemFlow	500 ml/min	NDIRPressurization	60 psig
		SyringeSpeedSampleDispense	5
		SyringeSpeedSampleAspirate	4
		SyringeSpeedUVDispense	7

SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	7
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date
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Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Gen Chem Lab (Fusion1)	Schedule completed	Schedule completed	2014/12/21 03:09

Work Request # (^{Original}) K1413638, 13663, 13809, 13857, 13889, 13920, 13982, 13983
 Tier: II II II II II I II III
 Date Analyzed: 12/15/14
 Analyst: AB
 Analysis: ALK Run # 425805

**DATA QUALITY REPORT
INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

- | | | |
|-----|---|----------------------------------|
| 1. | Is the method name and number correct and appropriate? | yes/no/NA |
| 2. | Holding times met for all analyses and for all samples? | yes/no/NA |
| 3. | Are calculations correct? | yes/no/NA |
| 4. | Is the reporting basis correct? (Dry Weight) | yes/no/NA |
| 5. | All quality control criteria met? | yes/no |
| 6. | Is the calibration curve correlation coefficient ≥ 0.995 ? | yes/no/NA |
| 7. | MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? | yes/no/NA |
| 8. | Are ICVs, CCVs, and CCBs all within acceptance limits? | yes/no/NA |
| 9. | Are results for methods blanks all ND? | yes/no/NA |
| 10. | Are all QC samples within acceptance criteria?
(LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) | yes/no/NA |
| 11. | Are all exceptions explained? | yes/no/NA |
| 12. | Have all applicable service requests been reviewed? | yes/no/NA |
| 13. | Are all samples labeled correctly? | yes/no/NA |
| 14. | Have all instructions on the service request been followed?
(e.g. Special MRLs, QC on a specific sample, Form V) | yes/no/NA |
| 15. | Are detection limits and units reported correctly? | yes/no/NA |
| 16. | Is the unused space on the benchsheet crossed out? | yes/no/NA |
| 17. | Was analysis turned in by the due date? (n-2) (If not record SR#) | yes/no/NA K1413889 du = 12/17/14 |

COMMENTS:

K1413638 - 2
 K1413663 - 5, 7
 K1413983 - 1
 Re-analyzed w/10x dilution

Final Approved by: K Date: 12/19/14 DQREPORT

Analytical Results Summary

Instrument Name: K-PH-01 Analyst: DBRADBURY Analysis Lot: 425805 Method/Testcode: SM 2320 B/Alkalinity Titr

Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC?	Tier
413638-001	Alkalinity as CaCO ₃ , Total	N/A		Water	317.00 mg/L	30 mL	317 mg/L	1	3	15			12/15/14 17:14:00	N	II
413638-001	Bicarbonate as CaCO ₃	N/A		Water	317.00 mg/L	30 mL	317 mg/L	1	3	15			12/15/14 17:14:00	N	II
413638-002.R01	Alkalinity as CaCO ₃ , Total	N/A		Water	>666 mg/L	30 mL	>666 mg/L	1	3	15			12/15/14 17:14:00	N	II
413638-002.R01	Bicarbonate as CaCO ₃	N/A		Water	>666 mg/L	30 mL	>666 mg/L	1	3	15			12/15/14 17:14:00	N	II
413638-003	Alkalinity as CaCO ₃ , Total	N/A		Water	441.00 mg/L	30 mL	441 mg/L	1	3	15			12/15/14 17:14:00	N	II
413638-003	Bicarbonate as CaCO ₃	N/A		Water	441.00 mg/L	30 mL	441 mg/L	1	3	15			12/15/14 17:14:00	N	II
413663-001	Alkalinity as CaCO ₃ , Total	N/A		Water	276.00 mg/L	30 mL	276 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-001	Bicarbonate as CaCO ₃	N/A		Water	276.00 mg/L	30 mL	276 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-002	Alkalinity as CaCO ₃ , Total	N/A		Water	93.70 mg/L	30 mL	94 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-002	Bicarbonate as CaCO ₃	N/A		Water	93.70 mg/L	30 mL	94 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-003	Alkalinity as CaCO ₃ , Total	N/A		Water	502.00 mg/L	30 mL	502 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-003	Bicarbonate as CaCO ₃	N/A		Water	502.00 mg/L	30 mL	502 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-004	Alkalinity as CaCO ₃ , Total	N/A		Water	569.00 mg/L	30 mL	569 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-004	Bicarbonate as CaCO ₃	N/A		Water	569.00 mg/L	30 mL	569 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-005.R01	Alkalinity as CaCO ₃ , Total	N/A		Water	>666 mg/L	30 mL	>666 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-005.R01	Bicarbonate as CaCO ₃	N/A		Water	>666 mg/L	30 mL	>666 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-006	Alkalinity as CaCO ₃ , Total	N/A		Water	524.00 mg/L	30 mL	524 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-006	Bicarbonate as CaCO ₃	N/A		Water	524.00 mg/L	30 mL	524 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-007.R01	Alkalinity as CaCO ₃ , Total	N/A		Water	>666 mg/L	30 mL	>666 mg/L	1	3	15			12/15/14 17:14:00	N	V
413663-007.R01	Bicarbonate as CaCO ₃	N/A		Water	>666 mg/L	30 mL	>666 mg/L	1	3	15			12/15/14 17:14:00	N	V
413809-001	Alkalinity, Dissolved as CaCO ₃	N/A		Water	193.00 mg/L	30 mL	193 mg/L	1	3	15			12/15/14 17:14:00	N	V
413809-001	Bicarbonate as CaCO ₃	N/A		Water	191.00 mg/L	30 mL	191 mg/L	1	3	15			12/15/14 17:14:00	N	V
413857-001	Alkalinity as CaCO ₃ , Total	N/A		Water	140.00 mg/L	30 mL	140 mg/L	1	3	15			12/15/14 17:14:00	N	II
413889-001	Alkalinity as CaCO ₃ , Total	N/A		Water	87.00 mg/L	30 mL	87 mg/L	1	3	15			12/15/14 17:14:00	N	II
413889-002	Alkalinity as CaCO ₃ , Total	N/A		Water	90.20 mg/L	30 mL	90 mg/L	1	3	15			12/15/14 17:14:00	N	II
413889-003	Alkalinity as CaCO ₃ , Total	N/A		Water	90.30 mg/L	30 mL	90 mg/L	1	3	15			12/15/14 17:14:00	N	II
413889-004	Alkalinity as CaCO ₃ , Total	N/A		Water	32.80 mg/L	30 mL	33 mg/L	1	3	15			12/15/14 17:14:00	N	II
413920-001	Alkalinity as CaCO ₃ , Total	N/A		Water	108.00 mg/L	30 mL	108 mg/L	1	3	15			12/15/14 17:14:00	N	I
413920-001	Bicarbonate as CaCO ₃	N/A		Water	105.00 mg/L	30 mL	105 mg/L	1	3	15			12/15/14 17:14:00	N	I
413920-001	Carbonate as CaCO ₃	N/A		Water	2.87 mg/L	30 mL	15 mg/L U	1	3	15			12/15/14 17:14:00	N	I

Indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-PH-01 Analyst: DBRADBURY Analysis Lot: 425805 Method/Testcode: SM 2320 B/Alkalinity Titr

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
1413920-002	Alkalinity as CaCO3, Total N/A			Water	127.00 mg/L	30 mL	127 mg/L	1	3	15			12/15/14 17:14:00	N I
1413920-002	Bicarbonate as CaCO3 N/A			Water	127.00 mg/L	30 mL	127 mg/L	1	3	15			12/15/14 17:14:00	N I
1413920-002	Carbonate as CaCO3 N/A			Water	0.00 mg/L	30 mL	15 mg/L	U	1	3	15		12/15/14 17:14:00	N I
1413982-001	Alkalinity as CaCO3, Total N/A			Ground Water	211.00 mg/L	30 mL	211 mg/L	1	3	15			12/15/14 17:14:00	N II
1413983-001.R01	Alkalinity as CaCO3, Total N/A			Water	>666 mg/L	30 mL	>666 mg/L	1	3	15			12/15/14 17:14:00	N III
Q1416465-01	Alkalinity as CaCO3, Total DUP		K1413663-006	Water	531.00 mg/L	30 mL	531 mg/L	1	3	15		1	12/15/14 17:14:00	N V
Q1416465-01	Bicarbonate as CaCO3 DUP		K1413663-006	Water	531.00 mg/L	30 mL	531 mg/L	1	3	15		1	12/15/14 17:14:00	N V
Q1416465-02	Alkalinity as CaCO3, Total DUP		K1413983-001	Water	>666 mg/L	30 mL	>666 mg/L	1	3	15		NC	12/15/14 17:14:00	N III
Q1416465-03	Alkalinity as CaCO3, Total MB			Water	5.87 mg/L	30 mL	6 mg/L	J	1	3	15		12/15/14 17:14:00	N II
Q1416465-03	Alkalinity, Dissolved as CaCO3 MB			Water	5.87 mg/L	30 mL	6 mg/L	J	1	3	15		12/15/14 17:14:00	N II
Q1416465-03	Bicarbonate as CaCO3 MB			Water	5.87 mg/L	30 mL	6 mg/L	J	1	3	15		12/15/14 17:14:00	N II
Q1416465-03	Carbonate as CaCO3 MB			Water	0.00 mg/L	30 mL	15 mg/L	U	1	3	15		12/15/14 17:14:00	N II
Q1416465-04	Alkalinity as CaCO3, Total LCS			Water	40.00 mg/L	30 mL	40.0 mg/L	1	3	15	109		12/15/14 17:14:00	N II
Q1416465-04	Alkalinity, Dissolved as CaCO3 LCS			Water	40.00 mg/L	30 mL	40.0 mg/L	1	3	15	109		12/15/14 17:14:00	N II

ARB 12/19/14

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Date: 12/16/2014
 RunID = Z1215141649
 InstrumentID = SN=1234A
 Site Name = ALS
 Analyst = ACQWE
 Test Name/ID = ALK
 Titrant Name/ID = 0.02N HCL ALK1-22-V RICCA #2312798
 Standard(s) Name/ID = LCS ALK1-7-W ERA # S214-698 TV=36.8 mg/L

Run # 425805

Test ID	LIMS ID	Meth ID	Smpl ID	pH	SmpVol	Tot Vol	SmpResults	Units	Recv %	End Pt	Slope (n)	Calc C	Date	Time	Analst	Run ID	Instr ID
ALK	MB	1	1	6.013	30		5.8735	ppm/l		0.176 mL (141.3 mV)	58.25	99943	12-15-14	18:14	ACQWE	12-15-14.EZ	SN=123
ALK	LCS	1	2	8.956	30		18.710	ppm/l		0.561 mL (80.0 mV)	58.25	99943	12-15-14	18:17	ACQWE	12-15-14.EZ	SN=123
ALK		1	2	8.956	30		40.048	ppm/l		1.200 mL (141.3 mV)	58.25	99943	12-15-14	18:17	ACQWE	12-15-14.EZ	SN=123
ALK		1	3	8.008	30		316.76	ppm/l		9.494 mL (141.3 mV)	58.25	99943	12-15-14	18:21	ACQWE	12-15-14.EZ	SN=123
ALK	K1413638-001.02	1	4	7.428	30		7.666	ppm/l	RA-DL		58.25	99943	12-15-14	18:33	ACQWE	12-15-14.EZ	SN=123
ALK	K1413638-003.02	1	5	7.399	30		440.50	ppm/l		13.203 mL (141.3 mV)	58.25	99943	12-15-14	18:58	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-001.12	1	6	7.759	30		275.84	ppm/l		8.268 mL (141.3 mV)	58.25	99943	12-15-14	19:15	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-002.12	1	7	7.982	30		93.722	ppm/l		2.809 mL (141.3 mV)	58.25	99943	12-15-14	19:26	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-003.12	1	8	7.519	30		501.94	ppm/l		15.045 mL (141.3 mV)	58.25	99943	12-15-14	19:32	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-004.12	1	9	7.991	30		568.83	ppm/l		17.049 mL (141.3 mV)	58.25	99943	12-15-14	19:51	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-005.12	1	10	7.797	30		7.666	ppm/l	RA-DL		58.25	99943	12-15-14	20:14	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-006.12	1	11	7.73	30		523.75	ppm/l		15.698 mL (141.3 mV)	58.25	99943	12-15-14	20:39	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-006D	1	12	7.716	30		531.10	ppm/l		15.919 mL (141.3 mV)	58.25	99943	12-15-14	20:59	ACQWE	12-15-14.EZ	SN=123
ALK	K1413653-007.12	1	13	7.876	30		7.666	ppm/l	RA-DL		58.25	99943	12-15-14	21:20	ACQWE	12-15-14.EZ	SN=123
ALK	K1413809-001.05	1	14	8.353	30		1.2512	ppm/l		0.038 mL (80.0 mV)	58.25	99943	12-15-14	21:45	ACQWE	12-15-14.EZ	SN=123
ALK		1	14	8.353	30		193.22	ppm/l		5.791 mL (141.3 mV)	58.25	99943	12-15-14	21:45	ACQWE	12-15-14.EZ	SN=123
ALK	K1413857-001.02	1	15	8.035	30		139.57	ppm/l		4.183 mL (141.3 mV)	58.25	99943	12-15-14	21:53	ACQWE	12-15-14.EZ	SN=123
ALK	K1413889-001.01	1	16	6.756	30		86.998	ppm/l		2.608 mL (141.3 mV)	58.25	99943	12-15-14	22:00	ACQWE	12-15-14.EZ	SN=123
ALK	K1413889-002.01	1	17	7.076	30		90.170	ppm/l		2.703 mL (141.3 mV)	58.25	99943	12-15-14	22:06	ACQWE	12-15-14.EZ	SN=123
ALK	K1413889-003.01	1	18	7.189	30		90.309	ppm/l		2.707 mL (141.3 mV)	58.25	99943	12-15-14	22:11	ACQWE	12-15-14.EZ	SN=123
ALK	K1413889-004.01	1	19	6.144	30		32.752	ppm/l		0.982 mL (141.3 mV)	58.25	99943	12-15-14	22:16	ACQWE	12-15-14.EZ	SN=123
ALK	K1413920-001.02	1	20	8.417	30		1.4444	ppm/l		0.043 mL (80.0 mV)	58.25	99943	12-15-14	22:20	ACQWE	12-15-14.EZ	SN=123
ALK		1	20	8.417	30		107.97	ppm/l		3.226 mL (141.3 mV)	58.25	99943	12-15-14	22:20	ACQWE	12-15-14.EZ	SN=123
ALK	K1413920-002.02	1	21	8.198	30		127.09	ppm/l		3.809 mL (141.3 mV)	58.25	99943	12-15-14	22:25	ACQWE	12-15-14.EZ	SN=123
ALK	K1413982-001.02	1	22	6.521	30		211.42	ppm/l		6.337 mL (141.3 mV)	58.25	99943	12-15-14	22:32	ACQWE	12-15-14.EZ	SN=123
ALK	K1413983-001.04	1	23	8.095	30		7.666	ppm/l	RA-DL		58.25	99943	12-15-14	22:41	ACQWE	12-15-14.EZ	SN=123
ALK	K1413983-001D	1	24	8.157	30		7.666	ppm/l			58.25	99943	12-15-14	23:07	ACQWE	12-15-14.EZ	SN=123

K1413638-2
 K1413663-5,7
 K1413983-1
 Need 10x dilution

Service Request#	Sample Vol (mL)	pH Initial	Vol to pH 8.3	Vol to pH 4.5	Vol to pH 4.2	Phen. Alk. mg/L	OH- Alk. mg/L	Carb Alk. mg/L	Bicarb Alk. mg/L	Total Alk. mg/L	Low Level Alk. mg/L	Notes/Comments
K1413809-001	30.0	8.353	0.038	5.791		1.27	0.00	2.53	191	193		
K1413920-001	30.0	8.417	0.043	3.236		1.43	0.00	2.87	105	108		

AR 12/19/14

Original
 Work Request # (K13659) K13740 K13809 K13832 K13833 K13834 K13857 K13863
 Tier: ✓ ✓ ✓ ✓ ✓ ✓ II ✓
 Date Analyzed: 12/12/14 K13872
 Analyst: JH/RR 1 425549
 Analysis: SM 2540 C/TDS

**DATA QUALITY REPORT
 INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1. Is the method name and number correct and appropriate? yes/no/NA
2. Holding times met for all analyses and for all samples? yes/no/NA
3. Are calculations correct? yes/no/NA
4. Is the reporting basis correct? (Dry Weight) yes/no/NA
5. All quality control criteria met? yes/no
6. Is the calibration curve correlation coefficient ≥ 0.995 ? yes/no/NA
7. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? yes/no/NA
8. Are ICVs, CCVs, and CCBs all within acceptance limits? yes/no/NA
9. Are results for methods blanks all ND? yes/no/NA
10. Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) yes/no/NA
11. Are all exceptions explained? yes/no/NA
12. Have all applicable service requests been reviewed? yes/no/NA
13. Are all samples labeled correctly? yes/no/NA
14. Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V) yes/no/NA
15. Are detection limits and units reported correctly? yes/no/NA
16. Is the unused space on the benchsheet crossed out? yes/no/NA
17. Was analysis turned in by the due date? (n-2) (If not record SR#) yes/no/NA

COMMENTS:

Final Approved by: [Signature] Date: 12/12/14 DQREPORT

Analytical Results Summary

Instrument Name: K-Balance-31 Analyst: RRICARDS Analysis Lot: 425549 Method/Testcode: SM 2540 C/TDS

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
1413659-001	Solids, Total Dissolved	N/A		Water	430.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413740-003	Solids, Total Dissolved	N/A		Drinking Water	73.00 mg/L	100 mL	1		10	10		12/12/14 13:00	N V
1413740-004	Solids, Total Dissolved	N/A		Drinking Water	86.00 mg/L	100 mL	1		10	10		12/12/14 13:00	N V
1413809-001	Solids, Total Dissolved	N/A		Water	264.00 mg/L	75 mL	1		13	13		12/12/14 13:00	N V
1413832-001	Solids, Total Dissolved	N/A		Water	435.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413833-001	Solids, Total Dissolved	N/A		Water	347.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413834-001	Solids, Total Dissolved	N/A		Water	27.50 mg/L	200 mL	1		10	10		12/12/14 13:00	N V
1413834-002	Solids, Total Dissolved	N/A		Water	46.00 mg/L	200 mL	1		10	10		12/12/14 13:00	N V
1413834-003	Solids, Total Dissolved	N/A		Water	52.50 mg/L	200 mL	1		10	10		12/12/14 13:00	N V
1413857-001	Solids, Total Dissolved	N/A		Water	23690.00 mg/L	10 mL	1		100	100		12/12/14 13:00	N II
1413863-001	Solids, Total Dissolved	N/A		Water	126.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413863-002	Solids, Total Dissolved	N/A		Water	79.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413863-003	Solids, Total Dissolved	N/A		Water	119.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413863-004	Solids, Total Dissolved	N/A		Water	59.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413863-005	Solids, Total Dissolved	N/A		Water	113.00 mg/L	100 mL	1		20	20		12/12/14 13:00	N V
1413872-001	Solids, Total Dissolved	N/A		Water	739.00 mg/L	100 mL	1		10	10		12/12/14 13:00	N I
Q1416398-01	Solids, Total Dissolved	MB		Water	-1.50 mg/L	200 mL	1		5.0	5.0		12/12/14 13:00	N V
Q1416398-02	Solids, Total Dissolved	MB		Water	4.00 mg/L	100 mL	1		10	10		12/12/14 13:00	N V
Q1416398-03	Solids, Total Dissolved	LCS		Water	1202.00 mg/L	50 mL	1		20	20		12/12/14 13:00	N V
Q1416398-04	Solids, Total Dissolved	DUP	K1413809-001	Water	254.70 mg/L	75 mL	1		13	13	4	12/12/14 13:00	N V
Q1416398-05	Solids, Total Dissolved	DUP	K1413863-005	Water	111.00 mg/L	100 mL	1		10	10	2	12/12/14 13:00	N V

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #: K1413831,3832,3833,3834,3872,3857,3863,

Method: EPA SM 2540 C

Analysis: Total Dissolved Solids

Sample #	Crucible #	Conductivity	Sample Volume (ml)	Wt, Cru. + Dry sample (1) (g)	Wt, Cru. + Dry sample (2) (g)	Wt, Cru. + Dry sample (3) (g)	Wt. Crucible (g)	Wt. Dry Sample (g)	TDS (mg/L)	TDS (mg/L) reported
MB	A72		200	95.3487	95.3484		95.3490	-0.0003	-2	<5
MB	S1		100	73.1145	73.1140		73.1141	0.0004	4	<5
LCS	MONA		50	71.8309	71.8304		71.7708	0.0601	1202	1202.00
K1413832-001	2	577	100	73.3471	73.3470		73.3036	0.0435	435	435.00
K1413833-001	TH	547	100	72.5027	72.5024		72.4680	0.0347	347	347.00
K1413834-001	[47]	12	200	73.0344	73.0340		73.0289	0.0055	28	27.50
K1413834-002	A57	39	200	101.9966	101.9961		101.9874	0.0092	46	46.00
K1413834-003	E85	68	200	86.6731	86.6730		86.6626	0.0105	53	52.50
K1413872-001	A5	972	100	91.7455	91.7455		91.6716	0.0739	739	739.00
K1413857-001	A2	28210	10	85.0462	85.0461		84.8093	0.2369	23690	23690.00
K1413863-001	A49	140	100	87.5492	87.5490		87.5366	0.0126	126	126.00
K1413863-002	A62	108	100	102.6093	102.6089		102.6014	0.0079	79	79.00
K1413863-003	3	174	100	71.3132	71.3130		71.3013	0.0119	119	119.00
K1413863-004	[37]	78	100	74.7703	74.7700		74.7644	0.0059	59	59.00
K1413863-005	D45!	158	100	85.4122	85.4120		85.4009	0.0113	113	113.00
K1413809-001	42Y	1347	75	71.8578	71.8576		71.8380	0.0198	264	264.00
K1413659-001	A13	106	100	95.4279	95.4275		95.3849	0.0430	430	430.00
K1413740-003	A8	81	100	99.2123	99.2122		99.2050	0.0073	73	73.00
K1413740-004	A63	94	100	95.8841	95.8840		95.8755	0.0086	86	86.00
K1413809-001D	[24]	1347	75	74.2161	74.2159		74.1970	0.0191	255	254.70
K1413863-005D	A67	158	100	101.1901	101.1900		101.1790	0.0111	111	111.00
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!

Calculation: Dissolved Solids (mg/L) = Wt. Dry Sample (g) x 1000 x 1000 / Volume (ml)

Filter Lot #

ERA #:4033 Lot# 010713 ID# TDS-12-Gen-011-10-D T.V. = K-Balance 31 105 oven: K - OVEN 06

Wt (1) Start	7:30	12/15/2014	Wt (2) S	16:30	12/16/2014	Wt (3) Start		180 oven: K - OVEN 02
Stop	7:30	12/16/2014		7:30	12/17/2014	Stop		Thermometer ID# Oven digital
Wt (1) Start	180		Wt (2) S	180		Wt (3) Start		
Temp Stop	180		Temp S	180		Temp Stop		

Wt (4) Start			Wt (5) Start			Wt (6) Start		
Stop			Stop			Stop		
Wt (4) Start			Wt (5) Start			Wt (6) Start		
Temp Stop			Temp Stop			Temp Stop		

Analyzed By: RR/JH Date Analyzed: 12/12/2014 13:00
 Reviewed By: *[Signature]* Date Reviewed: *[Signature]*

Original
 Work Request # (12863, 12864, 12875, 12885, 12890, 12892, 12893, 12893)
 Tier: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
 Date Analyzed: 12/16/14
 Analyst: [Signature]
 Analysis: 20.1, SA 4200 Nitrogen (NH3-N)

**DATA QUALITY REPORT
 INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1. Is the method name and number correct and appropriate? yes/no/NA
2. Holding times met for all analyses and for all samples? yes/no/NA
3. Are calculations correct? yes/no/NA
4. Is the reporting basis correct? (Dry Weight) yes/no/NA
5. All quality control criteria met? yes/no
6. Is the calibration curve correlation coefficient ≥ 0.995 ? yes/no/NA
7. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? yes/no/NA
8. Are ICVs, CCVs, and CCBs all within acceptance limits? yes/no/NA
9. Are results for methods blanks all ND? yes/no/NA
10. Are all QC samples within acceptance criteria? yes/no/NA
 (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)
11. Are all exceptions explained? yes/no/NA
12. Have all applicable service requests been reviewed? yes/no/NA
13. Are all samples labeled correctly? yes/no/NA
14. Have all instructions on the service request been followed? yes/no/NA
 (e.g. Special MRLs, QC on a specific sample, Form V)
15. Are detection limits and units reported correctly? yes/no/NA
16. Is the unused space on the benchsheet crossed out? yes/no/NA
17. Was analysis turned in by the due date? (n-2) (If not record SR#) yes/no/NA

COMMENTS:

12881 - 1 - 11ml @ 1.159 g, RUSH due date 12/16

Final Approved by: [Signature] Date: 12/16/14 DQREPORT

Analytical Results Summary

Instrument Name: K-FIA-01

Analyst: IFRANKS

Analysis Lot: 425945

Method/Testcode: SM 4500-NH3 G/Ammonia

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
K1413663-004	Ammonia as Nitrogen	N/A		Water	0.03 mg/L	5 mL	0.033 mg/L	J 1	0.020	0.050			12/16/14 11:21:30	N V
K1413809-001	Ammonia as Nitrogen	N/A		Water	0.02 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N V
K1413815-001	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N II
K1413815-002	Ammonia as Nitrogen	N/A		Water	0.02 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N II
K1413815-005	Ammonia as Nitrogen	N/A		Water	2.09 mg/L	5 mL	10.5 mg/L	5	0.10	0.25			12/16/14 11:21:30	N II
K1413815-006	Ammonia as Nitrogen	N/A		Water	0.24 mg/L	5 mL	0.239 mg/L	1	0.020	0.050			12/16/14 11:21:30	N II
K1413825-001	Ammonia as Nitrogen	N/A		Water	3.27 mg/L	5 mL	32.7 mg/L	10	0.20	0.50			12/16/14 11:21:30	N I
K1413825-002	Ammonia as Nitrogen	N/A		Water	0.07 mg/L	5 mL	0.067 mg/L	1	0.020	0.050			12/16/14 11:21:30	N I
K1413831-001	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	5 mL	0.10 mg/L	U 1	0.02	0.10			12/16/14 11:21:30	N V
K1413832-003	Ammonia as Nitrogen	N/A		Water	1.60 mg/L	5 mL	1.60 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413833-001	Ammonia as Nitrogen	N/A		Water	1.61 mg/L	5 mL	1.61 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413863-001	Ammonia as Nitrogen	N/A		Water	0.22 mg/L	5 mL	0.22 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413863-002	Ammonia as Nitrogen	N/A		Water	0.11 mg/L	5 mL	0.11 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413863-003	Ammonia as Nitrogen	N/A		Water	0.28 mg/L	5 mL	0.28 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413863-004	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	5 mL	0.10 mg/L	U 1	0.02	0.10			12/16/14 11:21:30	N V
K1413863-005	Ammonia as Nitrogen	N/A		Water	0.24 mg/L	5 mL	0.24 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413881-001	Ammonia as Nitrogen	N/A		Aqueous Liquid	2.64 mg/L	5 mL	53000 mg/L	20000	400	20000			12/16/14 11:21:30	N I
K1413903-001	Ammonia as Nitrogen	N/A		Wastewater	0.60 mg/L	5 mL	0.601 mg/L	1	0.020	0.050			12/16/14 11:21:30	N I
K1413933-001	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N V
K1413933-002	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N V
K1413933-003	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N V
K1413933-004	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N V
K1413963-001	Ammonia as Nitrogen	N/A		Water	1.69 mg/L	5 mL	1.69 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413963-002	Ammonia as Nitrogen	N/A		Water	1.37 mg/L	5 mL	1.37 mg/L	1	0.02	0.10			12/16/14 11:21:30	N V
K1413981-001	Ammonia as Nitrogen	N/A		Surface Water	0.03 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N II
K1413981-002	Ammonia as Nitrogen	N/A		Surface Water	0.03 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N II
K1413982-001	Ammonia as Nitrogen	N/A		Ground Water	0.81 mg/L	5 mL	0.808 mg/L	1	0.020	0.050			12/16/14 11:21:30	N II
KQ1416490-01	Ammonia as Nitrogen	MB		Aqueous Liquid	0.01 mg/L	5 mL	1.0 mg/L	U 1	0.02	1.0			12/16/14 11:21:30	N I
KQ1416490-01	Ammonia as Nitrogen	MB		Aqueous Liquid	0.01 mg/L	5 mL	0.050 mg/L	U 1	0.020	0.050			12/16/14 11:21:30	N I
KQ1416490-02	Ammonia as Nitrogen	LCS		Aqueous Liquid	3.28 mg/L	1 mL	16.4 mg/L	1	0.1	5.0	109		12/16/14 11:21:30	N I
KQ1416490-02	Ammonia as Nitrogen	LCS		Aqueous Liquid	3.28 mg/L	5 mL	16.4 mg/L	5	0.10	0.25	109		12/16/14 11:21:30	N I
KQ1416490-03	Ammonia as Nitrogen	MS	K1413815-001	Water	2.08 mg/L	5 mL	2.08 mg/L	1	0.020	0.050	104		12/16/14 11:21:30	N II

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

J. Frank
12/16/14

Analytical Results Summary

Instrument Name: K-FIA-01 Analyst: IFRANKS Analysis Lot: 425945 Method/Testcode: SM 4500-NH3 G/Ammonia

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
KQ1416490-04	Ammonia as Nitrogen	DMS	K1413815-001	Water	2.03 mg/L	5 mL	2.03 mg/L	1	0.020	0.050	101	3	12/16/14 11:21:30	N II
KQ1416490-05	Ammonia as Nitrogen	DUP	K1413815-001	Water	0.01 mg/L	5 mL	0.050 mg/L	U	0.020	0.050	NC		12/16/14 11:21:30	N II
KQ1416490-06	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	5 mL	1.0 mg/L	U	0.02	1.0			12/16/14 11:21:30	N II
KQ1416490-07	Ammonia as Nitrogen	MS	K1413815-001	Water	2.08 mg/L	5 mL	2.08 mg/L	1	0.020	0.050	104		12/16/14 11:21:30	N II
KQ1416490-08	Ammonia as Nitrogen	DMS	K1413815-001	Water	2.03 mg/L	5 mL	2.03 mg/L	1	0.020	0.050	101	3	12/16/14 11:21:30	N II
KQ1416490-09	Ammonia as Nitrogen	DUP	K1413815-001	Water	0.01 mg/L	5 mL	0.050 mg/L	U	0.020	0.050	NC		12/16/14 11:21:30	N II
KQ1416490-10	Ammonia as Nitrogen	MS	K1413831-001	Water	2.06 mg/L	5 mL	2.06 mg/L	1	0.020	0.050	103		12/16/14 11:21:30	N V
KQ1416490-11	Ammonia as Nitrogen	DMS	K1413831-001	Water	2.00 mg/L	5 mL	2.00 mg/L	1	0.020	0.050	100	3	12/16/14 11:21:30	N V
KQ1416490-12	Ammonia as Nitrogen	DUP	K1413831-001	Water	0.01 mg/L	5 mL	0.050 mg/L	U	0.020	0.050	NC		12/16/14 11:21:30	N V
KQ1416491-01	Ammonia as Nitrogen	MS	K1413933-002	Water	2.03 mg/L	5 mL	2.03 mg/L	1	0.020	0.050	102		12/16/14 11:21:30	N V
KQ1416491-02	Ammonia as Nitrogen	DMS	K1413933-002	Water	1.97 mg/L	5 mL	1.97 mg/L	1	0.020	0.050	99	3	12/16/14 11:21:30	N V
KQ1416491-03	Ammonia as Nitrogen	DUP	K1413933-002	Water	0.01 mg/L	5 mL	0.050 mg/L	U	0.020	0.050	NC		12/16/14 11:21:30	N V
KQ1416491-04	Ammonia as Nitrogen	MB		Water	0.01 mg/L	5 mL	0.050 mg/L	U	0.020	0.050			12/16/14 11:21:30	N V
KQ1416491-05	Ammonia as Nitrogen	LCS		Water	3.26 mg/L	5 mL	16.3 mg/L	5	0.10	0.25	108		12/16/14 11:21:30	N V
KQ1416498-01	Ammonia as Nitrogen	CCV		Aqueous Liquid	2.01 mg/L	5 mL	2.01 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-01	Ammonia as Nitrogen	CCV		Aqueous Liquid	2.01 mg/L	5 mL	2.01 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-02	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-02	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-03	Ammonia as Nitrogen	CCV		Aqueous Liquid	2.00 mg/L	5 mL	2.00 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-03	Ammonia as Nitrogen	CCV		Aqueous Liquid	2.00 mg/L	5 mL	2.00 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-04	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-04	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-05	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-05	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-06	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-06	Ammonia as Nitrogen	CCV		Aqueous Liquid	1.99 mg/L	5 mL	1.99 mg/L	1					12/16/14 11:21:30	N I
KQ1416498-07	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.00 mg/L	5 mL	1.0 mg/L	U	0.02	1.0			12/16/14 11:21:30	N I
KQ1416498-07	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.00 mg/L	5 mL	0.050 mg/L	U	0.020	0.050			12/16/14 11:21:30	N I
KQ1416498-08	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	1.0 mg/L	U	0.02	1.0			12/16/14 11:21:30	N I
KQ1416498-08	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	0.050 mg/L	U	0.020	0.050			12/16/14 11:21:30	N I

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-FIA-01 Analyst: IFRANKS Analysis Lot: 425945 Method/Testcode: 350.1/Ammonia T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	FQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ1416498-09	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	1.0 mg/L U	1	1.0			12/16/14 11:21:30	N	I
KQ1416498-09	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	0.050 mg/L U	1	0.020	0.050		12/16/14 11:21:30	N	I
KQ1416498-10	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	1.0 mg/L U	1	1.0			12/16/14 11:21:30	N	I
KQ1416498-10	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	0.050 mg/L U	1	0.020	0.050		12/16/14 11:21:30	N	I
KQ1416498-11	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	1.0 mg/L U	1	1.0			12/16/14 11:21:30	N	I
KQ1416498-11	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.01 mg/L	5 mL	0.050 mg/L U	1	0.020	0.050		12/16/14 11:21:30	N	I
KQ1416498-12	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.00 mg/L	5 mL	1.0 mg/L U	1	1.0			12/16/14 11:21:30	N	I
KQ1416498-12	Ammonia as Nitrogen	CCB		Aqueous Liquid	0.00 mg/L	5 mL	0.050 mg/L U	1	0.020	0.050		12/16/14 11:21:30	N	I

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

SEAL Analytical

Application Lab

Name of Run : 141216A
 Date of Report : 12/16/2014
 Date of Run : 12/16/2014
 Operator :
 Comment :

Name of Analysis : NH3.ANL
 System No. : 1
 Type of System : AA3 HR
 Start/Stop time : 11:21 - 12:48

Channel : 2
 Method : Method 2
 Unit : mg/L
 Calibr. Fit : Linear
 Corr. Coeff. (r) : 1.0000
 Base : -10287
 Gain : 18
 Sensitivity : 0.4461
 Sample Limit 1 :
 Sample Limit 2 :

CURVE, CEN W# : 11-CEN-010-24-F
CEN TV = 2PPM
CEN IV = 15.1 PPM
SYRINGE# : 4173597
FILTER# : 57584

Pk	Cup	Sample ID	Value
0	0	B Baseline	0.0016
1	1	P Primer	5.0172
2	1	D Drift	5.0096
3	1	C 5.0	5.0069
4	2	C 2.0	1.9851
5	3	C 0.50	0.4884
6	4	C 0.05	0.0633
7	5	C 0	0.0064
8	1	H1 High	5.0223
9	5	L1 Low	0.0076
10	5	L1 Low	0.0079
11	2	QC1 CCV1	2.0084
12	5	QC2 CCB1	0.0048
13	6	QC1 MB1	0.0087
14	10	QC3 LCS*5	3.2788
15	11	S MBMS	2.0048
16	12	S K1413881-001*20000	2.6422
17	13	S K1413815-001	0.0128
18	14	S K1413815-001D	0.0100
19	15	S K1413815-001MS	2.0837
20	16	S K1413815-001MSD	2.0287
21	17	S K1413815-002	0.0185
22	18	S K1413815-005	6.4964 <i>NR</i>
23	2	QC1 CCV2	1.9874
24	5	QC2 CCB2	0.0101
25	19	S K1413815-006	0.2391
26	20	S K1413825-001*10	3.2744
27	21	S K1413825-002	0.0667
28	22	S K1413831-001	0.0082
29	23	S K1413831-001D	0.0103
30	24	S K1413831-001MS	2.0594
31	25	S K1413831-001MSD	2.0011

Report 12/16/14

32	26	S	K1413832-003	1.5970
33	27	S	K1413833-001	1.6110
34	2	QC1	CCV3	1.9965
35	5	QC2	CCB3	0.0052
36	28	S	K1413863-001	0.2202
37	29	S	K1413863-002	0.1123
38	30	S	K1413863-003	0.2770
39	31	S	K1413863-004	0.0074
40	32	S	K1413863-005	0.2359
41	33	S	K1413903-001	0.6009
42	34	S	K1413663-004	0.0329
43	35	S	K1413809-001	0.0153
44	36	S	K1413963-001	1.6926
45	37	S	K1413963-002	1.3714
46	2	QC1	CCV4	1.9949
47	5	QC2	CCB4	0.0085
48	6	QC1	MB2	0.0087
49	10	QC3	LCS2*5	3.2614
50	38	S	K1413933-001	0.0081
51	0	B	Baseline	0.0016
52	39	S	K1413933-002	0.0035
53	40	S	K1413933-002D	0.0062
54	41	S	K1413933-002MS	2.0314
55	42	S	K1413933-002MSD	1.9741
56	43	S	K1413933-003	0.0042
57	44	S	K1413933-004	0.0055
58	2	QC1	CCV5	1.9859
59	5	QC2	CCB5	0.0061
60	45	S	K1413981-001	0.0285
61	46	S	K1413981-002	0.0324
62	47	S	K1413982-001	0.8081
63	48	S	K1413815-005*5	2.0936
64	7	S		0.0088
65	7	S		0.0115
66	7	S		0.0113
67	7	S		0.0111
68	7	S		0.0113
69	7	S		0.0103
70	2	QC1	CCV6	1.9884
71	5	QC2	CCB6	0.0034
72	1	D	Drift	5.0096
73	0	B	Baseline	0.0016
74	0	B	Final Base	0.0016

CORRECTIONS

Channel	:	2
Baseline	:	Yes
Drift	:	Yes
Carryover	:	Yes
%:		0.9

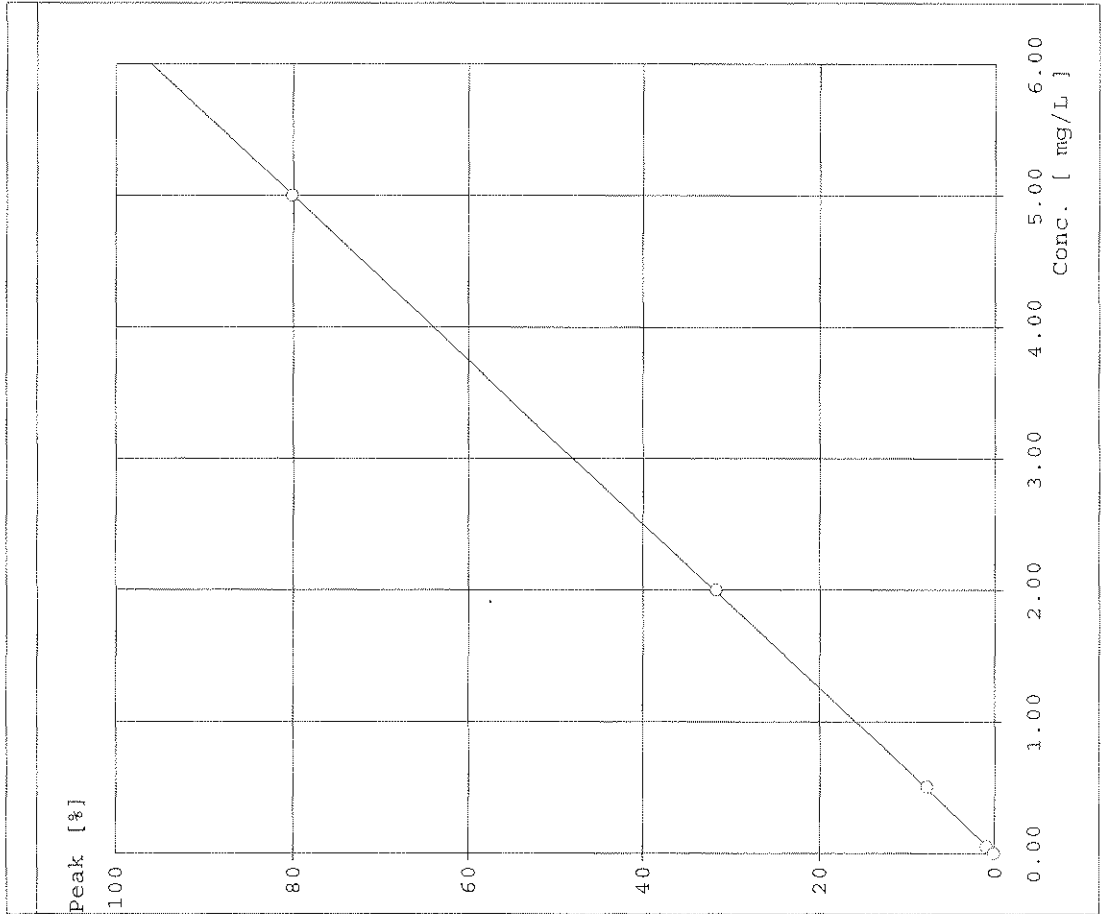
** <END OF REPORT> **

SEAL Analytical

Application Lab

Name of run : 141216A.run
Comment :

Name of analysis : NH3.ANL
Date of report : 12/16/2014



Channel : 2 Date of run : 12/16/2014
 Method : Method 2
 Curve fit : Linear
 Corr. coeff. (r) : 1.0000
 Equation : $y = bx + a$
 $y = \text{conc. in}$
 $x = \text{peak height in digital units}$
 $a = -2.7243E-001$
 $b = 9.5293E-005$

Corrections
 Baseline Corr. done
 Drift Correction done
 Carryover Corr. done 0.86 %

Calibrant Values

Type	Calculated	Target	Diff. [mg/L]	Diff. (%)
1C	5.0069	5.0000	0.0069	0.14
2C	1.9851	2.0000	-0.0149	-0.75
3C	0.4884	0.5000	-0.0116	-2.32
4C	0.0633	0.0500	0.0133	26.57
5C	0.0064	0.0000	0.0064	---

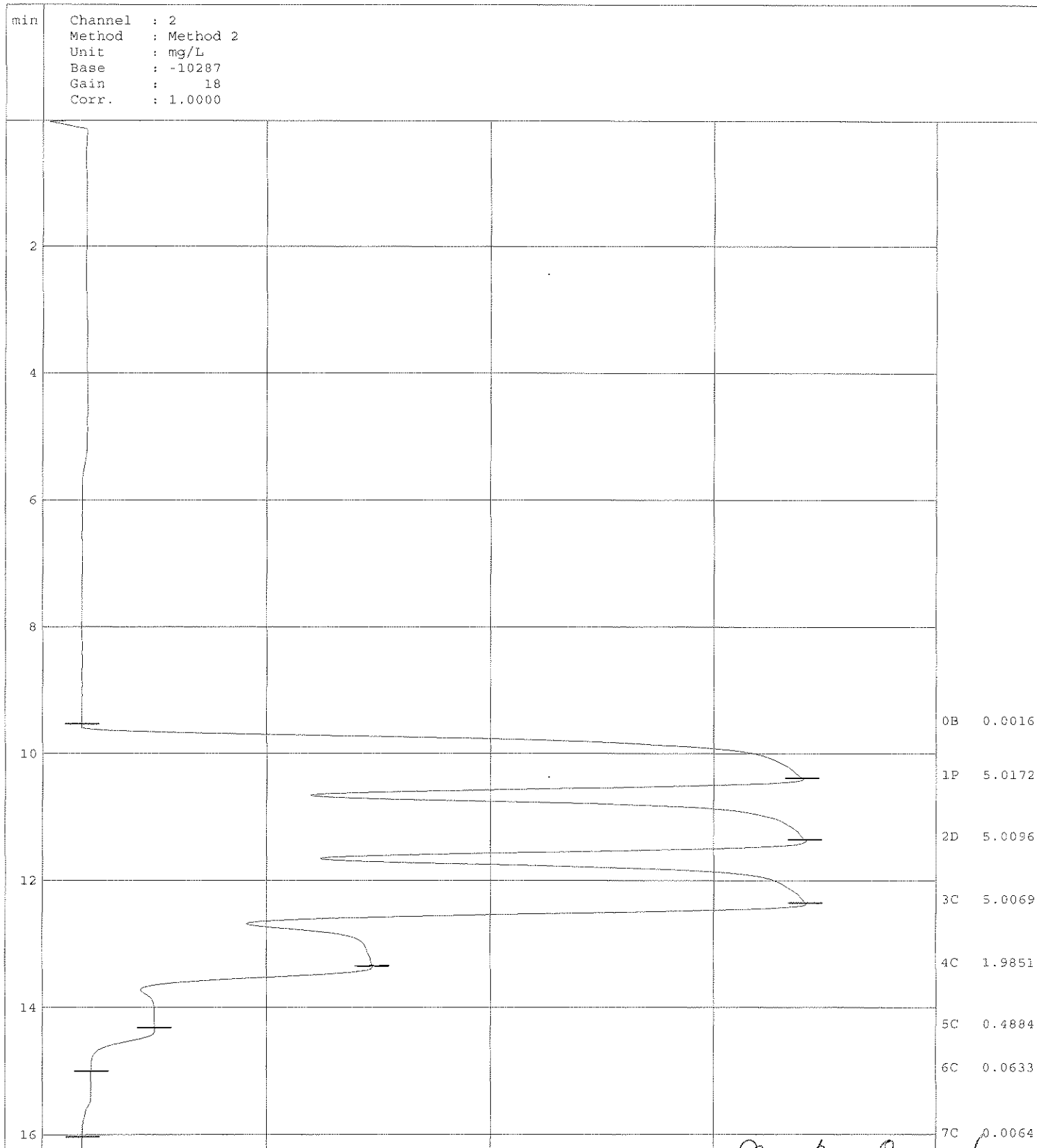
Handwritten signature and date: 12/16/14

SEAL Analytical

Application Lab

Name of run :141216A.RUN
Comment :

Name of analysis :NH3.ANL

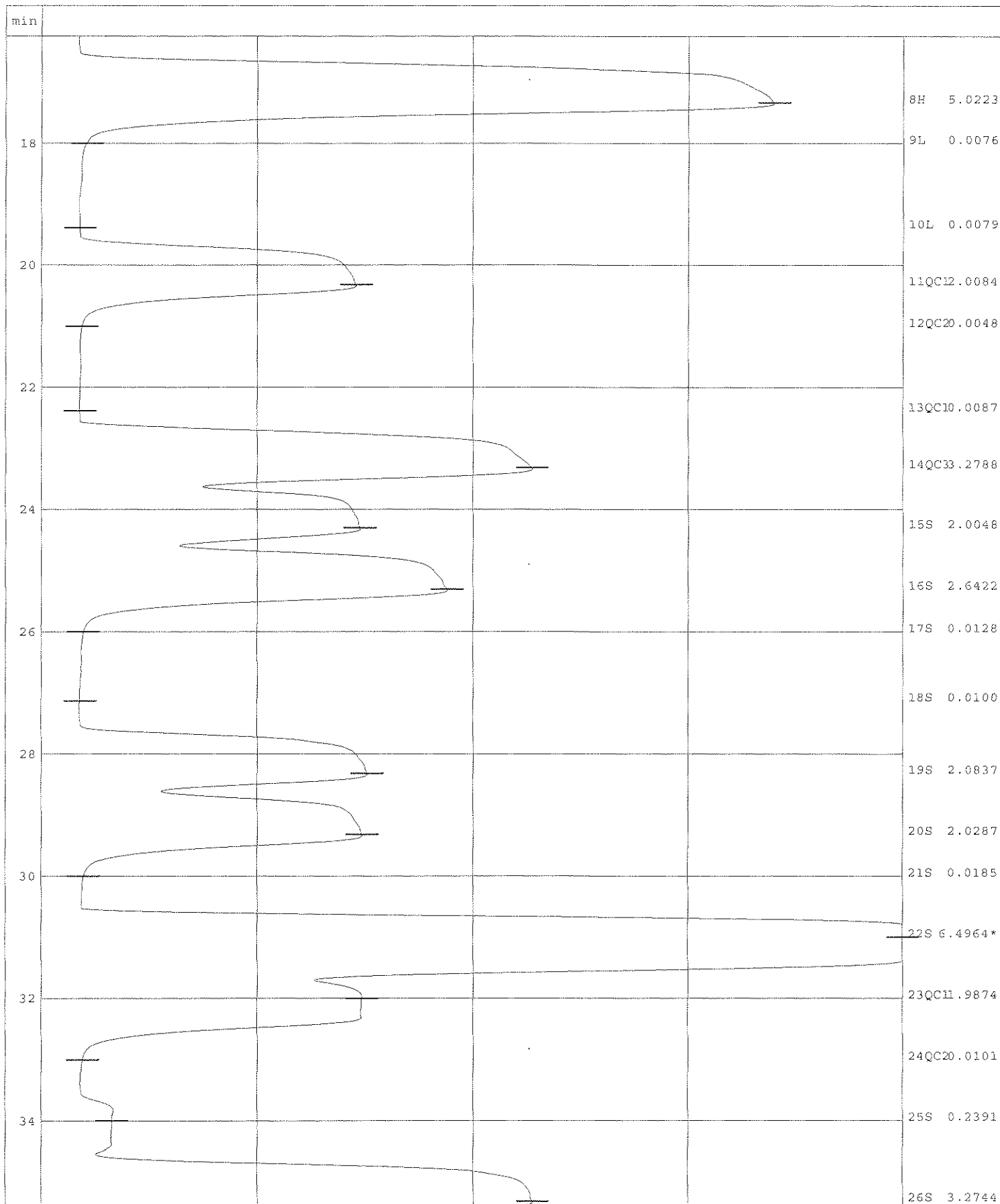


Signature 12/16/14

Name of run :141216A.RUN

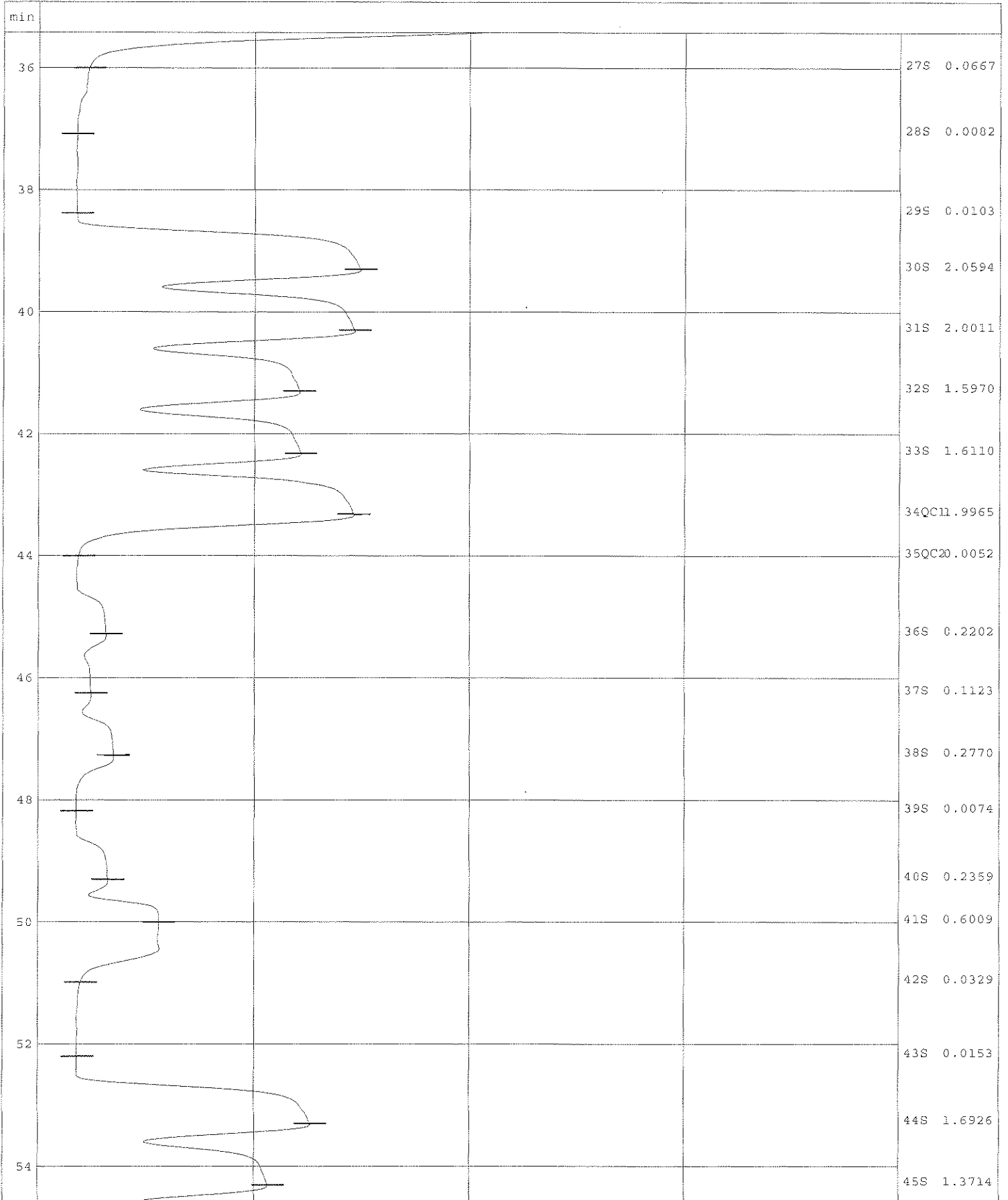
Name of analysis :NH3.ANL

Comment :



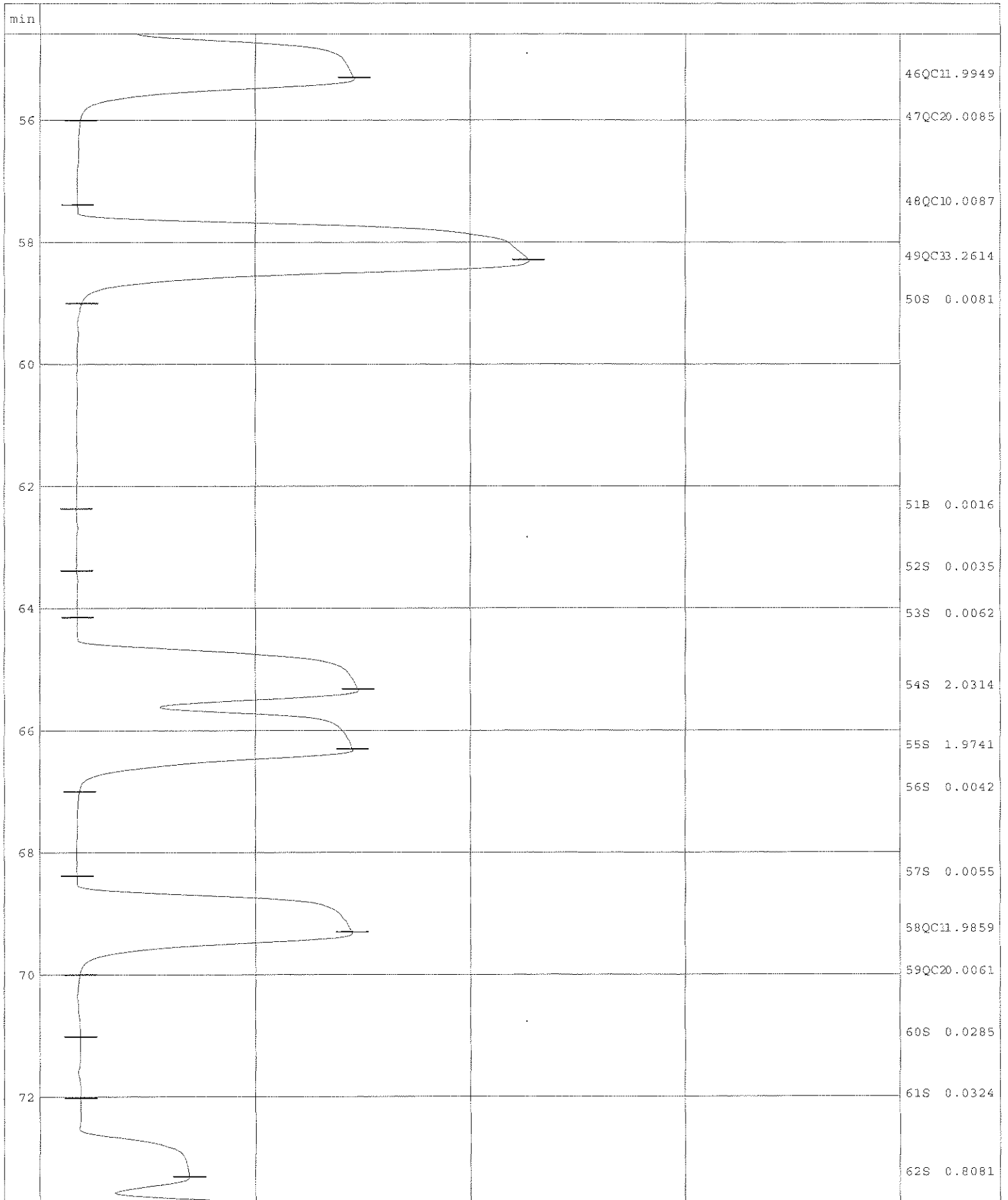
Name of run :141216A.RUN
Comment :

Name of analysis :NH3.ANL



Name of run :141216A.RUN
Comment :

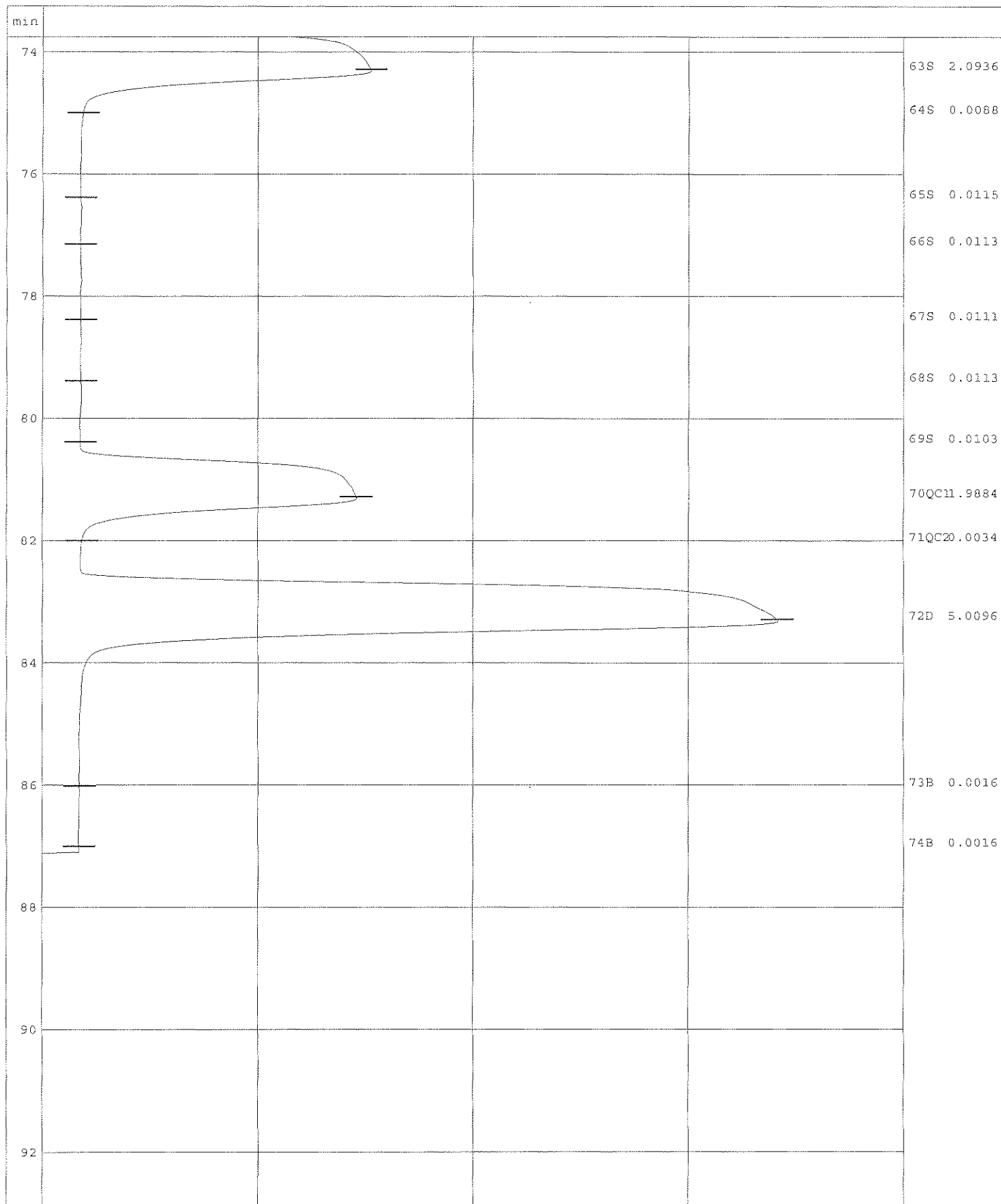
Name of analysis :NH3.ANL



Name of run :141216A.RUN

Name of analysis :NH3.ANL

Comment :



Preparation Information Benchsheet

Prep Run#: 225755
 Team: GenChem/IFRANKS
 Number of Copies to make: 11

Prep WorkFlow: GenExt28Day
 Prep Method: Method

Status: Prepped
 Prep Date/Time: 12/16/14 10:00 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ1416490-01	MB		350.1/Ammونيا T		Liquid	5mL	5.00mL	
2	KQ1416490-01	MB		SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
3	KQ1416490-02	LCS		350.1/Ammونيا T		Liquid	5mL	5.00mL	
4	KQ1416490-02	LCS		SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
5	K1413881-001	DGA 11_22_14	.01	350.1/Ammونيا T		Aqueous Liquid	5mL	5.00mL	
6	KQ1416490-06	Batch QC		350.1/Ammونيا T		Water	5mL	5.00mL	
7	K1413815-001	Effluent (Kjeldahl)	.03	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
8	KQ1416490-09	K1413815-001 DUP	.03	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
9	KQ1416490-07	K1413815-001 MS	.03	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
10	KQ1416490-08	K1413815-001 DMS	.03	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
11	KQ1416490-05	K1413815-001 DUP	.03	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
12	KQ1416490-03	K1413815-001 MS	.03	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
13	KQ1416490-04	K1413815-001 DMS	.03	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
14	K1413815-002	Raw (Kjeldahl)	.03	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
15	K1413815-005	Brinks 1	.03	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
16	K1413815-006	Brinks 2	.03	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
17	K1413825-001	Influent	.01	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
18	K1413825-002	Effluent	.01	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
19	K1413831-001	CAK-JU14GT01-20141209	.07	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
20	KQ1416490-12	K1413831-001 DUP	.07	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
21	KQ1416490-10	K1413831-001 MS	.07	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
22	KQ1416490-11	K1413831-001 DMS	.07	SM 4500-NH3 G/Ammونيا		Liquid	5mL	5.00mL	
23	K1413832-003	CAK-002EFF-20141209	.01	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
24	K1413833-001	CAK-001EFF-20141209	.02	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
25	K1413863-001	CAK-SLB-20141210	.05	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
26	K1413863-002	CAK-SLC-20141210	.05	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
27	K1413863-003	CAK-SMP-5-20141210	.05	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
28	K1413863-004	CAK-MLA-20141210	.05	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
29	K1413863-005	CAK-069-20141210	.05	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
30	K1413903-001	M0114	.04	SM 4500-NH3 G/Ammونيا		Wastewater	5mL	5.00mL	
31	K1413663-004	MW-4	.17	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
32	K1413809-001	MW-6	.06	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
33	K1413963-001	CAK-001EFF-20141210	.01	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	
34	K1413963-002	CAK-001EFF-20141211	.01	SM 4500-NH3 G/Ammونيا		Water	5mL	5.00mL	

Preparation Information Benchsheet

Prep Run#: 225755 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: GenChem/IFRANKS **Prep Method:** Method **Prep Date/Time:** 12/16/14 10:00 AM
Spiking Solutions

Name:	Orthophosphate LCS water	Inventory ID	75889	Logbook Ref:	NH3/3-72-M	Expires On:	04/02/2015
	KQ1416490-02		1.00mL				

Name:	350.1 NH3 -100ppm	Inventory ID	77296	Logbook Ref:	11-GEN-010-11-E	Expires On:	12/19/2014
	KQ1416490-03		0.10mL				
	KQ1416490-04		0.10mL		KQ1416490-08		0.10mL
	KQ1416490-07		0.10mL		KQ1416490-10		0.10mL
	KQ1416490-11		0.10mL		KQ1416490-11		0.10mL

Preparation Steps

Step: Extraction
Started: 12/16/14 10:00
Finished: 12/16/14 11:00
By: IFRANKS
Comments

239

Comments: _____

Reviewed By: _____ **Date:** _____

Chain of Custody

Relinquished By: _____	Date: _____						
Received By: _____	Date: _____						
				Extracts Examined			
				Yes	No		

Preparation Information Benchsheet

Prep Run#: 225756
 Team: GenChem/IFRANKS
 Number of Copies to make: 3

Prep WorkFlow: GenExt28Day
 Prep Method: Method

Status: Prepped
 Prep Date/Time: 12/16/14 10:00 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ1416491-04	MB		SM 4500-NH3 G/Ammonia		Liquid	5mL	5.00mL	
2	KQ1416491-05	LCS		SM 4500-NH3 G/Ammonia		Liquid	5mL	5.00mL	
3	K1413933-001	MW-11	.02	SM 4500-NH3 G/Ammonia		Water	5mL	5.00mL	
4	K1413933-002	MW-12b	.02	SM 4500-NH3 G/Ammonia		Water	5mL	5.00mL	
5	KQ1416491-03	K1413933-002 DUP	.02	SM 4500-NH3 G/Ammonia		Liquid	5mL	5.00mL	
6	KQ1416491-01	K1413933-002 MS	.02	SM 4500-NH3 G/Ammonia		Liquid	5mL	5.00mL	
7	KQ1416491-02	K1413933-002 DMS	.02	SM 4500-NH3 G/Ammonia		Liquid	5mL	5.00mL	
8	K1413933-003	MW-14b	.02	SM 4500-NH3 G/Ammonia		Water	5mL	5.00mL	
9	K1413933-004	MW-15	.02	SM 4500-NH3 G/Ammonia		Water	5mL	5.00mL	
10	K1413981-001	MARG BELOW	.09	SM 4500-NH3 G/Ammonia		Surface Water	5mL	5.00mL	
11	K1413981-002	MARG ABOVE	.09	SM 4500-NH3 G/Ammonia		Surface Water	5mL	5.00mL	
12	K1413982-001	10D01A	.03	SM 4500-NH3 G/Ammonia		Ground Water	5mL	5.00mL	

Spiking Solutions

Name: Orthophosphate LCS water Inventory ID: 75889 Logbook Ref: NH3/3-72-M Expires On: 04/02/2015
 KQ1416491-05 1.00mL

Name: 350.1 NH3 -100ppm Inventory ID: 77296 Logbook Ref: 11-GEN-010-11-E Expires On: 12/19/2014
 KQ1416491-01 0.10mL KQ1416491-02 0.10mL

Preparation Steps

Step: Extraction
 Started: 12/16/14 10:00
 Finished: 12/16/14 11:00
 By: IFRANKS
 Comments:

Comments:

Preparation Information Benchsheet

Prep Run#: 225756
Team: GenChem/IFRANKS

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/16/14 10:00 AM

241

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____

Date: _____

Date: _____

Extracts Examined
Yes No

Received By: _____

Date: _____

Date: _____



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Review

Reviewed by: BJJ Date: 12/15/14

Columbia Analytical Services, Inc.

Service Request Number(s):	K1413617, K1413690, K1413804, K1413809, K1413844
Analysis for:	Vacuum (Dissolved Metals)

Lab Code	Filtered Volume (mL)	Amount of HNO3 (mL)	PH <2
FILTER BLANK	500	0.25mL HNO3	YES
K1413617-001	350	0.25mL HNO3	YES
K1413617-002	350	0.25mL HNO3	YES
K1413617-003	350	0.25mL HNO3	YES
K1413617-004	350	0.25mL HNO3	YES
K1413617-005	350	0.25mL HNO3	YES
K1413617-006	350	0.25mL HNO3	YES
K1413617-007	350	0.25mL HNO3	YES
K1413617-008	350	0.25mL HNO3	YES
K1413617-009	350	0.25mL HNO3	YES
K1413617-010	350	0.25mL HNO3	YES
K1413617-011	350	0.25mL HNO3	YES
K1413690-001	200	0.25mL HNO3	YES
K1413804-001	300	0.25mL HNO3	YES
K1413809-001	300	0.25mL HNO3	YES
K1413844-001	200	0.25mL HNO3	YES

HN03 ACID Lot# 0000057481

12/12/14
AC

Comments:

Analyst: <i>Anna Cheasley</i>	Date: 12/12/14
Reviewed: <i>BJS</i>	Date: 12/15/14

Service Request # K1413809
 Instrument ID# K-ICP-AES-04

ICP-OES 200.7 Data Review Form

	Yes	No
1. Standardization completed	<u>X</u>	_____
2. ICV within 10 % of true value	<u>X</u>	_____
3. ICB below MRL	<u>X</u>	_____
4. CRI/LLICV standard analyzed.	<u>X</u>	_____
5. ICS standards within 20% of true value	<u>X</u>	_____
6. All preceding CCVs within 10 % of true value	<u>X</u>	_____
7. Following CCV within 10 % of true value	<u>X</u>	_____
8. Bracketing CCBs below MRL	<u>X</u>	_____
9. Method Blank below MRL	<u>X</u>	_____
10. MS (70-130), Dup (20) and LCS (85-115) within control limits	<u>X</u>	_____
11. All analytes within instrument linear range	<u>X</u>	_____
12. Adequate rinse out time allowed between samples to eliminate memory effect	<u>X</u>	_____
13. Run terminated early	_____	<u>X</u>

Comments:

StarLIMS Run # 426269 Saved under 121814AICP04
 200.7: NR Mg2790.

Primary Review by Ann Date 12/18/14

Secondary Review by mmmk Date 12/19/14

Data Review Form

Service Request #: K1413809
Instrument ID#: K-ICP-AES-04
DataFile Name: R:\ICP\WIP\DATA\K-ICP-AES-04\121814\ICP04.txt
RUNNO: 426269

There are no issues to report.

Primary Approver: AM 12/19/14
Secondary Approver: MMR 12/19/14

Sample Name: BLK Acquired: 12/18/2014 9:03:49 Type: Cal
 Method: 2014B-ICP04(v87) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0082	-21.43	-.3333	-.3166	.0394	2.5227	9.140
Stddev	.0001	1.28	.7730	.4478	.0014	1.4488	7.132
%RSD	1.402	5.962	231.9	141.4	3.660	57.432	78.03

#1	.0083	-20.53	.2133	.0000	.0404	1.4982	14.18
#2	.0081	-22.33	-.8799	-.6332	.0384	3.5472	4.097

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0000	-.0005	.0039	.4193	-.0001	-.0014	-.0008
Stddev	.000	.0003	.0003	.0069	.0000	.0003	.0003
%RSD	4551.	65.11	7.735	1.640	.1173	23.73	41.26

#1	.0002	-.0007	.0041	.4145	-.0001	-.0016	-.0005
#2	-.0003	-.0003	.0037	.4242	-.0001	-.0012	-.0010

Elem	Cu3273	Fe2599	Pb2203	Li6707	Mg2790	Mg2795	Mg2852
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.573	.0001	.0003	-3.892	-.0013	.0028	.4500
Stddev	3.921	.0012	.0000	1.414	.0016	.0004	2.121
%RSD	152.4	985.1	3.477	36.34	119.4	14.89	471.4

#1	-.1998	-.0007	.0003	-2.892	-.0024	.0025	-1.050
#2	5.346	.0010	.0003	-4.892	-.0002	.0031	1.950

Elem	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0004	.0000	.0000	-.0022	-.0001	-34.20	-.1712
Stddev	.0001	.000	.0001	.0001	.0003	1.79	.3029
%RSD	30.96	1375.	494.9	6.258	259.0	5.237	177.0

#1	.0005	-.0001	.0000	-.0021	.0001	-32.94	.0430
#2	.0003	.0001	.0001	-.0022	-.0003	-35.47	-.3854

Sample Name: BLK Acquired: 12/18/2014 9:03:49 Type: Cal
 Method: 2014B-ICP04(v87) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Si2516	Ag3280	Na5895	Sr4077	Ti1908	Sn1899	Ti3361
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.090	-9.866	-1.755	-.01699	-.0014	-.0004	.0037
Stddev	1.447	5.124	2.411	.00070	.0003	.0001	.0004
%RSD	69.23	51.94	137.4	4.1129	21.67	12.11	11.51

#1	1.067	-6.243	-3.459	-.01649	-.0012	-.0004	.0034
#2	3.112	-13.49	-.0500	-.01748	-.0016	-.0005	.0040

Elem	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0002	-.0003	2.215	.0013	10.22
Stddev	.0001	.0003	.188	.0001	.00
%RSD	91.87	103.0	8.494	7.517	.0077

#1	.0001	-.0004	2.082	.0012	10.22
#2	.0003	-.0001	2.348	.0014	10.22

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1067.6	17650.	2438.7
Stddev	1.2	16.	2.5
%RSD	.10964	.08901	.10160

#1	1068.4	17661.	2440.5
#2	1066.8	17639.	2437.0

am
12/19/14
www
12/19/14

Sample Name: STD A Acquired: 12/18/2014 9:06:17 Type: Cal
 Method: 2014B-ICP04(v87) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-42-B

Elem	Al1670	Sb2068	Be2348	B_2496	Cd2144	Cd2265	Ca3933	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.2316	94.67	9303.8	1026.	1.959	1.507	38.96	.1131
Stddev	.0008	.17	8.5	1.	.007	.003	.05	.0002
%RSD	.3311	.1759	.09097	.1105	.3758	.1667	.1351	.1539

#1	.2311	94.79	9297.8	1027.	1.964	1.505	38.92	.1132
#2	.2321	94.55	9309.7	1025.	1.954	1.509	38.99	.1130

Elem	Co2307	Cu2247	Cu3273	Pb2203	Mg2795	Mn2576	Mo2020	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.6945	.5328	3822.	.1328	2.679	.6641	.4012	.6864
Stddev	.0011	.0010	28.	.0007	.009	.0017	.0008	.0022
%RSD	.1529	.1965	.7277	.5011	.3312	.2503	.2086	.3184

#1	.6937	.5321	3802.	.1323	2.672	.6652	.4018	.6879
#2	.6952	.5336	3841.	.1332	2.685	.6629	.4006	.6848

Elem	Se1960	Ag3280	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	62.07	3602.	.0678	.1457	.7739	.1970	.5940	1691.
Stddev	.40	16.	.0001	.0004	.0014	.0000	.0004	1.
%RSD	.6454	.4568	.0876	.2602	.1771	.0007	.0666	.0397

#1	61.79	3591.	.0679	.1460	.7749	.1970	.5938	1691.
#2	62.36	3614.	.0678	.1454	.7730	.1970	.5943	1690.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1071.8	17847.	2440.3
Stddev	2.2	89.	2.1
%RSD	.20434	.50060	.08509

#1	1070.3	17784.	2438.8
#2	1073.4	17910.	2441.7

Sample Name: STD B Acquired: 12/18/2014 9:08:32 Type: Cal
 Method: 2014B-ICP04(v87) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-39-A

Elem	Al3944	As1890	Ba4554	Ca3158	Fe2599	Li6707	Mg2790	Mg2852
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	72800.	312.1	360.5	1.828	4.170	22890.	.3853	36110.
Stddev	121.	.1	1.1	.013	.015	103.	.0030	22.
%RSD	.1656	.0193	.2981	.7295	.3695	.4490	.7731	.0616

#1	72710.	312.1	359.7	1.819	4.159	22820.	.3832	36100.
#2	72880.	312.2	361.3	1.838	4.181	22970.	.3874	36130.

Elem	Mn2605	P_1782	K_7664	Si2516	Na5895	Sr4077	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.2142	2.606	8397.	3858.	28890.	45.939	.6109	229.7
Stddev	.0009	.006	17.	8.	35.	.147	.0028	.1
%RSD	.4236	.2168	.2019	.2150	.1215	.32088	.4605	.0327

#1	.2148	2.610	8385.	3852.	28860.	45.835	.6089	229.6
#2	.2135	2.602	8409.	3864.	28910.	46.043	.6129	229.7

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1073.2	17468.	2416.1
Stddev	1.7	75.	9.3
%RSD	.15719	.42835	.38493

#1	1072.0	17415.	2422.7
#2	1074.4	17521.	2409.6

Sample Name: ICVB Acquired: 12/18/2014 9:11:11 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-39-B

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.015	1.032	.0009	.0036	.0025	.00005	2.066	.0001
Stddev	.003	.000	.0014	.0040	.0003	.00010	.000	.0000
%RSD	.3080	.0017	159.3	111.4	11.84	202.42	.0114	83.63

#1	1.013	1.032	.0019	.0064	.0023	.00012	2.066	.0001
#2	1.017	1.032	-.0001	.0008	.0027	-.00002	2.066	.0000

Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	5.030	4.998	-.0006	.0004	.0009	.0007	10.24
Stddev	.0003	.023	.006	.0003	.0002	.0004	.0006	.02
%RSD	2402.	.4628	.1157	55.59	56.49	48.44	94.28	.2036

#1	-.0002	5.046	5.003	-.0008	.0002	.0006	.0002	10.22
#2	.0002	5.013	4.994	-.0004	.0006	.0012	.0011	10.25

Check ?	None	None	Chk Pass	None	None	None	None	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0098	2.049	4.929	5.056	5.178	10.03	10.18	-.0011
Stddev	.0003	.009	.000	.009	.002	.02	.02	.0005
%RSD	2.666	.4642	.0078	.1792	.0381	.2139	.1687	43.73

#1	-.0100	2.042	4.929	5.062	5.176	10.02	10.17	-.0014
#2	-.0096	2.055	4.929	5.049	5.179	10.05	10.19	-.0007

Check ?	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	None
Value Range								

Sample Name: ICVB Acquired: 12/18/2014 9:11:11 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-39-B

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	5.066	.0307	-.0029	5.149	.0000	14.64	2.0660
Stddev	.0002	.019	.0108	.0051	.037	.000	.04	.0032
%RSD	21.71	.3717	35.16	177.1	.7190	269300.	.2451	.15699

#1	.0010	5.052	.0230	-.0065	5.175	-.0003	14.61	2.0683
#2	.0007	5.079	.0383	.0007	5.123	.0003	14.66	2.0637

Check ?	None	Chk Pass	None	None	Chk Pass	None	None	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0099	4.963	-.0001	.0089	.0016	.0012	5.094	5.014
Stddev	.0049	.006	.0001	.0011	.0006	.0002	.012	.003
%RSD	49.98	.1196	58.58	11.86	35.75	19.23	.2319	.0554

#1	-.0064	4.959	-.0001	.0097	.0020	.0011	5.086	5.012
#2	-.0134	4.967	-.0001	.0082	.0012	.0014	5.102	5.016

Check ?	None	Chk Pass	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1078.5	17642.	2422.0
Stddev	2.0	64.	5.7
%RSD	.18633	.36483	.23576

#1	1079.9	17688.	2418.0
#2	1077.0	17597.	2426.0

Sample Name: ICV Acquired: 12/18/2014 9:13:37 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-35-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.531	5.067	2.482	2.531	5.098	.12828	.0021	1.258
Stddev	.014	.015	.005	.006	.009	.00028	.0003	.001
%RSD	.3124	.3021	.2066	.2374	.1761	.22082	13.22	.0512
#1	4.541	5.078	2.485	2.535	5.105	.12848	.0019	1.259
#2	4.521	5.056	2.478	2.527	5.092	.12808	.0023	1.258

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass None Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.268	12.66	12.17	.5119	1.267	.6286	.6387	2.519
Stddev	.001	.02	.03	.0020	.002	.0007	.0006	.009
%RSD	.1128	.1308	.2182	.3993	.1828	.1070	.0972	.3649
#1	1.267	12.64	12.15	.5104	1.266	.6281	.6382	2.513
#2	1.269	12.67	12.19	.5133	1.269	.6291	.6391	2.526

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.543	.0000	F 11.01	12.36	12.76	1.257	1.264	2.058
Stddev	.008	.0009	.01	.04	.04	.001	.003	.005
%RSD	.3282	2435.	.0900	.3584	.3501	.0979	.2508	.2491
#1	2.537	.0006	11.01	12.39	12.73	1.258	1.262	2.054
#2	2.549	-.0006	11.02	12.33	12.79	1.256	1.267	2.061

Check ? Chk Pass None Chk Fail None Chk Pass Chk Pass None Chk Pass
 Value
 Range 12.50
 -5.440%

Sample Name: ICV Acquired: 12/18/2014 9:13:37 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-35-A

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.254	-.0002	12.52	2.519	-.0062	.6292	12.69	.00077
Stddev	.001	.0045	.04	.011	.0081	.0002	.00	.00000
%RSD	.0771	2356.	.3595	.4179	130.3	.0347	.0355	.59091
#1	1.254	.0030	12.49	2.526	-.0119	.6293	12.70	.00077
#2	1.255	-.0033	12.55	2.511	-.0005	.6290	12.69	.00077

Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.608	.0045	2.082	1.285	1.270	1.262	.0058	-.0009
Stddev	.003	.0015	.001	.002	.000	.000	.0030	.0010
%RSD	.1162	33.99	.0496	.1238	.0207	.0071	51.98	104.4
#1	2.610	.0056	2.083	1.286	1.270	1.262	.0080	-.0016
#2	2.606	.0034	2.081	1.284	1.270	1.262	.0037	-.0002

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1068.4	17591.	2429.6
Stddev	.1	6.	7.2
%RSD	.01209	.03443	.29794
#1	1068.3	17587.	2424.5
#2	1068.5	17596.	2434.7

Sample Name: ICB Acquired: 12/18/2014 9:15:52 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0020	-.0011	.0013	.0010	-.00008	.0027	.0001
Stddev	.0003	.0022	.0030	.0000	.0004	.00001	.0016	.0001
%RSD	57.37	112.6	269.9	2.329	38.49	9.5233	60.36	72.12
#1	.0007	.0036	-.0032	.0013	.0012	-.00007	.0038	.0002
#2	.0003	.0004	.0010	.0013	.0007	-.00008	.0015	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0073	.0016	.0006	-.0001	.0002	.0004	.0024
Stddev	.0001	.0210	.0007	.0002	.0004	.0003	.0008	.0009
%RSD	41.85	286.3	42.47	34.60	733.0	157.6	190.8	38.27
#1	.0002	-.0222	.0020	.0005	.0002	.0004	.0010	.0031
#2	.0001	.0075	.0011	.0008	-.0003	.0000	-.0001	.0018

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	-.0004	-.0046	.0017	.0008	.0005	.0009	.0004
Stddev	.0024	.0008	.0091	.0003	.0008	.0000	.0006	.0005
%RSD	128.8	210.9	198.8	17.65	105.4	.8952	63.08	127.9
#1	-.0036	.0002	.0019	.0019	.0013	.0005	.0005	.0000
#2	-.0002	-.0009	-.0110	.0015	.0002	.0005	.0013	.0008

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 High Limit
 Low Limit

Sample Name: ICB Acquired: 12/18/2014 9:15:52 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0012	.0391	.0002	-.0033	.0003	-.0028	.00010
Stddev	.0001	.0039	.0128	.0008	.0213	.0005	.0001	.00001
%RSD	30.59	334.5	32.71	350.0	644.4	161.0	2.495	8.1435
#1	.0006	.0039	.0300	.0008	-.0183	.0000	-.0027	.00009
#2	.0004	-.0016	.0481	-.0003	.0117	.0007	-.0028	.00010

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022	.0015	.0003	.0009	.0001	.0002	-.0036	-.0007
Stddev	.0040	.0005	.0001	.0002	.0000	.0002	.0035	.0003
%RSD	180.0	34.05	27.90	20.53	43.35	88.56	99.46	36.81
#1	.0051	.0018	.0004	.0011	.0001	.0003	-.0061	-.0009
#2	-.0006	.0011	.0003	.0008	.0001	.0001	-.0011	-.0005

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1069.0	17652.	2428.4
Stddev	1.4	85.	16.0
%RSD	.13315	.47944	.65905
#1	1068.0	17592.	2417.1
#2	1070.0	17712.	2439.7

Sample Name: LLICV Acquired: 12/18/2014 9:18:19 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-33-M 0.5/50mL DOD CHECK TABLE

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0103	.0101	.0182	.0088	.0044	.00095	.0207	.0011
Stddev	.0009	.0002	.0014	.0034	.0001	.00004	.0017	.0000
%RSD	8.723	2.011	7.449	39.24	1.941	3.8048	8.230	4.654
#1	.0109	.0100	.0192	.0063	.0045	.00097	.0195	.0010
#2	.0096	.0103	.0173	.0112	.0044	.00092	.0219	.0011

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	F .0095	.0208	F .0052	F .0028	.0044	F .0054	.0173
Stddev	.0001	.0027	.0004	.0001	.0001	.0001	.0002	.0039
%RSD	8.921	28.60	1.963	1.127	4.772	3.146	3.587	22.64
#1	.0009	.0115	.0205	.0052	.0029	.0043	.0053	.0200
#2	.0010	.0076	.0211	.0051	.0027	.0045	.0056	.0145

Check ? Chk Pass Chk Fail None Chk Fail Chk Fail Chk Pass Chk Fail Chk Pass
 Value
 Range .0200 -20.00% .0040 .0020 .0040 20.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0067	.0209	.0728	.0053	.0053	.0010	-.0010	.0038
Stddev	.0025	.0004	.0580	.0006	.0010	.0003	.0009	.0002
%RSD	37.05	1.823	79.64	11.56	19.67	28.35	91.41	4.755
#1	.0085	.0206	.1139	.0049	.0060	.0012	-.0003	.0037
#2	.0050	.0211	.0318	.0057	.0045	.0008	-.0016	.0039

Check ? Chk Fail Chk Pass None Chk Pass None Chk Pass None Chk Pass
 Value
 Range .0100 -20.00%

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 ② 2x
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 12/19/14

Sample Name: LLICV Acquired: 12/18/2014 9:18:19 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-33-M 0.5/50mL DOD CHECK TABLE

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044	.0459	.2336	.0199	.2092	.0041	.1934	.00104
Stddev	.0006	.0056	.0133	.0015	.0017	.0006	.0088	.00010
%RSD	12.58	12.26	5.709	7.706	.8318	14.47	4.534	9.7935
#1	.0040	.0498	.2430	.0188	.2080	.0036	.1996	.00111
#2	.0048	.0419	.2242	.0210	.2104	.0045	.1872	.00097

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0134	.0231	.0023	.0038	.0047	.0042	.0169	.0408
Stddev	.0002	.0015	.0000	.0001	.0004	.0000	.0004	.0005
%RSD	1.234	6.282	1.156	3.296	9.336	.1749	2.591	1.241
#1	.0135	.0241	.0023	.0037	.0044	.0042	.0172	.0405
#2	.0133	.0221	.0023	.0039	.0050	.0042	.0166	.0412

Check ? Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass None None
 Value
 Range .0100
 20.00%

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1082.8	17906.	2465.9
Stddev	2.7	11.	17.6
%RSD	.24768	.06082	.71330
#1	1080.9	17914.	2453.5
#2	1084.7	17899.	2478.3

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 12/19/14*

Sample Name: LLICV Acquired: 12/18/2014 9:20:47 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-33-M 0.5/50mL DOD CHECK TABLE RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0105	F .0126	.0169	.0112	.0038	.00092	.0205
Stddev	.0012	.0015	.0023	.0012	.0002	.00010	.0005
%RSD	11.66	11.80	13.86	10.49	5.219	10.439	2.294
#1	.0114	.0116	.0152	.0104	.0036	.00085	.0208
#2	.0096	.0137	.0185	.0120	.0039	.00099	.0202

Check ?	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100					
Range		20.00%					

Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	F .0013	F -.0066	.0200	F .0051	F .0029	.0042
Stddev	.0002	.0001	.0136	.0002	.0006	.0002	.0002
%RSD	16.21	8.543	206.0	1.084	11.03	6.958	4.313
#1	.0013	.0013	-.0162	.0202	.0047	.0031	.0041
#2	.0010	.0014	.0030	.0199	.0055	.0028	.0043

Check ?	Chk Pass	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail	Chk Pass
Value		.0010	.0200		.0040	.0020	
Range		20.00%	-20.00%		20.00%	20.00%	

Elem	Cu3273	Fe2599	Pb2203	Li6707	Mg2790	Mg2795	Mg2852
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038	F .0155	F .0058	.0205	.0784	.0049	.0038
Stddev	.0015	.0002	.0002	.0006	.0223	.0001	.0005
%RSD	38.73	1.340	3.658	2.725	28.52	2.338	11.74
#1	.0028	.0153	.0060	.0201	.0942	.0050	.0035
#2	.0049	.0156	.0057	.0208	.0626	.0049	.0042

Check ?	Chk Pass	Chk Fail	Chk Fail	Chk Pass	None	Chk Pass	None
Value		.0200	.0100				
Range		-20.00%	-20.00%				

Sample Name: LLICV Acquired: 12/18/2014 9:20:47 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-33-M 0.5/50mL DOD CHECK TABLE RERUN

Elem	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0007	.0005	.0035	.0044	.0389	.2216	.0192
Stddev	.0001	.0008	.0003	.0007	.0028	.0164	.0080
%RSD	18.92	152.0	9.292	16.11	7.130	7.381	41.52
#1	.0008	.0010	.0037	.0039	.0370	.2100	.0136
#2	.0006	.0000	.0032	.0049	.0409	.2331	.0249
Check ?	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.0010						
Range	-20.00%						

Elem	Si2516	Ag3280	Na5895	Sr4077	Ti1908	Sn1899	Ti3361
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2164	F .0048	.1942	.00093	.0111	.0222	.0022
Stddev	.0043	.0003	.0041	.00012	.0047	.0007	.0005
%RSD	2.000	6.096	2.098	12.809	42.64	3.174	20.88
#1	.2134	.0046	.1971	.00085	.0145	.0217	.0019
#2	.2195	.0050	.1913	.00101	.0078	.0227	.0026
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0040					
Range		20.00%					

Elem	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm
Avg	.0037	.0044	.0040	.0174	.0413
Stddev	.0002	.0003	.0000	.0025	.0054
%RSD	4.587	6.643	.9259	14.52	13.12
#1	.0035	.0042	.0041	.0192	.0451
#2	.0038	.0046	.0040	.0156	.0374
Check ?	Chk Pass	Chk Pass	Chk Pass	None	None
Value					
Range					

Sample Name: LLICV Acquired: 12/18/2014 9:20:47 Type: QC
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP14-33-M 0.5/50mL DOD CHECK TABLE RERUN

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1081.6	17978.	2485.6
Stddev	1.0	117.	20.7
%RSD	.08962	.64836	.83118
#1	1082.3	18060.	2470.9
#2	1080.9	17895.	2500.2

Sample Name: LLICV,0.5 Acquired: 12/18/2014 9:23:32 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-33-M 1/50mL

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0203	.0201	.0421	.0196	.0083	.00204	.0411	.0021
Stddev	.0002	.0013	.0012	.0018	.0003	.00002	.0004	.0001
%RSD	.9663	6.645	2.851	9.091	3.087	1.1791	.9891	2.992
#1	.0202	.0211	.0413	.0208	.0081	.00202	.0414	.0022
#2	.0205	.0192	.0430	.0183	.0085	.00205	.0408	.0021

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022	F .0249	.0410	.0082	.0048	.0086	.0084	.0396
Stddev	.0000	.0048	.0002	.0008	.0002	.0008	.0006	.0030
%RSD	1.484	19.45	.4422	9.189	4.784	9.148	7.241	7.592
#1	.0022	.0283	.0411	.0087	.0050	.0080	.0080	.0417
#2	.0022	.0215	.0409	.0077	.0046	.0091	.0088	.0375

Check ? Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range .0400
 -30.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0173	.0410	.0520	.0102	.0112	.0019	F .0008	.0078
Stddev	.0000	.0004	.0095	.0001	.0029	.0001	.0013	.0001
%RSD	.1420	.9221	18.19	.8185	25.77	3.846	166.9	1.007
#1	.0173	.0413	.0453	.0102	.0092	.0020	-.0001	.0077
#2	.0173	.0408	.0587	.0101	.0133	.0019	.0017	.0078

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass
 Value
 Range .0020
 -30.00%

Sample Name: LLICV,0.5 Acquired: 12/18/2014 9:23:32 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-33-M 1/50mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089	.0883	.3899	.0393	.4039	.0082	.4092	.00215
Stddev	.0001	.0001	.0283	.0040	.0065	.0007	.0141	.00000
%RSD	.6256	.0812	7.270	10.21	1.604	9.078	3.450	.02432
#1	.0090	.0884	.4099	.0421	.3994	.0087	.4192	.00215
#2	.0089	.0883	.3698	.0364	.4085	.0077	.3992	.00215

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0210	.0446	.0043	.0079	.0086	.0082	.0368	.0864
Stddev	.0030	.0006	.0003	.0003	.0004	.0001	.0012	.0017
%RSD	14.23	1.248	5.890	4.326	4.145	.8139	3.243	1.962
#1	.0189	.0442	.0045	.0081	.0088	.0083	.0359	.0852
#2	.0231	.0450	.0041	.0077	.0083	.0082	.0376	.0876

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1082.1	17853.	2465.3
Stddev	1.6	52.	1.3
%RSD	.14738	.29349	.05163
#1	1083.2	17890.	2466.2
#2	1080.9	17816.	2464.4

Sample Name: LLICV-TCLP Acquired: 12/18/2014 9:27:35 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-44-G 0.2/10mL

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0014	.0007	-.0020	.1995	-.00003	-.0005	.0001
Stddev	.0011	.0010	.0022	.0027	.0005	.00010	.0006	.0001
%RSD	1107.	72.29	322.6	136.9	.2597	345.54	101.3	83.48
#1	-.0007	.0022	-.0009	-.0001	.1992	.00004	-.0002	.0001
#2	.0008	.0007	.0022	-.0039	.1999	-.00010	-.0009	.0002
Check ?	None	None	None	None	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0219	.0011	-.0004	.0002	.0004	.0003	-.0015
Stddev	.0004	.0103	.0001	.0014	.0004	.0005	.0006	.0003
%RSD	217.8	46.85	4.940	347.0	210.5	122.9	222.8	22.85
#1	-.0001	-.0291	.0011	-.0014	.0005	.0001	.0007	-.0013
#2	.0004	-.0146	.0011	.0006	-.0001	.0008	-.0002	-.0018
Check ?	None	None	None	None	None	None	None	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0008	.0007	.0657	-.0002	-.0008	-.0003	-.0026	-.0007
Stddev	.0006	.0007	.0564	.0001	.0000	.0001	.0007	.0000
%RSD	78.43	95.23	85.90	36.39	4.880	27.37	26.07	.4794
#1	-.0004	.0012	.1056	-.0002	-.0008	-.0003	-.0022	-.0007
#2	-.0013	.0002	.0258	-.0003	-.0008	-.0004	-.0031	-.0007
Check ?	None	None	None	None	None	None	None	None
Value Range								

Sample Name: LLICV-TCLP Acquired: 12/18/2014 9:27:35 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-44-G 0.2/10mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0015	.0163	-.0011	-.0045	-.0003	.0023	.00003
Stddev	.0000	.0000	.0358	.0012	.0047	.0003	.0109	.00003
%RSD	4.808	.0315	219.5	113.0	105.1	87.12	466.3	121.37

#1	.0009	.0015	-.0090	-.0019	-.0011	-.0001	.0100	.00005
#2	.0008	.0015	.0416	-.0002	-.0078	-.0005	-.0054	.00000

Check ?	None	None	None	None	None	None	None	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0061	.0013	.0000	.0004	.1997	.1982	-.0024	.0032
Stddev	.0001	.0009	.001	.0003	.0010	.0004	.0011	.0043
%RSD	2.129	71.99	994.2	76.74	.4759	.1982	47.42	133.1

#1	.0062	.0020	.0003	.0002	.1990	.1979	-.0032	.0063
#2	.0060	.0006	-.0004	.0006	.2003	.1985	-.0016	.0002

Check ?	None	None	None	None	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1073.1	17807.	2477.7
Stddev	.8	30.	10.1
%RSD	.07233	.16812	.40680

#1	1073.6	17829.	2484.8
#2	1072.5	17786.	2470.6

Sample Name: CCVB1 Acquired: 12/18/2014 9:31:15 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.827	10.07	-.0009	1.007	9.918	-.00004	-.0016	.0001
Stddev	.016	.05	.0013	.007	.057	.00006	.0012	.0002
%RSD	.2044	.4534	148.2	.6550	.5785	134.45	72.68	159.7

#1	7.804	10.07	.0004	1.007	9.852	-.00009	-.0028	-.0001
#2	7.835	10.12	-.0026	1.004	9.991	-.00009	-.0012	.0003
#3	7.840	10.08	-.0003	1.002	9.922	.00002	-.0025	.0001
#4	7.830	10.01	-.0010	1.017	9.905	.00000	-.0002	.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	10.01	9.585	.0004	.0005	.0000	.0006	9.957
Stddev	.0002	.08	.027	.0008	.0008	.000	.0005	.050
%RSD	82.63	.7955	.2796	206.8	159.9	988.2	74.01	.5043

#1	-.0004	10.06	9.614	-.0007	.0008	.0004	.0001	9.891
#2	-.0001	10.09	9.566	.0011	.0000	-.0004	.0011	9.966
#3	-.0001	9.941	9.600	.0003	-.0003	-.0004	.0009	10.01
#4	-.0001	9.938	9.559	.0008	.0014	.0002	.0003	9.959

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Sample Name: CCVB1 Acquired: 12/18/2014 9:31:15 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0108	1.010	F 8.810	9.795	10.18	.9883	.9854	-.0006
Stddev	.0015	.004	.072	.015	.04	.0016	.0084	.0006
%RSD	14.28	.4343	.8216	.1557	.3979	.1638	.8524	92.47

#1	-.0107	1.005	8.744	9.788	10.13	.9889	.9777	-.0010
#2	-.0092	1.012	8.906	9.809	10.20	.9877	.9875	-.0007
#3	-.0129	1.007	8.824	9.806	10.15	.9864	.9800	.0002
#4	-.0105	1.015	8.767	9.777	10.22	.9902	.9963	-.0009

Check ?	None	Chk Pass	Chk Fail	None	Chk Pass	None	Chk Pass	None
Value			10.00					
Range			-5.440%					

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	10.07	10.04	-.0001	10.10	.0000	10.04	.98882
Stddev	.0008	.03	.03	.0040	.07	.000	.04	.00318
%RSD	143.3	.2479	.3223	3312.	.7258	454.7	.3957	.32208

#1	.0003	10.05	10.01	.0007	10.01	.0000	9.995	.98436
#2	.0018	10.06	10.03	.0052	10.17	.0001	10.05	.99191
#3	.0001	10.06	10.03	-.0036	10.08	.0000	10.03	.98962
#4	.0001	10.10	10.08	-.0027	10.14	-.0003	10.09	.98940

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVB1 Acquired: 12/18/2014 9:31:15 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0015	.0010	.0005	.0008	.0008	.0007	1.012	1.001
Stddev	.0035	.0011	.0001	.0004	.0002	.0001	.000	.007
%RSD	241.1	101.2	29.21	57.32	26.33	16.64	.0317	.6775
#1	-.0041	-.0003	.0003	.0012	.0005	.0007	1.012	1.007
#2	.0037	.0014	.0004	.0011	.0008	.0009	1.012	.9940
#3	-.0023	.0008	.0006	.0005	.0010	.0006	1.012	1.007
#4	-.0032	.0022	.0005	.0003	.0008	.0006	1.012	.9971

Check ? Value Range	None	None	None	None	None	None	Chk Pass	Chk Pass
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1081.4	17838.	2465.3
Stddev	2.1	6.	9.1
%RSD	.19830	.03295	.36816
#1	1084.0	17830.	2463.8
#2	1082.3	17842.	2464.4
#3	1080.3	17842.	2455.4
#4	1079.2	17839.	2477.4

Sample Name: CCVA1 Acquired: 12/18/2014 9:36:45 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2512	.2454	.2496	.2504	.2507	.25133	.2517	.2489
Stddev	.0011	.0012	.0039	.0033	.0020	.00056	.0025	.0001
%RSD	.4437	.4785	1.575	1.300	.7941	.22415	.9913	.0516

#1	.2497	.2461	.2512	.2515	.2535	.25072	.2497	.2488
#2	.2515	.2436	.2494	.2473	.2508	.25134	.2538	.2488
#3	.2523	.2458	.2535	.2483	.2493	.25118	.2540	.2490
#4	.2511	.2461	.2443	.2544	.2493	.25207	.2495	.2491

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2505	.4866	.4946	.2523	.2494	.2485	.2517	.2535
Stddev	.0002	.0096	.0041	.0021	.0006	.0014	.0010	.0026
%RSD	.0970	1.981	.8360	.8456	.2227	.5512	.3806	1.008

#1	.2505	.4833	.4991	.2531	.2487	.2480	.2513	.2511
#2	.2504	.4985	.4971	.2507	.2500	.2499	.2520	.2556
#3	.2508	.4889	.4924	.2549	.2496	.2491	.2528	.2559
#4	.2502	.4756	.4901	.2504	.2495	.2468	.2506	.2514

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Sample Name: CCVA1 Acquired: 12/18/2014 9:36:45 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2484	-.0006	.2833	.2528	.2582	.2502	.2488	.2472
Stddev	.0018	.0004	.0180	.0017	.0019	.0008	.0013	.0011
%RSD	.7202	65.79	6.352	.6817	.7512	.3245	.5136	.4478

#1	.2473	-.0001	.2731	.2540	.2571	.2497	.2469	.2476
#2	.2468	-.0010	.3025	.2538	.2563	.2496	.2493	.2482
#3	.2507	-.0010	.2636	.2531	.2607	.2514	.2498	.2473
#4	.2490	-.0004	.2938	.2503	.2585	.2503	.2494	.2457

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2494	.0027	2.500	.2510	.1325	.2535	.2690	.00005
Stddev	.0009	.0018	.017	.0046	.0120	.0017	.0092	.00004
%RSD	.3808	65.59	.6582	1.847	9.059	.6760	3.435	81.283

#1	.2496	.0009	2.505	.2568	.1374	.2512	.2760	.00012
#2	.2505	.0051	2.513	.2523	.1180	.2550	.2760	.00004
#3	.2493	.0023	2.507	.2461	.1286	.2547	.2675	.00001
#4	.2482	.0025	2.476	.2488	.1460	.2533	.2565	.00005

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: CCVA1 Acquired: 12/18/2014 9:36:45 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2491	.2513	.2507	.2504	.2503	.2502	.0004	.0026
Stddev	.0044	.0032	.0010	.0014	.0009	.0005	.0018	.0053
%RSD	1.751	1.278	.3925	.5514	.3458	.2002	462.1	200.2

#1	.2432	.2544	.2498	.2509	.2495	.2507	.0022	-.0030
#2	.2535	.2522	.2500	.2497	.2496	.2505	.0005	.0041
#3	.2507	.2468	.2515	.2521	.2512	.2499	.0011	.0001
#4	.2491	.2517	.2517	.2490	.2509	.2497	-.0022	.0093

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1082.2	17899.	2476.8
Stddev	2.0	58.	10.6
%RSD	.18160	.32446	.42714

#1	1085.0	17891.	2462.9
#2	1081.8	17975.	2475.2
#3	1080.7	17834.	2481.5
#4	1081.1	17894.	2487.7

Sample Name: CCB Acquired: 12/18/2014 9:43:57 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0013	.0005	-.0039	-.0015	-.0002	.00003	-.0025	.0001
Stddev	.0003	.0023	.0018	.0068	.0002	.00020	.0009	.0001
%RSD	24.23	447.2	45.49	441.8	114.6	776.76	37.55	65.20

#1	-.0015	.0022	-.0051	.0033	.0000	.00016	-.0018	.0002
#2	-.0011	-.0011	-.0026	-.0063	-.0003	-.00011	-.0031	.0001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0155	-.0004	.0009	-.0001	.0003	.0004	-.0044
Stddev	.0002	.0064	.0000	.0006	.0003	.0002	.0001	.0021
%RSD	129.6	41.64	8.504	71.17	182.4	53.72	18.04	47.35

#1	.0003	-.0109	-.0003	.0013	.0000	.0004	.0004	-.0059
#2	.0000	-.0200	-.0004	.0004	-.0003	.0002	.0005	-.0029

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	-.0006	.0635	-.0004	-.0018	-.0003	-.0014	-.0004
Stddev	.0024	.0003	.0327	.0001	.0009	.0001	.0006	.0002
%RSD	198.9	45.38	51.49	27.89	47.13	27.31	43.60	39.86

#1	-.0029	-.0008	.0867	-.0004	-.0024	-.0004	-.0018	-.0005
#2	.0005	-.0004	.0404	-.0003	-.0012	-.0003	-.0009	-.0003

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 12/18/2014 9:43:57 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0019	.0286	-.0041	.0068	.0005	-.0057	.00002
Stddev	.0001	.0008	.0342	.0001	.0028	.0008	.0047	.00005
%RSD	41.82	40.10	119.6	3.418	41.74	157.9	82.32	201.02

#1	.0002	.0014	.0528	-.0042	.0048	-.0001	-.0024	-.00001
#2	.0004	.0025	.0044	-.0040	.0088	.0011	-.0090	.00006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0017	.0000	-.0004	.0003	-.0001	-.0002	.0041
Stddev	.0003	.0017	.0001	.0008	.0003	.0000	.0003	.0062
%RSD	26.77	100.4	235.3	199.7	84.66	87.44	118.8	150.3

#1	.0013	.0029	.0001	.0002	.0001	-.0001	-.0004	.0085
#2	.0009	.0005	.0000	-.0009	.0005	.0000	.0000	-.0003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1072.5	17644.	2445.0
Stddev	1.2	58.	8.3
%RSD	.11499	.32687	.34006

#1	1073.4	17685.	2439.1
#2	1071.7	17603.	2450.8

Sample Name: ICSA Acquired: 12/18/2014 9:46:23 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-22-C

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.58	530.5	-.0257	.0122	.0004	-.00099	.0002	.0004
Stddev	.09	1.6	.0003	.0079	.0000	.00007	.0064	.0002
%RSD	.2823	.3099	1.004	65.09	4.251	6.7839	2632.	57.80

#1	30.52	531.7	-.0256	.0178	.0004	-.00095	.0048	.0005
#2	30.64	529.4	-.0259	.0066	.0004	-.00104	-.0043	.0002

Check ?	None	None	None	None	None	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035	511.7	*****	.0037	-.0035	-.0016	-.0042	192.6
Stddev	.0004	.4	----	.0006	.0003	.0013	.0020	.2
%RSD	11.51	.0843	----	16.72	8.965	85.27	47.32	.1198

#1	.0038	511.4	----	.0042	-.0033	-.0025	-.0028	192.5
#2	.0032	512.0	----	.0033	-.0038	-.0006	-.0057	192.8

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049	.0091	545.9	199.2	451.5	-.0015	.0139	-.0042
Stddev	.0028	.0017	.5	.4	3.6	.0000	.0017	.0024
%RSD	57.24	18.17	.0993	.2247	.8070	.3360	11.90	57.05

#1	.0069	.0079	545.6	198.9	448.9	-.0015	.0151	-.0059
#2	.0029	.0103	546.3	199.5	454.1	-.0015	.0127	-.0025

Check ?	None	None	Chk Pass	None	None	None	None	None
Value Range								

Sample Name: ICSA Acquired: 12/18/2014 9:46:23 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-22-C

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049	.0058	.0537	-.0067	-.0034	-.0010	-.0012	.00337
Stddev	.0010	.0033	.0217	.0076	.0021	.0005	.0089	.00006
%RSD	20.49	57.24	40.31	113.0	60.39	52.09	730.9	1.7800

#1	.0056	.0082	.0691	-.0121	-.0019	-.0013	.0051	.00332
#2	.0042	.0035	.0384	-.0014	-.0048	-.0006	-.0075	.00341

Check ?	None	None	None	None	None	None	None	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0093	.0053	-.0022	-.0006	.0011	.0028	.0034	.0224
Stddev	.0020	.0004	.0001	.0001	.0011	.0001	.0033	.0074
%RSD	21.03	8.148	2.631	26.26	99.55	5.061	95.31	32.78

#1	-.0079	.0050	-.0021	-.0005	.0003	.0027	.0057	.0277
#2	-.0107	.0056	-.0022	-.0007	.0019	.0029	.0011	.0172

Check ?	None	None	None	None	None	None	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	965.81	15977.	2320.5
Stddev	1.59	.	3.5
%RSD	.16447	.00244	.14946

#1	966.94	15977.	2318.1
#2	964.69	15978.	2323.0

Sample Name: ICSAB Acquired: 12/18/2014 9:49:07 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-46-B

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.34	518.8	.8928	.0067	.5090	.48422	-.0047	.9248
Stddev	.05	1.6	.0041	.0004	.0006	.00208	.0011	.0030
%RSD	.1714	.3104	.4590	6.283	.1085	.42959	24.38	.3235

#1	30.38	519.9	.8899	.0070	.5086	.48275	-.0039	.9269
#2	30.30	517.6	.8957	.0064	.5094	.48570	-.0055	.9226

Check ?	None	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9468	496.2	*****	.5039	.4787	.4914	.5155	187.1
Stddev	.0012	.5	----	.0017	.0011	.0004	.0004	.0
%RSD	.1248	.0967	----	.3402	.2369	.0754	.0829	.0044

#1	.9477	496.5	----	.5051	.4795	.4911	.5158	187.1
#2	.9460	495.9	----	.5027	.4779	.4916	.5152	187.1

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.004	.0098	528.5	197.3	440.6	.4853	.5195	-.0037
Stddev	.009	.0001	1.7	.2	1.0	.0021	.0042	.0011
%RSD	.8451	.6133	.3159	.1262	.2261	.4266	.8005	31.09

#1	.9977	.0098	529.7	197.1	441.3	.4867	.5224	-.0029
#2	1.010	.0097	527.3	197.4	439.9	.4838	.5165	-.0045

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	None
Value Range								

Sample Name: ICSAB Acquired: 12/18/2014 9:49:07 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP14-46-B

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9458	-.0046	.0537	-.0235	-.0145	.9811	.0076	.00314
Stddev	.0013	.0022	.0319	.0001	.0101	.0000	.0018	.00014
%RSD	.1392	48.39	59.45	.6139	69.45	.0024	23.07	4.3299

#1	.9467	-.0030	.0762	-.0236	-.0216	.9812	.0064	.00323
#2	.9449	-.0062	.0311	-.0234	-.0074	.9811	.0089	.00304

Check ?	Chk Pass	None	None	None	None	Chk Pass	None	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0148	.0057	-.0018	.5148	.9083	.8869	.0022	.0165
Stddev	.0065	.0007	.0002	.0025	.0009	.0006	.0008	.0010
%RSD	44.15	11.53	12.60	.4897	.1002	.0628	38.24	5.970

#1	-.0102	.0062	-.0016	.5166	.9077	.8865	.0016	.0158
#2	-.0194	.0052	-.0019	.5131	.9090	.8873	.0027	.0172

Check ?	None	None	None	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	969.88	16049.	2332.4
Stddev	.43	73.	1.7
%RSD	.04460	.45255	.07242

#1	969.58	15998.	2333.6
#2	970.19	16100.	2331.2

Sample Name: 200ppm Fe Acquired: 12/18/2014 9:52:00 Type: Unk
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 121814A 0.2/10mL Fe 10,000ppm MET2-40-J

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0861	-.0082	.0034	-.0001	-.00079	-.0063	.0002	.0003
#1	.0965	-.0033	.0037	-.0002	-.00065	-.0057	.0001	.0007
#2	.0756	-.0131	.0032	-.0001	-.00093	-.0069	.0003	-.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1043	.0015	.0002	-.0005	-.0003	194.4	-.0033	.0007
#1	.1080	.0007	-.0002	-.0002	.0007	193.5	-.0043	.0004
#2	.1007	.0023	.0006	-.0009	-.0013	195.3	-.0023	.0010
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1059	-.0003	-.0028	.0014	.0072	-.0035	-.0040	-.0116
#1	.1098	-.0003	-.0029	.0016	.0087	.0016	-.0049	-.0126
#2	.1021	-.0004	-.0027	.0012	.0057	-.0086	-.0032	-.0105
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0010	-.0037	-.00008	.0022	.0027	.0004	-.0010	-.0002
#1	.0000	-.0062	-.00001	.0069	.0036	.0006	-.0010	.0000
#2	-.0020	-.0012	-.00014	-.0026	.0018	.0003	-.0011	-.0004
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0010	-.0033	.0251					
#1	.0013	-.0025	.0245					
#2	.0008	-.0040	.0257					

Sample Name: 200ppm Fe Acquired: 12/18/2014 9:52:00 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 121814A 0.2/10mL Fe 10,000ppm MET2-40-J

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1072.7	17783.	2438.9
#1	1073.9	17801.	2450.2
#2	1071.6	17764.	2427.5

Sample Name: KQ1416340-01 Acquired: 12/18/2014 10:24:14 Type: Unk

Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000

User: admin Dilution: 1 Test Type: Sample Type:

Comment: EM 121814A K1413809-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	-.0014	.0013	-.0004	-.00015	-.0005	.0001	.0001
#1	.0000	.0014	.0019	-.0003	-.00016	.0005	.0002	-.0001
#2	-.0011	-.0042	.0007	-.0005	-.00013	-.0014	.0000	.0004
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0069	.0001	.0005	.0001	.0002	.0091	-.0018	.0000
#1	-.0070	-.0002	.0004	-.0001	.0000	.0104	-.0031	.0002
#2	-.0069	.0004	.0006	.0004	.0004	.0079	-.0005	-.0003
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0004	-.0006	.0007	.0005	.0226	.0001	.0197
#1	-.0002	-.0004	.0000	.0009	.0006	.0216	-.0020	.0146
#2	.0000	-.0003	-.0013	.0006	.0003	.0236	.0022	.0249
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0091	-.00002	.0037	.0029	.0004	.0000	.0013
#1	.0006	-.0212	-.00005	.0066	.0033	.0005	-.0001	.0015
#2	.0002	.0029	.00002	.0007	.0025	.0003	.0001	.0011
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0010	-.0006	.0044					
#1	.0011	.0003	.0064					
#2	.0010	-.0015	.0023					

Sample Name: KQ1416340-01 Acquired: 12/18/2014 10:24:14 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 121814A K1413809-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1073.6	17680.	2438.1
#1	1072.9	17634.	2441.1
#2	1074.2	17727.	2435.1

Sample Name: KQ1416340-02 Acquired: 12/18/2014 10:26:42 Type: Unk

Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000

User: admin Dilution: 1 Test Type: Sample Type:

Comment: EM 121814A K1413809-LCSW

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.141	2.487	2.515	5.074	.12698	1.015	1.255	1.269

#1	5.129	2.487	2.512	5.082	.12733	1.019	1.254	1.267
#2	5.154	2.487	2.517	5.065	.12662	1.012	1.256	1.271

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.60	.5101	1.268	.6275	.6465	2.491	2.561	.0002

#1	12.55	.5099	1.267	.6257	.6461	2.492	2.562	.0009
#2	12.66	.5102	1.269	.6293	.6470	2.490	2.560	-.0005

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.79	1.258	1.008	1.254	-.0019	12.65	2.444	.0136

#1	12.80	1.260	1.007	1.253	-.0042	12.65	2.433	.0239
#2	12.78	1.255	1.010	1.255	.0004	12.64	2.454	.0034

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6325	12.68	.00037	2.603	.0005	.0003	1.286	1.266

#1	.6321	12.68	.00036	2.592	.0018	.0003	1.293	1.265
#2	.6329	12.68	.00038	2.614	-.0007	.0003	1.279	1.266

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.249	.0070	-.0032

#1	1.248	.0087	-.0067
#2	1.250	.0053	.0003

Sample Name: KQ1416340-02 Acquired: 12/18/2014 10:26:42 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 121814A K1413809-LCSW

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1073.9	17772.	2462.0
#1	1074.2	17700.	2458.9
#2	1073.6	17843.	2465.2

Sample Name: K1413809-001 Acquired: 12/18/2014 10:28:55 Type: Unk
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 121814A DISS

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	-.0006	.0046	.0485	-.00003	.0064	.0003	.0001
#1	.0021	-.0004	.0060	.0483	-.00012	.0050	.0002	.0003
#2	.0026	-.0007	.0032	.0487	.00005	.0078	.0003	.0000
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.44	.0019	.0024	.0007	.0018	.0017	-.0085	.0142
#1	21.39	.0027	.0028	.0013	.0021	.0059	-.0086	.0149
#2	21.50	.0012	.0019	.0000	.0016	-.0025	-.0085	.0135
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.066	.0649	.0052	.0034	.0447	2.867	.0025	10.71
#1	9.044	.0650	.0053	.0027	.0426	2.873	.0061	10.71
#2	9.088	.0648	.0051	.0041	.0468	2.860	-.0011	10.70
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	60.04	.11071	-.0015	.0019	.0001	.0175	.0030
#1	.0003	60.00	.11067	-.0047	.0021	-.0002	.0183	.0026
#2	.0012	60.08	.11074	.0017	.0018	.0003	.0168	.0034
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0026	-.0025	6.335					
#1	.0026	-.0031	6.324					
#2	.0026	-.0019	6.347					

Sample Name: K1413809-001 Acquired: 12/18/2014 10:28:55 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 121814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1066.6	17654.	2452.7
#1	1068.1	17670.	2451.5
#2	1065.2	17639.	2453.9

Sample Name: K1413809-001L Acquired: 12/18/2014 10:31:24 Type: Unk
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: D Sample Type:
 Comment: EM 121814A DISS 1/5

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0036	.0016	.0096	-.00006	.0005	.0001	.0000

#1	.0004	-.0033	.0023	.0095	-.00014	.0008	.0000	.0002
#2	.0000	-.0039	.0008	.0098	.00002	.0002	.0003	-.0002

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.200	.0009	.0009	.0006	-.0005	-.0028	-.0015	.0026

#1	4.163	.0004	.0003	.0004	.0003	-.0015	-.0006	.0022
#2	4.237	.0014	.0014	.0007	-.0012	-.0042	-.0023	.0031

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.789	.0130	.0003	.0007	.0063	.5777	-.0014	2.116

#1	1.777	.0131	.0002	.0008	.0027	.5623	-.0055	2.119
#2	1.802	.0129	.0004	.0007	.0098	.5931	.0026	2.112

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	11.74	.02207	.0001	.0016	.0003	.0035	.0010

#1	.0002	11.75	.02202	-.0001	.0012	.0000	.0036	.0005
#2	-.0006	11.73	.02213	.0004	.0020	.0006	.0033	.0015

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0006	-.0024	1.272

#1	.0005	-.0046	1.269
#2	.0008	-.0002	1.274

Sample Name: K1413809-001L Acquired: 12/18/2014 10:31:24 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: D Sample Type:
Comment: EM 121814A DISS 1/5

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1078.9	17727.	2432.7
#1	1077.9	17747.	2450.3
#2	1079.9	17707.	2415.0

Sample Name: K1413809-001S Acquired: 12/18/2014 10:33:55 Type: Unk

Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000

User: admin Dilution: 1 Test Type: D Sample Type:

Comment: EM 121814A DISS

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.950	2.093	.4738	.9979	1.063	.05093	1.024	.0491

#1	1.951	2.077	.4740	.9991	1.060	.05095	1.022	.0491
#2	1.949	2.109	.4735	.9967	1.066	.05092	1.026	.0491

Elem	Cd2265	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0496	31.60	.2076	.4997	.2458	.2550	1.009	.4978

#1	.0496	31.51	.2065	.4997	.2460	.2545	1.001	.4984
#2	.0496	31.69	.2088	.4996	.2456	.2555	1.017	.4973

Elem	Li6707	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0140	18.96	.5625	1.009	.4962	.0476	13.11	.9524

#1	.0145	18.99	.5637	1.010	.4970	.0477	13.15	.9572
#2	.0135	18.93	.5614	1.008	.4953	.0474	13.07	.9477

Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.52	.0491	68.63	.10887	1.032	.0021	.0005	.5316

#1	10.52	.0478	68.86	.10862	1.030	.0048	.0003	.5330
#2	10.52	.0504	68.41	.10913	1.034	-.0007	.0008	.5302

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.4913	.4872	.0034	6.156

#1	.4935	.4868	.0016	6.135
#2	.4892	.4875	.0051	6.177

Sample Name: K1413809-001S Acquired: 12/18/2014 10:33:55 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 121814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1066.3	17535.	2425.0
#1	1064.6	17501.	2439.8
#2	1067.9	17570.	2410.3

Sample Name: K1413809-001SD Acquired: 12/18/2014 10:36:22 Type: Unk

Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000

User: admin Dilution: 1 Test Type: D Sample Type:

Comment: EM 121814A DISS

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.965	2.117	.4845	.9998	1.067	.05119	1.027	.0496

#1	1.968	2.114	.4838	.9981	1.066	.05091	1.029	.0495
#2	1.962	2.119	.4853	1.001	1.068	.05147	1.025	.0496

Elem	Cd2265	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0499	31.73	.2080	.5032	.2468	.2592	1.011	.4990

#1	.0500	31.75	.2066	.5041	.2479	.2584	1.013	.4950
#2	.0498	31.71	.2094	.5022	.2456	.2600	1.010	.5030

Elem	Li6707	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0139	19.05	.5636	1.012	.4994	.0489	13.18	.9590

#1	.0134	19.05	.5633	1.015	.5007	.0458	13.16	.9551
#2	.0143	19.05	.5638	1.009	.4981	.0521	13.20	.9628

Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.53	.0509	68.81	.10928	1.030	.0030	.0006	.5316

#1	10.52	.0523	68.73	.10902	1.033	.0027	.0006	.5308
#2	10.53	.0494	68.90	.10955	1.027	.0034	.0006	.5324

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.4946	.4901	.0051	6.187

#1	.4970	.4901	.0053	6.186
#2	.4922	.4902	.0048	6.188

Sample Name: K1413809-001SD Acquired: 12/18/2014 10:36:22 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 121814A DISS

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1067.1	17650.	2423.8
#1	1065.1	17642.	2425.8
#2	1069.0	17659.	2421.8

Sample Name: K1413809-001A Acquired: 12/18/2014 10:38:48 Type: Unk
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: D Sample Type:
 Comment: EM 121814A DISS A=0.05/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.255	4.919	2.486	5.102	.12835	.0042	1.230	1.245

#1	5.238	4.931	2.495	5.103	.12809	.0039	1.232	1.246
#2	5.273	4.906	2.476	5.101	.12862	.0046	1.228	1.243

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.89	.5139	1.260	.6218	.6498	2.495	2.524	.0155

#1	33.74	.5139	1.262	.6221	.6485	2.497	2.530	.0161
#2	34.04	.5139	1.258	.6214	.6510	2.494	2.518	.0149

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.48	1.301	.0059	1.245	.0451	15.70	2.426	10.51

#1	21.47	1.301	.0057	1.246	.0475	15.67	2.428	10.49
#2	21.49	1.301	.0062	1.244	.0426	15.73	2.425	10.53

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6324	71.24	.10878	2.602	.0036	.0002	1.311	1.255

#1	.6318	71.21	.10893	2.603	.0041	.0002	1.311	1.256
#2	.6329	71.27	.10864	2.601	.0031	.0002	1.311	1.254

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.239	.0044	6.225

#1	1.241	.0017	6.221
#2	1.237	.0070	6.229

Sample Name: K1413809-001A Acquired: 12/18/2014 10:38:48 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: D Sample Type:
Comment: EM 121814A DISS A=0.05/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1067.9	17709.	2438.0
#1	1068.0	17684.	2435.1
#2	1067.8	17734.	2440.9

Sample Name: LRA Acquired: 12/18/2014 10:41:07 Type: Unk
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 121814A 0.1/10mL CICV-1,3 + Sb 1000ppm

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.32	9.818	4.987	9.892	.25666	-.0067	2.462	2.496

#1	10.33	9.828	4.977	9.891	.25657	-.0062	2.464	2.496
#2	10.32	9.809	4.996	9.893	.25675	-.0073	2.460	2.496

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.11	1.018	2.494	1.236	1.285	4.966	5.081	.0002

#1	25.10	1.018	2.498	1.236	1.284	4.986	5.082	.0007
#2	25.12	1.018	2.490	1.235	1.285	4.947	5.081	-.0004

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.11	2.475	-.0007	2.473	-.0012	25.09	4.992	.0055

#1	25.15	2.472	-.0005	2.474	-.0004	25.21	4.973	-.0011
#2	25.07	2.479	-.0009	2.473	-.0020	24.97	5.011	.0121

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.257	25.01	.00092	5.172	.0016	-.0001	2.552	2.514

#1	1.255	25.06	.00082	5.184	.0006	-.0001	2.546	2.513
#2	1.259	24.96	.00102	5.159	.0027	.0000	2.559	2.514

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	2.464	.0098	-.0006

#1	2.463	.0127	-.0018
#2	2.465	.0069	.0006

Sample Name: LRA Acquired: 12/18/2014 10:41:07 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: EM 121814A 0.1/10mL CICV-1,3 + Sb 1000ppm

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1071.0	17714.	2449.5
#1	1069.6	17779.	2450.2
#2	1072.4	17649.	2448.8

Sample Name: KQ1416443-02 Acquired: 12/18/2014 10:43:32 Type: Unk
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: EM 121814A 1/2 K1413654-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048	.0054	.0008	.0027	-.00016	-.0013	.0004	.0001
#1	.0044	.0066	.0021	.0026	-.00018	.0002	.0003	.0000
#2	.0051	.0043	-.0004	.0028	-.00014	-.0028	.0004	.0002
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0156	.0014	.0002	.0001	.0013	.0037	-.0005	-.0012
#1	.0160	.0018	.0002	.0003	.0010	.0059	.0008	-.0022
#2	.0153	.0010	.0002	-.0001	.0015	.0014	-.0019	-.0001
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0085	.0004	-.0002	.0006	-.0003	.0416	.0025	.0030
#1	.0089	.0004	-.0003	.0007	-.0053	.0458	.0057	.0091
#2	.0082	.0003	-.0002	.0005	.0046	.0374	-.0007	-.0032
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0078	.00005	.0049	.0018	-.0002	.0004	.0024
#1	-.0002	.0040	.00003	.0047	.0020	-.0002	.0007	.0027
#2	.0008	.0115	.00007	.0052	.0017	-.0003	.0001	.0021
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0024	-.0014	.0010					
#1	.0025	-.0007	-.0020					
#2	.0024	-.0021	.0040					

NR-see rem
 am
 12/19/14

Sample Name: KQ1416443-02 Acquired: 12/18/2014 10:43:32 Type: Unk
Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: EM 121814A 1/2 K1413654-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1069.0	17859.	2460.5
#1	1069.7	17823.	2449.1
#2	1068.2	17895.	2471.9

*NR-see remm
ann
12/19/14*

Sample Name: CCVB Acquired: 12/18/2014 10:47:07 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.846	10.03	.0029	1.003	9.800	-.00009	-.0032	.0003
Stddev	.000	.02	.0008	.007	.018	.00015	.0020	.0003
%RSD	.0016	.1842	26.69	.7159	.1844	160.54	60.21	90.13

#1	7.846	10.02	.0034	.9977	9.788	-.00020	-.0019	.0005
#2	7.846	10.04	.0024	1.008	9.813	.00001	-.0046	.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	9.984	9.551	.0012	.0007	.0000	.0007	9.890
Stddev	.0000	.120	.050	.0002	.0001	.0001	.0003	.052
%RSD	171.1	1.199	.5188	20.17	18.58	251.7	41.88	.5262

#1	.0000	9.899	9.515	.0010	.0006	.0001	.0005	9.853
#2	.0001	10.07	9.586	.0013	.0008	.0000	.0009	9.927

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0126	.9981	F 8.821	9.816	10.08	.9872	.9752	-.0009
Stddev	.0022	.0065	.077	.020	.01	.0004	.0035	.0001
%RSD	17.14	.6529	.8715	.2028	.0645	.0371	.3633	11.21

#1	-.0141	1.003	8.875	9.802	10.08	.9874	.9777	-.0009
#2	-.0111	.9935	8.766	9.830	10.07	.9869	.9727	-.0010

Check ?	None	Chk Pass	Chk Fail	None	Chk Pass	None	Chk Pass	None
Value Range			10.00 -10.44%					

Sample Name: CCVB Acquired: 12/18/2014 10:47:07 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	9.993	9.987	-.0002	10.01	-.0002	9.900	.97742
Stddev	.0003	.023	.043	.0016	.02	.0002	.018	.00271
%RSD	34.52	.2285	.4315	846.9	.2063	82.48	.1869	.27675

#1	.0012	9.976	9.957	-.0013	10.02	-.0001	9.913	.97551
#2	.0007	10.01	10.02	.0009	9.992	-.0004	9.886	.97934

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0028	.0003	.0012	.0013	.0007	.9911	.9983
Stddev	.0033	.0011	.0000	.0002	.0008	.0001	.0038	.0045
%RSD	787.4	39.82	13.88	19.60	61.21	11.49	.3828	.4531

#1	-.0028	.0036	.0003	.0014	.0018	.0007	.9884	1.001
#2	.0019	.0020	.0003	.0010	.0007	.0006	.9938	.9951

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1087.7	17885.	2464.7
Stddev	.5	29.	17.0
%RSD	.04680	.16326	.68954

#1	1088.0	17865.	2476.8
#2	1087.3	17906.	2452.7

Sample Name: CCVA Acquired: 12/18/2014 10:49:39 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2539	.2456	.2532	.2465	.2511	.25063	.2524	.2488
Stddev	.0006	.0025	.0013	.0005	.0007	.00069	.0004	.0002
%RSD	.2273	1.014	.5121	.2073	.2920	.27450	.1492	.0991

#1	.2535	.2439	.2541	.2462	.2506	.25014	.2526	.2486
#2	.2543	.2474	.2522	.2469	.2516	.25111	.2521	.2490

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2503	.4978	.4904	.2517	.2487	.2455	.2497	.2539
Stddev	.0012	.0066	.0005	.0016	.0000	.0009	.0010	.0045
%RSD	.4624	1.323	.0986	.6274	.0062	.3465	.4129	1.786

#1	.2495	.5025	.4901	.2506	.2487	.2449	.2504	.2507
#2	.2511	.4932	.4907	.2528	.2487	.2461	.2489	.2571

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2465	.0002	.2719	.2538	.2508	.2490	.2394	.2443
Stddev	.0022	.0001	.0382	.0004	.0020	.0006	.0025	.0017
%RSD	.9094	83.35	14.06	.1591	.7855	.2295	1.027	.6800

#1	.2480	.0002	.2449	.2535	.2494	.2486	.2411	.2431
#2	.2449	.0001	.2990	.2541	.2522	.2494	.2376	.2455

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value Range								

Sample Name: CCVA Acquired: 12/18/2014 10:49:39 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2500	-.0009	2.449	.2492	.1243	.2514	.2477	.00019
Stddev	.0008	.0024	.001	.0072	.0032	.0003	.0024	.00008
%RSD	.3134	273.7	.0269	2.905	2.557	.1375	.9803	42.980
#1	.2495	-.0026	2.448	.2440	.1266	.2516	.2494	.00025
#2	.2506	.0008	2.449	.2543	.1221	.2511	.2459	.00013

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2493	.2496	.2493	.2491	.2526	.2490	-.0004	.0018
Stddev	.0037	.0025	.0007	.0004	.0004	.0003	.0024	.0013
%RSD	1.504	.9861	.2804	.1607	.1582	.1164	657.8	71.46
#1	.2519	.2514	.2488	.2494	.2529	.2488	.0013	.0028
#2	.2466	.2479	.2498	.2488	.2523	.2492	-.0021	.0009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1088.1	18004.	2449.8
Stddev	2.8	44.	16.5
%RSD	.25616	.24559	.67397
#1	1090.0	18035.	2461.5
#2	1086.1	17973.	2438.2

Sample Name: CCB Acquired: 12/18/2014 10:52:00 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0003	-.0002	.0021	.0008	.00003	-.0014	.0002
Stddev	.0004	.0005	.0047	.0045	.0002	.00004	.0019	.0001
%RSD	144.1	175.8	2146.	215.9	24.34	121.95	139.0	53.59
#1	.0005	-.0006	-.0036	-.0011	.0007	.00000	.0000	.0002
#2	.0000	.0001	.0031	.0052	.0010	.00006	-.0027	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0041	.0010	.0014	.0006	.0006	.0002	.0053
Stddev	.0001	.0134	.0001	.0008	.0000	.0004	.0005	.0037
%RSD	126.3	323.6	7.907	59.63	1.550	70.93	218.8	68.76
#1	.0002	-.0136	.0009	.0020	.0006	.0003	-.0001	.0027
#2	.0000	.0053	.0010	.0008	.0006	.0009	.0006	.0079

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0025	-.0007	.1058	.0009	.0010	-.0003	-.0004	.0002
Stddev	.0001	.0004	.0112	.0004	.0005	.0002	.0018	.0002
%RSD	4.313	51.78	10.59	43.82	49.81	70.72	501.0	89.15
#1	-.0026	-.0010	.1137	.0006	.0013	-.0004	-.0016	.0003
#2	-.0024	-.0005	.0979	.0012	.0006	-.0001	.0009	.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 High Limit
 Low Limit

Sample Name: CCB Acquired: 12/18/2014 10:52:00 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	-.0003	.0575	-.0025	.0036	.0008	-.0040	.00005
Stddev	.0008	.0011	.0098	.0018	.0095	.0002	.0107	.00005
%RSD	113.5	384.8	17.12	74.10	262.3	30.91	270.4	92.271

#1	.0001	.0005	.0644	-.0037	.0104	.0010	-.0115	.00008
#2	.0012	-.0010	.0505	-.0012	-.0031	.0006	.0036	.00002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052	.0018	.0003	-.0006	.0003	.0000	-.0026	-.0032
Stddev	.0006	.0018	.0001	.0001	.0002	.0001	.0003	.0007
%RSD	12.40	97.42	42.83	20.26	54.17	715.3	12.85	21.81

#1	.0047	.0006	.0003	-.0005	.0002	.0001	-.0028	-.0027
#2	.0056	.0031	.0002	-.0006	.0004	-.0001	-.0023	-.0037

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1074.8	17946.	2457.9
Stddev	5.8	63.	2.7
%RSD	.54218	.35104	.10944

#1	1078.9	17902.	2456.0
#2	1070.7	17991.	2459.8

Sample Name: LLCCV Acquired: 12/18/2014 10:54:51 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0115	.0102	.0225	.0093	.0041	.00099	.0187	.0012
Stddev	.0006	.0017	.0018	.0004	.0000	.00001	.0013	.0002
%RSD	5.312	16.51	8.169	3.908	.9322	1.3328	7.155	13.55
#1	.0120	.0090	.0239	.0090	.0041	.00098	.0197	.0011
#2	.0111	.0114	.0212	.0095	.0041	.00100	.0178	.0014

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	F .0023	.0202	F .0054	F .0027	.0045	F .0058	.0229
Stddev	.0001	.0135	.0001	.0001	.0003	.0008	.0010	.0046
%RSD	6.805	578.2	.4031	2.722	12.41	17.28	17.63	20.13
#1	.0010	-.0072	.0203	.0055	.0029	.0040	.0065	.0262
#2	.0011	.0119	.0202	.0053	.0024	.0051	.0051	.0197

Check ? Chk Pass Chk Fail Chk Pass Chk Fail Chk Fail Chk Pass Chk Fail Chk Pass
 Value
 Range .0200 .0040 .0020 .0040
 -30.00% 30.00% 30.00% 30.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0096	.0192	.0719	.0052	.0063	.0009	.0009	.0045
Stddev	.0011	.0004	.0100	.0000	.0006	.0001	.0015	.0009
%RSD	11.52	1.874	13.93	.9032	9.968	14.42	166.9	21.31
#1	.0103	.0195	.0649	.0051	.0067	.0008	-.0002	.0051
#2	.0088	.0190	.0790	.0052	.0058	.0010	.0020	.0038

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 Value
 Range

*** 2X
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 12/19/14*

Sample Name: LLCCV Acquired: 12/18/2014 10:54:51 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047	.0422	.2335	.0193	.2007	.0048	.1955	.00098
Stddev	.0008	.0022	.0278	.0079	.0088	.0001	.0040	.00005
%RSD	16.05	5.161	11.89	40.98	4.380	1.741	2.061	5.6015
#1	.0053	.0437	.2138	.0137	.2069	.0048	.1927	.00102
#2	.0042	.0406	.2531	.0249	.1945	.0047	.1984	.00094

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0133	.0218	.0024	.0041	.0049	.0041	.0172	.0407
Stddev	.0006	.0021	.0000	.0001	.0002	.0002	.0002	.0020
%RSD	4.722	9.821	.3866	2.399	3.473	4.121	1.363	4.888
#1	.0138	.0203	.0024	.0040	.0048	.0040	.0170	.0393
#2	.0129	.0233	.0024	.0042	.0050	.0042	.0173	.0421

Check ? Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range .0100
 30.00%

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1077.5	17878.	2464.2
Stddev	1.0	27.	.1
%RSD	.09595	.15045	.00574
#1	1078.2	17859.	2464.1
#2	1076.7	17897.	2464.3

*rem
 am
 12/19/14

Sample Name: LLCCV Acquired: 12/18/2014 11:00:04 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095	.0121	.0223	.0110	.0039	.00099	.0194	.0009
Stddev	.0012	.0011	.0002	.0047	.0000	.00001	.0000	.0000
%RSD	12.49	9.421	.8934	42.87	.2928	.87738	.1319	4.661
#1	.0087	.0129	.0224	.0077	.0039	.00100	.0194	.0009
#2	.0103	.0113	.0221	.0144	.0039	.00099	.0194	.0009

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0189	.0200	.0043	F .0026	.0041	.0050	.0259
Stddev	.0002	.0155	.0001	.0002	.0003	.0001	.0007	.0007
%RSD	19.33	81.71	.2866	4.747	9.599	3.266	12.97	2.574
#1	.0014	.0299	.0200	.0045	.0028	.0042	.0046	.0264
#2	.0011	.0080	.0199	.0042	.0025	.0040	.0055	.0254

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
 Value
 Range .0020
 30.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074	.0191	.0373	.0051	.0050	.0008	.0006	.0036
Stddev	.0049	.0010	.0652	.0001	.0001	.0000	.0011	.0007
%RSD	66.44	5.401	175.0	1.072	2.333	5.014	166.9	19.54
#1	.0039	.0198	.0834	.0050	.0050	.0008	-.0001	.0031
#2	.0109	.0184	-.0088	.0051	.0051	.0009	.0014	.0041

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass
 Value
 Range

Sample Name: LLCCV Acquired: 12/18/2014 11:00:04 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: RERUN

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050	.0416	.2179	.0174	.2041	.0044	.1963	.00094
Stddev	.0002	.0000	.0160	.0030	.0027	.0009	.0002	.00003
%RSD	3.175	.0723	7.339	17.53	1.344	19.94	.1077	3.5446
#1	.0052	.0416	.2292	.0195	.2022	.0050	.1964	.00091
#2	.0049	.0416	.2066	.0152	.2061	.0038	.1961	.00096

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0123	.0228	.0024	.0033	.0048	.0041	.0196	.0412
Stddev	.0050	.0008	.0004	.0002	.0001	.0000	.0001	.0018
%RSD	40.76	3.488	16.62	5.550	1.124	.3815	.6954	4.311
#1	.0088	.0233	.0027	.0032	.0048	.0041	.0195	.0400
#2	.0159	.0222	.0021	.0034	.0049	.0042	.0197	.0425

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1079.2	17876.	2447.8
Stddev	1.0	6.	16.9
%RSD	.09085	.03239	.68909
#1	1078.5	17872.	2435.9
#2	1079.9	17880.	2459.7

Sample Name: LLCCV,0.5 Acquired: 12/18/2014 11:02:36 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0214	.0199	.0415	.0234	.0081	.00216	.0388	.0022
Stddev	.0008	.0010	.0030	.0021	.0003	.00017	.0010	.0001
%RSD	3.967	4.874	7.305	8.771	3.240	7.7299	2.546	3.070
#1	.0220	.0205	.0436	.0219	.0079	.00227	.0381	.0021
#2	.0208	.0192	.0393	.0248	.0083	.00204	.0395	.0022

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020	.0318	.0406	.0091	.0049	.0090	.0086	.0387
Stddev	.0002	.0043	.0001	.0005	.0005	.0005	.0008	.0020
%RSD	8.627	13.47	.2159	5.336	9.781	5.913	9.837	5.171
#1	.0021	.0287	.0405	.0095	.0046	.0086	.0092	.0401
#2	.0019	.0348	.0407	.0088	.0053	.0094	.0080	.0373

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0158	.0401	.0999	.0103	.0084	.0019	.0020	.0071
Stddev	.0019	.0014	.0292	.0000	.0000	.0000	.0019	.0001
%RSD	11.95	3.386	29.25	.1007	.2353	.3574	98.69	1.255
#1	.0171	.0411	.0793	.0103	.0084	.0019	.0006	.0072
#2	.0145	.0392	.1206	.0103	.0083	.0019	.0033	.0070

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Sample Name: LLCCV,0.5 Acquired: 12/18/2014 11:02:36 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086	.0819	.4162	.0425	.4019	.0083	.3892	.00197
Stddev	.0005	.0070	.0103	.0002	.0046	.0002	.0010	.00005
%RSD	5.239	8.544	2.482	.4113	1.141	2.303	.2469	2.3012
#1	.0089	.0869	.4089	.0424	.4051	.0081	.3885	.00194
#2	.0083	.0770	.4235	.0426	.3986	.0084	.3899	.00200

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0220	.0433	.0043	.0084	.0084	.0085	.0399	.0793
Stddev	.0020	.0003	.0002	.0008	.0004	.0000	.0004	.0057
%RSD	8.956	.6765	3.521	9.492	4.390	.4502	.9759	7.237
#1	.0206	.0435	.0044	.0090	.0087	.0085	.0402	.0834
#2	.0234	.0431	.0042	.0079	.0082	.0085	.0397	.0753

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1081.2	17865.	2450.8
Stddev	1.9	59.	.3
%RSD	.17641	.33254	.01370
#1	1079.9	17907.	2451.0
#2	1082.6	17823.	2450.6

Sample Name: LLCCV-TCLP Acquired: 12/18/2014 11:05:11 Type: QC
 Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0011	.0022	-.0015	-.0013	.1974	-.00015	-.0015	.0002
Stddev	.0003	.0005	.0032	.0033	.0006	.00004	.0005	.0002
%RSD	27.29	23.05	208.0	258.8	.3207	30.106	34.44	86.20
#1	-.0009	.0018	.0007	-.0036	.1970	-.00018	-.0011	.0004
#2	-.0013	.0025	-.0037	.0010	.1978	-.00011	-.0018	.0001
Check ?	None	None	None	None	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	-.0137	.0010	.0009	.0003	.0000	-.0001	.0013
Stddev	.0002	.0001	.0001	.0009	.0005	.000	.0004	.0046
%RSD	103.7	.9606	12.71	102.2	146.3	300.2	724.5	353.6
#1	-.0004	-.0138	.0011	.0016	.0000	.0001	-.0003	.0046
#2	-.0001	-.0136	.0009	.0003	.0007	-.0001	.0002	-.0020
Check ?	None	None	None	None	None	None	None	None
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0005	.0916	-.0003	-.0024	-.0003	-.0021	-.0005
Stddev	.0018	.0014	.0457	.0001	.0021	.0000	.0010	.0002
%RSD	1256.	284.7	49.88	31.91	86.15	17.74	49.41	46.55
#1	.0011	.0005	.1239	-.0004	-.0009	-.0002	-.0014	-.0006
#2	-.0014	-.0014	.0593	-.0002	-.0039	-.0003	-.0028	-.0003
Check ?	None	None	None	None	None	None	None	None
Value Range								

Sample Name: LLCCV-TCLP Acquired: 12/18/2014 11:05:11 Type: QC

Method: 2014B-ICP04(v87) Mode: CONC Corr. Factor: 1.000000

User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0010	.0435	-.0002	.0017	.0002	-.0027	-.00003
Stddev	.0001	.0034	.0024	.0031	.0013	.0010	.0007	.00009
%RSD	24.52	342.5	5.431	1898.	76.80	453.6	26.80	284.60

#1	.0006	-.0014	.0418	-.0023	.0027	-.0005	-.0022	-.00009
#2	.0005	.0034	.0452	.0020	.0008	.0009	-.0032	.00003

Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0053	-.0006	.0001	-.0003	.2007	.1977	-.0035	-.0065
Stddev	.0006	.0025	.0000	.0002	.0013	.0007	.0012	.0032
%RSD	10.48	415.7	43.67	47.07	.6320	.3435	32.86	49.17

#1	.0049	-.0024	.0000	-.0004	.2016	.1982	-.0027	-.0043
#2	.0057	.0012	.0001	-.0002	.1999	.1972	-.0043	-.0088

Check ?	None	None	None	None	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	1081.9	17905.	2472.5
Stddev	2.6	38.	2.2
%RSD	.24483	.21488	.08830

#1	1083.8	17932.	2471.0
#2	1080.1	17878.	2474.0



Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Exception Report

Data File: J:\MS13\DATA\121814\1218F021.D
Lab ID: K1413809-002
RunType: SMPL
Matrix: WATER

Date Acquired: 12/18/2014 16:37
Date Quantitated: 12/22/2014 13:34
Batch ID: KWG1416381
Analysis Method: 8260C
ListJoinID: LJ11272

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Naphthalene	-28.7	NA	20	OK

Primary Review: LA MURPHY

Secondary Review: JJA 12.23.14

Quantitation Report

Data File: J:\MS13\DATA\121814\1218F021.D	Instrument: MS13
Acqu Date: 12/18/2014 16:37	Quant Date: 12/22/2014 13:34
Run Type: SMPL	Vial: 18
Lab ID: K1413809-002	Dilution: 1.0
	Soln Conc. Units: PPB

Bottle ID:	Tier: V	Matrix: WATER
Prod Code: 8260C VOC FP	Collect Date: 12/09/2014	Receive Date: 12/10/2014

Analysis Lot: KWG1416381	Prep Lot: KWG1416392	Report Group: K1413809
Analysis Method: 8260C	Prep Method: EPA 5030B	
Prep Ref: 1404429	Prep Date: 12/18/2014	

Quant Method: J:\MS13\METHODS\101714MS13_8	Calibration ID: CAL13625
Title: Volatile Organic Compounds	Report List ID: LJ11272
Tune Ref: J:\MS13\DATA\121814\1218F001.D	Method ID: MJ1093
MB Ref: J:\MS13\DATA\121814\1218F011.D	Quant based on Report List

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	416262	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	155088	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	152119	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.09	0.00	0.00	113	96757	10.59	106	85-115	OK
1	1,2-Dichloroethane-d4	5.64	0.00	0.00	65	90420	10.80	108	70-120	OK
1	Toluene-d8	9.30	0.00	0.00	98	399192	9.64	96	85-120	OK
2	4-Bromofluorobenzene	13.68	0.00	0.00	95	126389	9.83	98	75-120	OK

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane				85	0		0.13	U	
1	Chloromethane				50	0		0.068	U	
1	Vinyl Chloride				62	0		0.075	U	
1	Bromomethane				96	0		0.10	U	
1	Chloroethane				64	0		0.16	U	
1	Trichlorofluoromethane				101	0		0.12	U	
1	1,1-Dichloroethene				96	0		0.080	U	
1	Acetone	2.48	0.01	0.00	43	1802	1.38	3.3	U	
1	Carbon Disulfide	2.56	0.01	0.00	76	1756	0.0600	0.069	U	
1	Methylene Chloride	2.89		0.00	84	1644	0.1500	0.15	J	
1	Methyl tert-Butyl Ether				73	0		0.11	U	
1	trans-1,2-Dichloroethene				96	0		0.072	U	
1	1,1-Dichloroethane				63	0		0.077	U	
1	2,2-Dichloropropane				77	0		0.060	U	

U Undetected at or above MDL
 J Analyte detected above MDL, but below MRL
 B Hit above MRL also found in Method Blank
 E Analyte concentration above high point of ICAL
 N Presumptive evidence of compound

D Result from dilution
 m Manual integration performed
 d Compound manually deleted
 NR Analyte not reported from this analysis

* Result fails acceptance criteria
 # Acceptance criteria not applicable
 ? Insufficient information to determine acceptance
 e Result >= MRL, but MRL less than low point of ICAL
 c check for co-elution

Data File: J:\MS13\DATA\121814\1218F021.D
 Acqu Date: 12/18/2014 16:37
 Run Type: SMPL
 Lab ID: K1413809-002

Quant Date: 12/22/2014 13:34

Instrument: MS13
 Vial: 18
 Dilution: 1.0
 Soln Conc. Units: PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	cis-1,2-Dichloroethene				96	0		0.067	U	
1	2-Butanone (MEK)				72	0		1.9	U	
1	Bromochloromethane				128	0		0.16	U	
1	Chloroform				83	0		0.072	U	
1	1,1,1-Trichloroethane (TCA)				97	0		0.075	U	
1	Carbon Tetrachloride				117	0		0.096	U	
1	1,1-Dichloropropene				75	0		0.089	U	
1	Benzene	5.60		0.00	78	7826	0.1800	0.18	J	
1	1,2-Dichloroethane (EDC)				62	0		0.080	U	
1	Trichloroethene (TCE)				95	0		0.10	U	
1	1,2-Dichloropropane				63	0		0.095	U	
1	Dibromomethane				93	0		0.15	U	
1	Bromodichloromethane				83	0		0.091	U	
1	cis-1,3-Dichloropropene				75	0		0.18	U	
1	4-Methyl-2-pentanone (MIBK)	9.30	0.03	0.00	58	2859	1.87	2.6	U	
1	Toluene	9.46		0.00	92	71209	2.34	2.3		
2	trans-1,3-Dichloropropene				75	0		0.068	U	
2	1,1,2-Trichloroethane				83	0		0.14	U	
2	Tetrachloroethene (PCE)				164	0		0.099	U	
2	2-Hexanone				57	0		2.7	U	
2	1,3-Dichloropropane				76	0		0.14	U	
2	Dibromochloromethane				129	0		0.14	U	
2	1,2-Dibromoethane (EDB)				107	0		0.10	U	
2	Chlorobenzene				112	0		0.11	U	
2	Ethylbenzene	12.23		0.00	106	2319	0.1300	0.13	J	
2	1,1,1,2-Tetrachloroethane				131	0		0.11	U	
2	m,p-Xylenes	12.42		0.00	106	9319	0.4400	0.44	J	
2	o-Xylene	12.95		0.00	106	2526	0.1300	0.13	J	
2	Styrene				103	0		0.089	U	
2	Bromoform				173	0		0.16	U	
2	Isopropylbenzene				105	0		0.051	U	
3	1,1,2,2-Tetrachloroethane				83	0		0.16	U	
3	Bromobenzene				156	0		0.12	U	
3	n-Propylbenzene				91	0		0.054	U	
3	1,2,3-Trichloropropane				110	0		0.20	U	
3	2-Chlorotoluene				91	0		0.10	U	
3	1,3,5-Trimethylbenzene				105	0d		0.089	U	
3	4-Chlorotoluene				91	0		0.13	U	
3	tert-Butylbenzene				119	0		0.059	U	
3	1,2,4-Trimethylbenzene	14.64		0.00	105	753	0.0200	0.069	U	
3	sec-Butylbenzene				105	0d		0.062	U	
3	4-Isopropyltoluene				119	0		0.060	U	

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ? : Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File: J:\MS13\DATA\121814\1218F021.D
 Acq Date: 12/18/2014 16:37
 Run Type: SMPL
 Lab ID: K1413809-002

Quant Date: 12/22/2014 13:34

Instrument: MS13
 Vial: 18
 Dilution: 1.0
 Soln Conc. Units: PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
3	1,3-Dichlorobenzene				146	0		0.10	U	
3	1,4-Dichlorobenzene				146	0		0.12	U	
3	n-Butylbenzene				91	0		0.054	U	
3	1,2-Dichlorobenzene				146	0		0.12	U	
3	1,2-Dibromo-3-chloropropane				155	0		0.20	U	
3	1,2,4-Trichlorobenzene				180	0		0.096	U	
3	Hexachlorobutadiene				225	0		0.11	U	
3	Naphthalene				128	0		0.088	U	
3	1,2,3-Trichlorobenzene				180	0		0.11	U	

Prep Amount: 10 ml Dilution: 1.0
 Prep Final Vol: 10 ml Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File : J:\MS13\DATA\121814\1218F021.D
 Acq On : 18 Dec 2014 4:37 pm
 Sample : K13809-002
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 22 13:33:43 2014

Vial: 18
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.11	96	416262	10.00	PPB	0.00
64) Chlorobenzene-d5	12.02	82	155088	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.05	152	152119	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.09	113	96757	10.59	PPB	0.00
Spiked Amount	10.000		Recovery	=	105.90%	
47) 1,2-Dichloroethane-d4	5.64	65	90420	10.80	PPB	0.00
Spiked Amount	10.000		Recovery	=	108.00%	
62) Toluene-d8	9.30	98	399192	9.64	PPB	0.00
Spiked Amount	10.000		Recovery	=	96.40%	
84) 4-Bromofluorobenzene	13.68	95	126389	9.83	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.30%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
13) Acetone	2.48	43	1802	1.38	PPB	88
15) Carbon Disulfide	2.56	76	1756	0.06	PPB	80
20) Methylene Chloride	2.89	84	1644	0.15	PPB	74
48) Benzene	5.60	78	7826	0.18	PPB	84
61) 4-Methyl-2-pentanone (MIBK)	9.30	58	2859	1.87	PPB	# 1
63) Toluene	9.46	92	71209	2.34	PPB	92
76) Ethylbenzene	12.23	106	2319	0.13	PPB	# 40
78) m,p-Xylenes	12.42	106	9319	0.44	PPB	82
79) o-Xylene	12.95	106	2526	0.13	PPB	# 55
95) 1,2,4-Trimethylbenzene	14.64	105	753	0.02	PPB	91

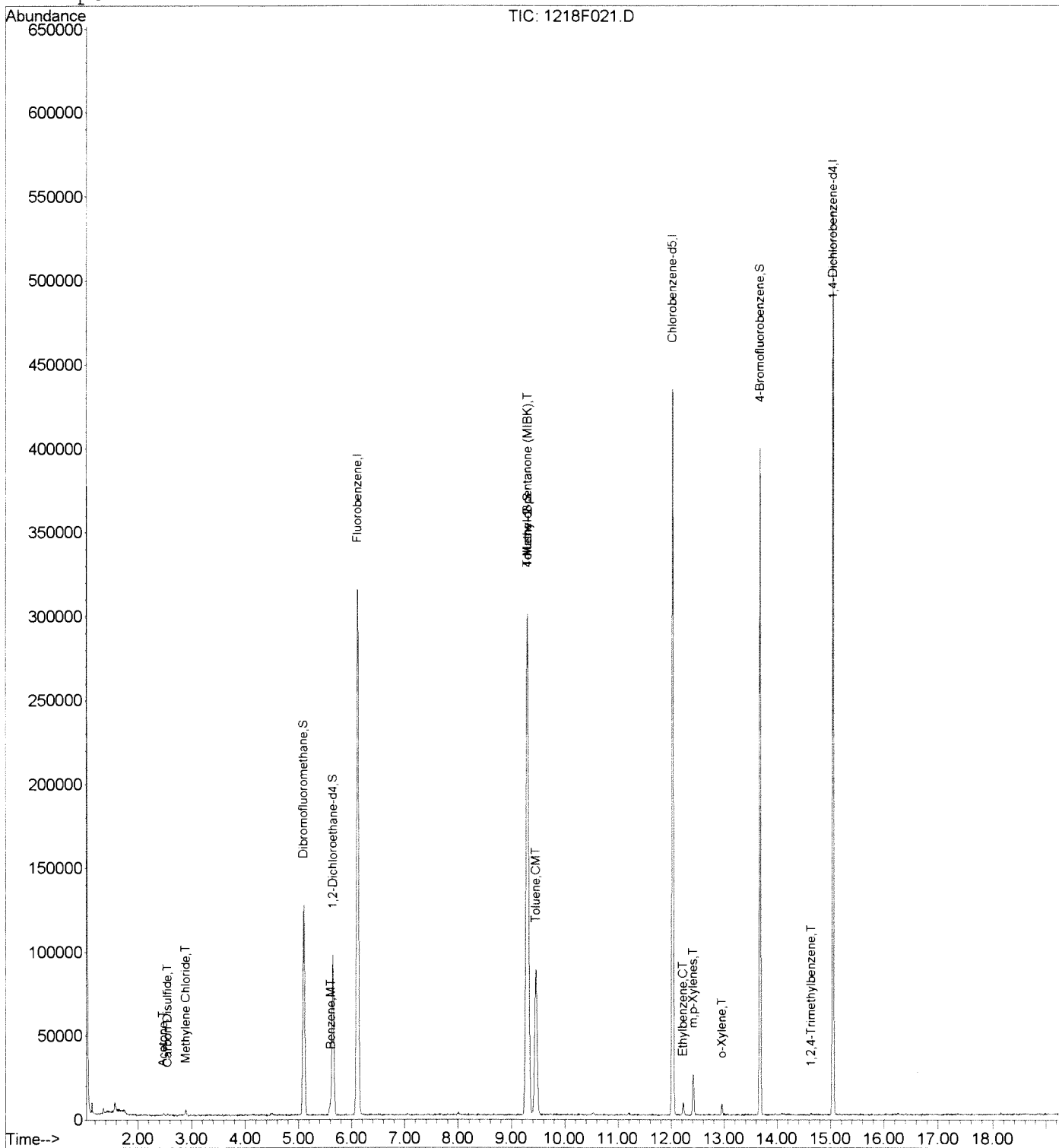
(#) = qualifier out of range (m) = manual integration

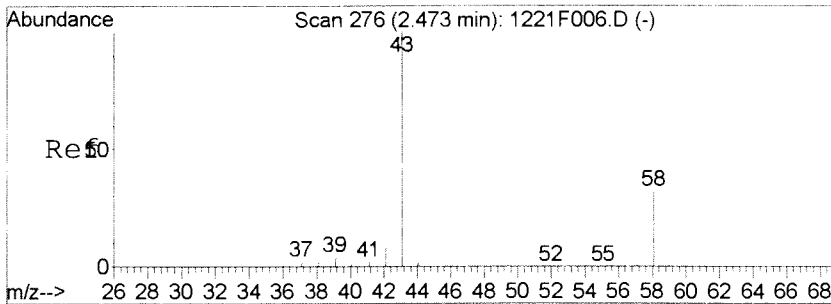
Data File : J:\MS13\DATA\121814\1218F021.D
 Acq On : 18 Dec 2014 4:37 pm
 Sample : K13809-002
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 22 13:34 2014

Vial: 18
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8

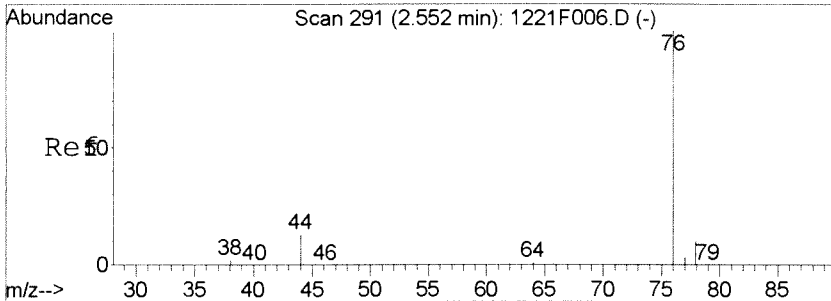
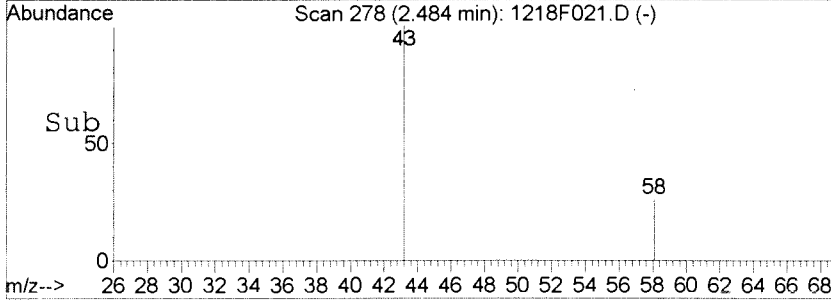
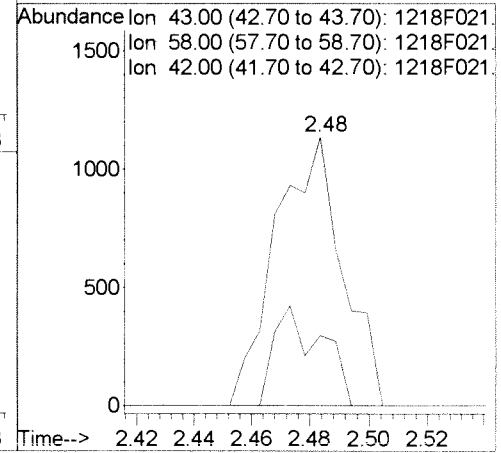
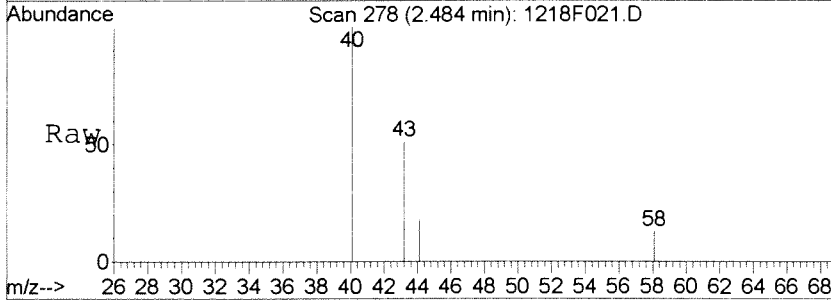
Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration





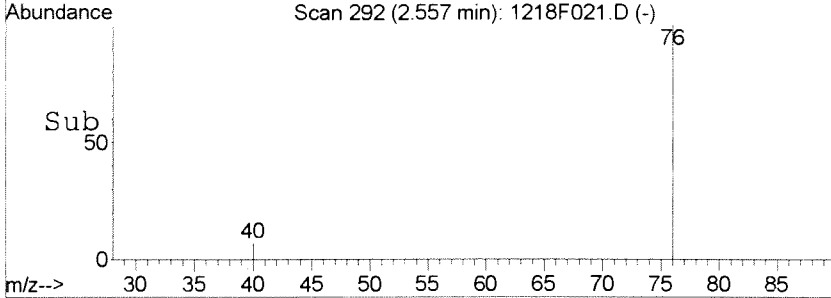
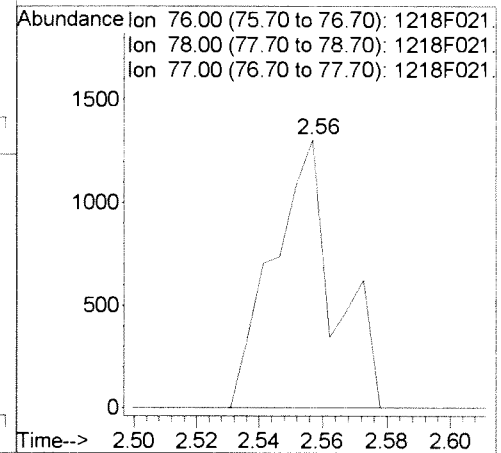
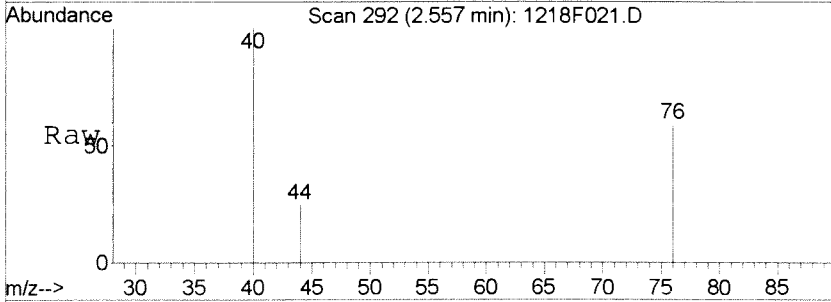
#13
 Acetone
 Concen: 1.38 PPB
 RT: 2.48 min Scan# 278
 Delta R.T. 0.01 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

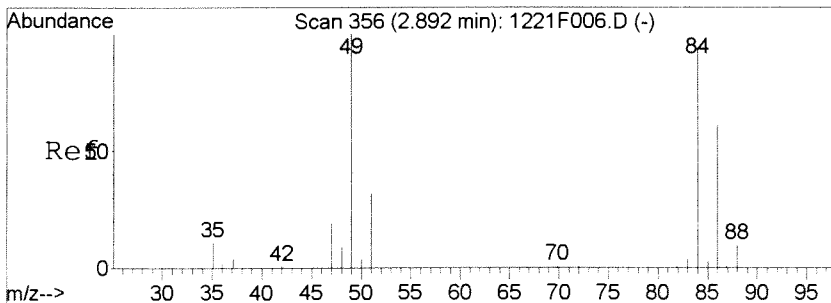
Tgt Ion	Resp	Lower	Upper
43	1802		
58	26.1	1.1	61.1
42	0.0	0.0	38.4



#15
 Carbon Disulfide
 Concen: 0.06 PPB
 RT: 2.56 min Scan# 292
 Delta R.T. 0.01 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

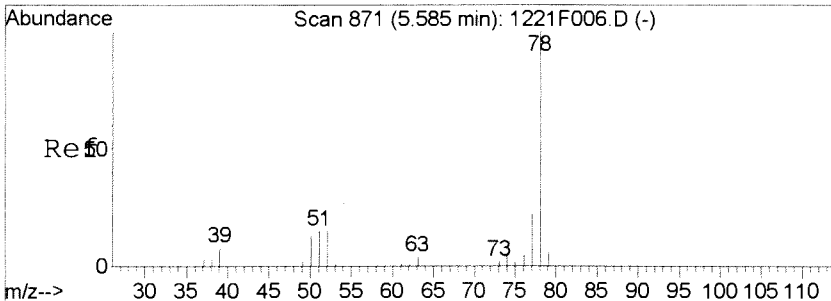
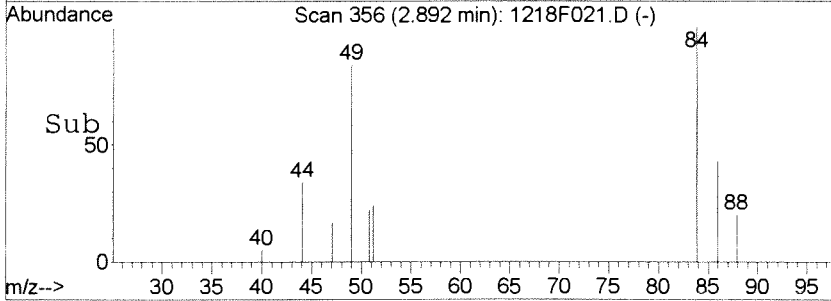
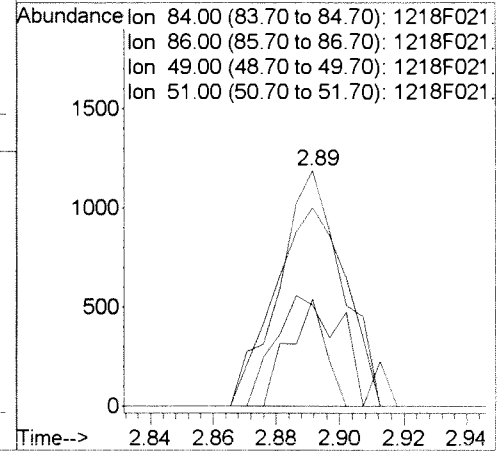
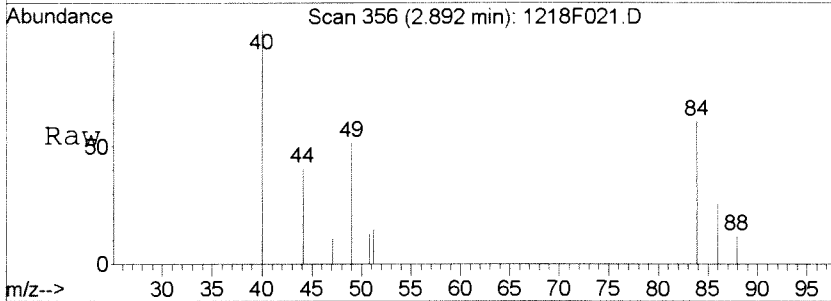
Tgt Ion	Resp	Lower	Upper
76	1756		
78	0.0	0.0	38.5
77	0.0	0.0	32.8





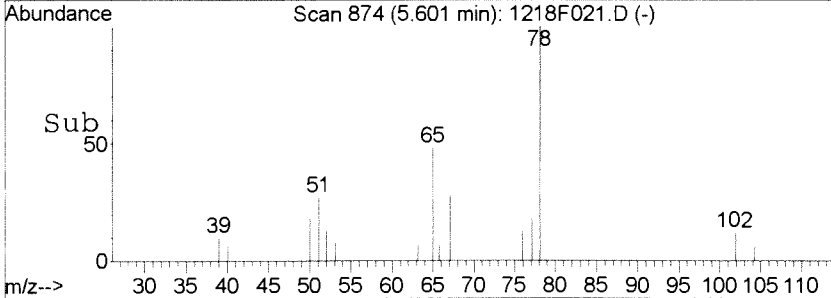
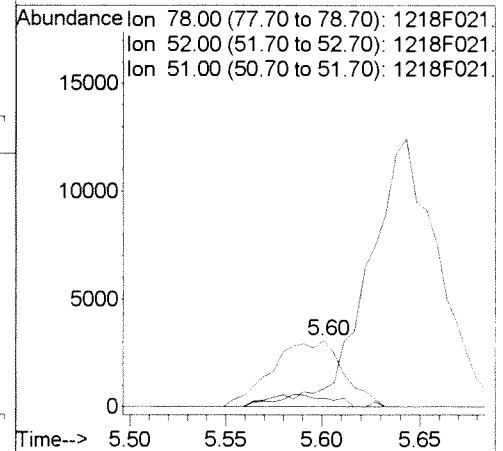
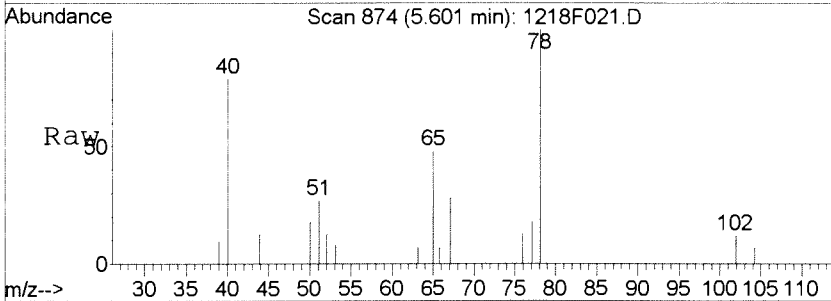
#20
 Methylene Chloride
 Concen: 0.15 PPB
 RT: 2.89 min Scan# 356
 Delta R.T. -0.00 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

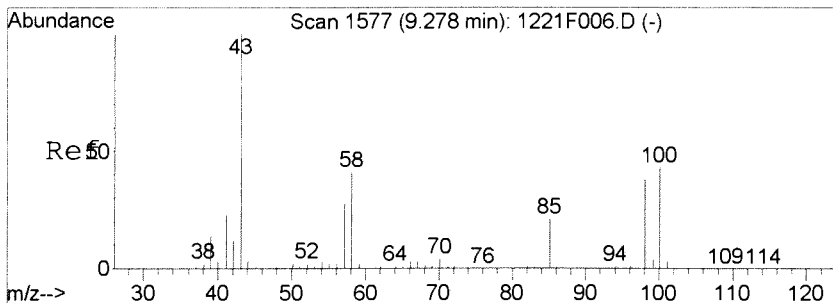
Tgt Ion	Resp	Lower	Upper
84	1644		
84	100		
86	42.8	33.7	93.7
49	84.3	82.9	142.9
51	45.5	3.5	63.5



#48
 Benzene
 Concen: 0.18 PPB
 RT: 5.60 min Scan# 874
 Delta R.T. 0.01 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

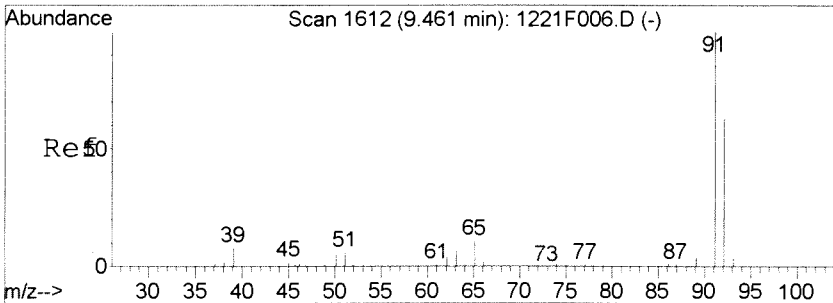
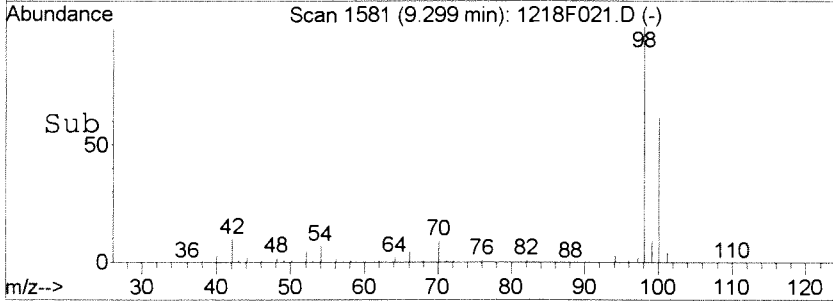
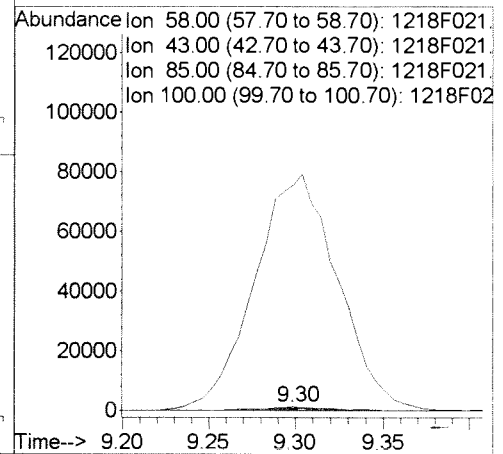
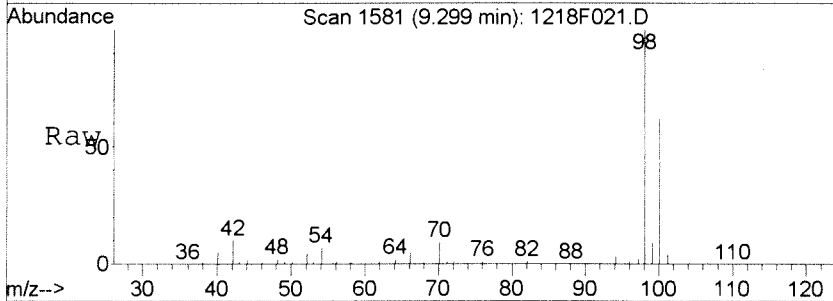
Tgt Ion	Resp	Lower	Upper
78	7826		
78	100		
52	13.4	0.0	44.9
51	27.3	0.0	45.4





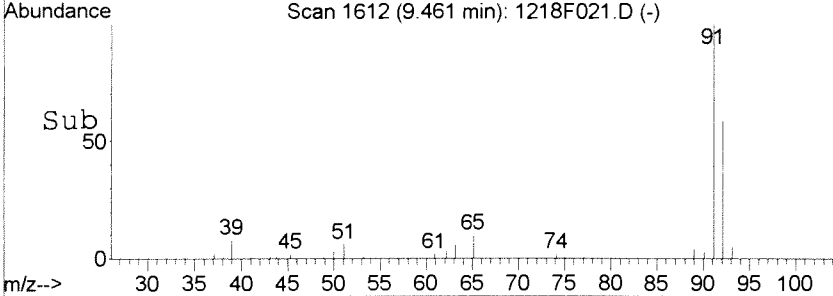
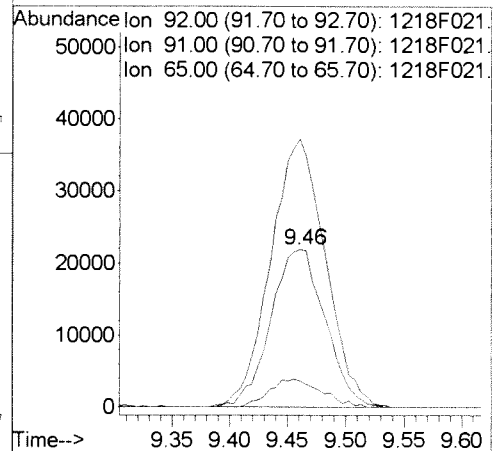
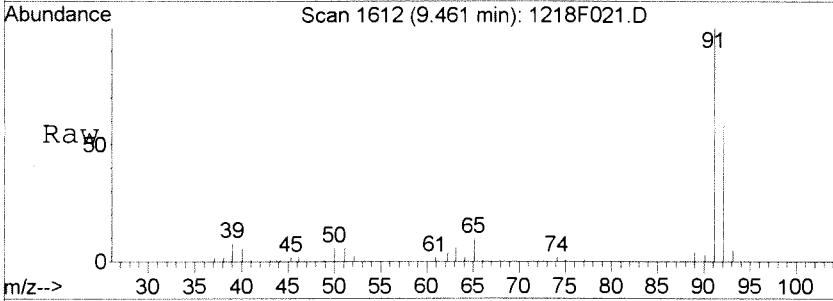
#61
 4-Methyl-2-pentanone (MIBK)
 Concen: 1.87 PPB
 RT: 9.30 min Scan# 1581
 Delta R.T. 0.02 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

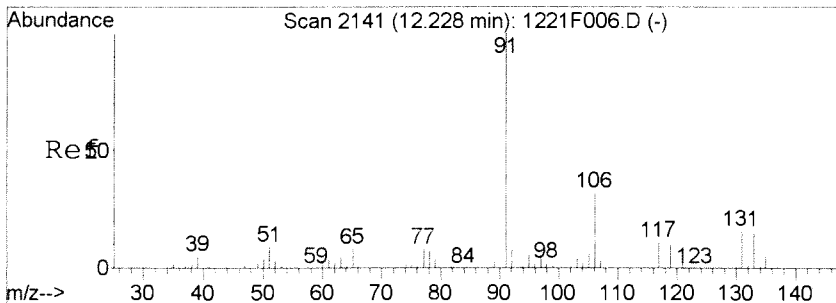
Tgt Ion	Resp	Lower	Upper
58	2859		
58	100		
43	56.1	218.0	278.0#
85	20.5	20.1	80.1
100	5906.3	72.0	132.0#



#63
 Toluene
 Concen: 2.34 PPB
 RT: 9.46 min Scan# 1612
 Delta R.T. -0.00 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

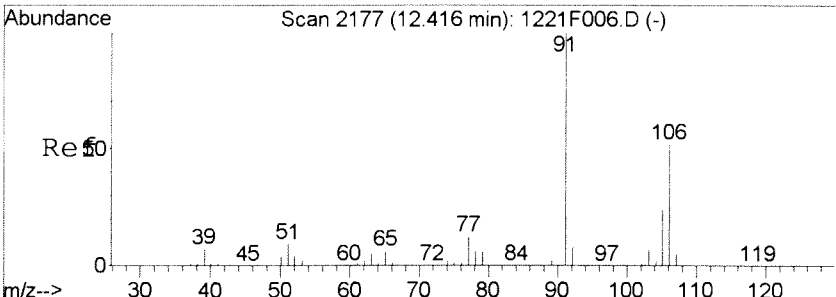
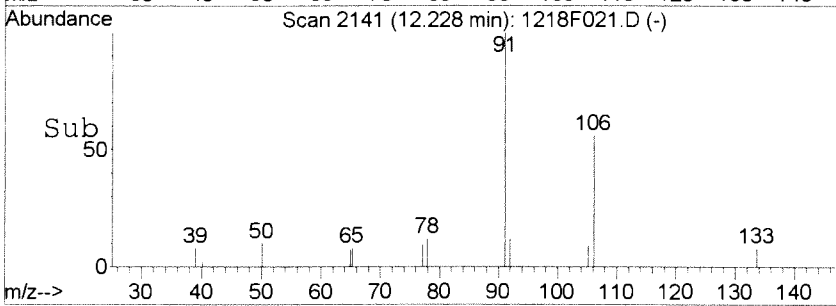
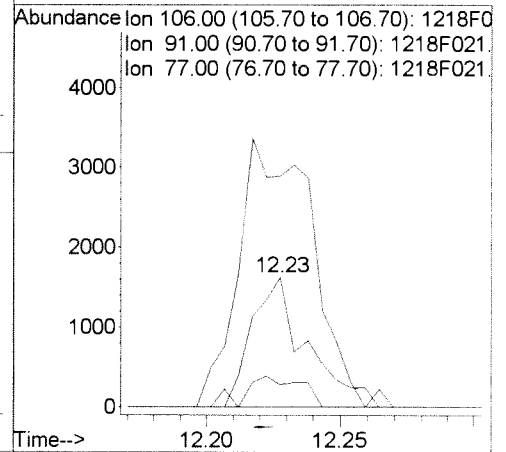
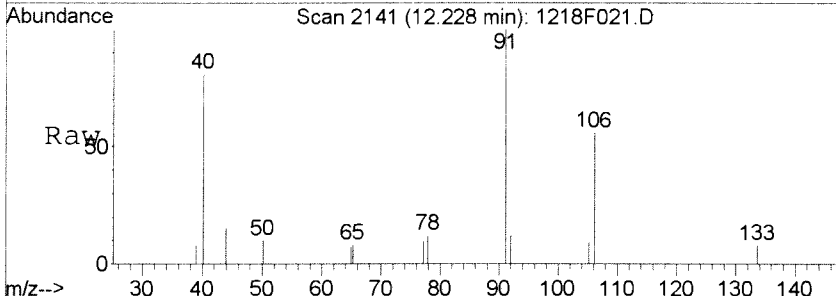
Tgt Ion	Resp	Lower	Upper
92	71209		
92	100		
91	170.2	129.4	189.4
65	16.8	0.0	47.8





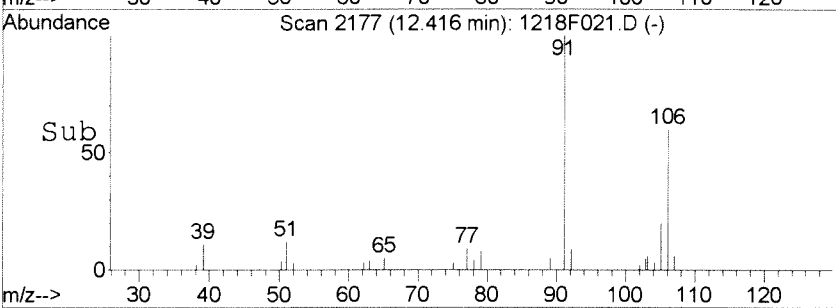
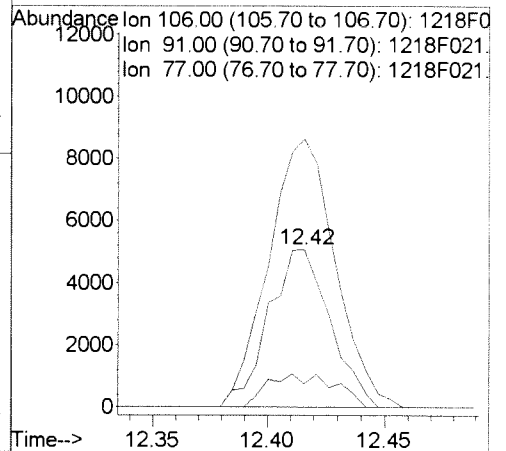
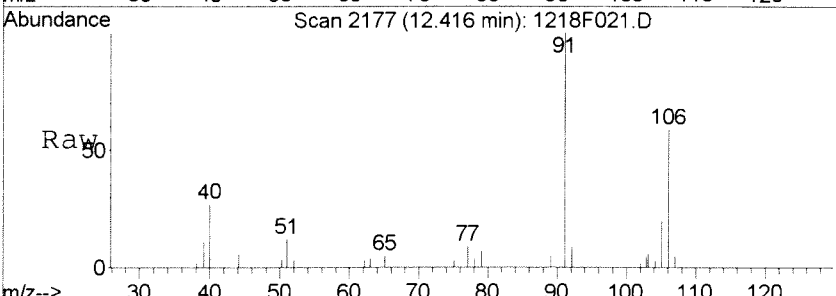
#76
 Ethylbenzene
 Concen: 0.13 PPB -
 RT: 12.23 min Scan# 2141
 Delta R.T. -0.00 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

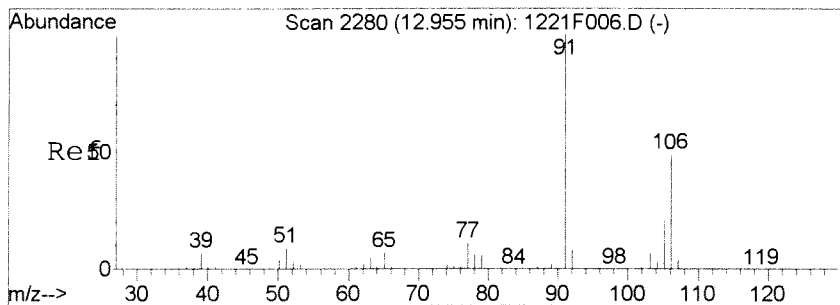
Tgt Ion	Resp	Lower	Upper
106	100		
91	178.3	273.7	333.7#
77	17.4	0.0	56.0



#78
 m,p-Xylenes
 Concen: 0.44 PPB
 RT: 12.42 min Scan# 2177
 Delta R.T. -0.00 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

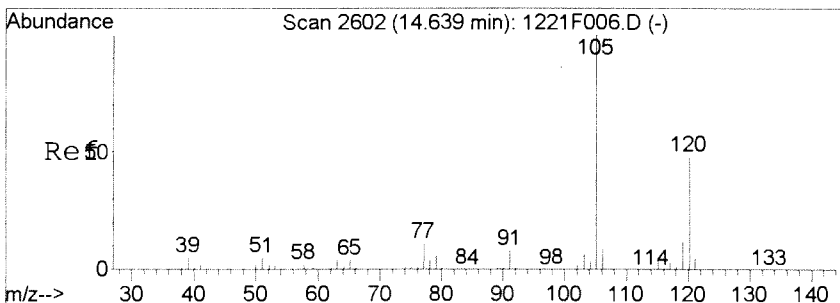
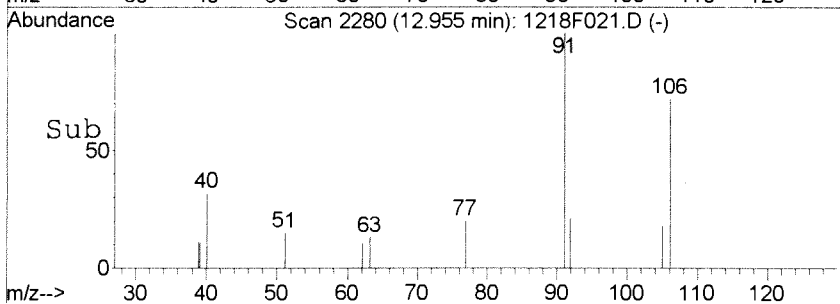
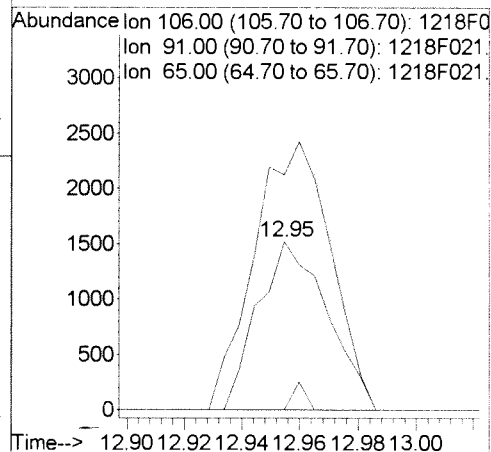
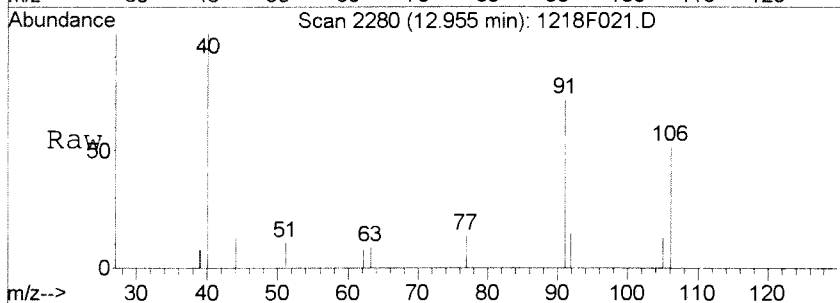
Tgt Ion	Resp	Lower	Upper
106	100		
91	170.0	166.3	226.3
77	15.0	0.0	54.3





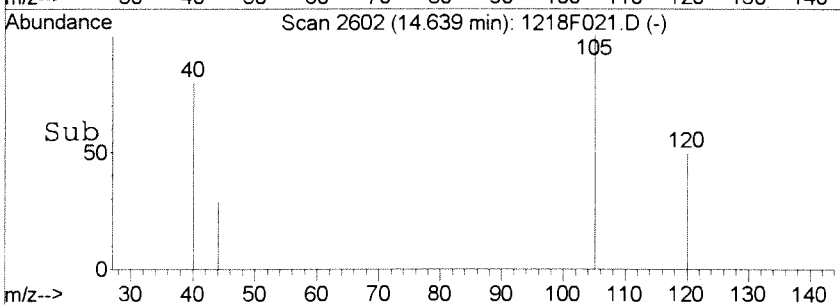
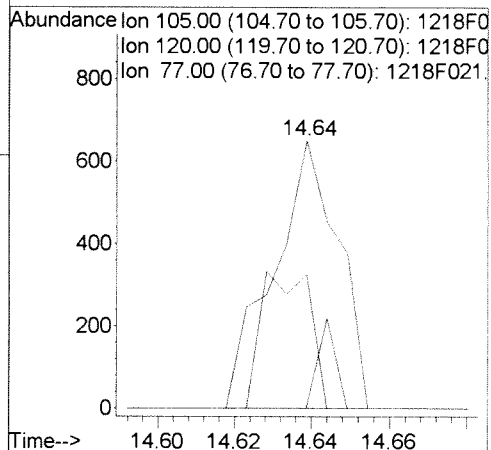
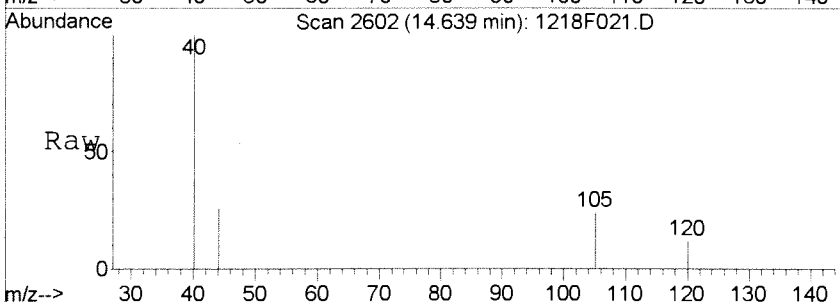
#79
 o-Xylene
 Concen: 0.13 PPB
 RT: 12.95 min Scan# 2280
 Delta R.T. -0.00 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

Tgt Ion	Resp	Lower	Upper
106	2526		
91	139.7	181.0	241.0#
65	0.0	0.0	43.6



#95
 1,2,4-Trimethylbenzene
 Concen: 0.02 PPB
 RT: 14.64 min Scan# 2602
 Delta R.T. -0.00 min
 Lab File: 1218F021.D
 Acq: 18 Dec 2014 4:37 pm

Tgt Ion	Resp	Lower	Upper
105	753		
120	50.0	17.5	77.5
77	0.0	0.0	41.7



Exception Report

Data File: J:\MS13\DATA\121814\1218F011.D
 Lab ID: KWG1416392-5
 RunType: MB
 Matrix: WATER

Date Acquired: 12/18/2014 12:07
 Date Quantitated: 12/18/2014 12:37
 Batch ID: KWG1416381
 Analysis Method: 8260C
 MethodJoinID: MJ1093

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA		x
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	Acrolein	0.0064	0.01	NA	
	Acetonitrile	0.0072	0.01	NA	
	tert-Butyl Alcohol	0.0046	0.01	NA	
	Isobutyl Alcohol	0.0030	0.01	NA	
	1,4-Dioxane	0.0010	0.01	NA	
Second Source ICAL Verification	Acrolein	33.1	NA	30	
Continuing Calibration Recovery	Naphthalene	-28.7	NA	20	
Continuing Calibration Minimum RF	Acetonitrile	0.0068	0.01	NA	
	tert-Butyl Alcohol	0.0039	0.01	NA	
	Isobutyl Alcohol	0.0028	0.01	NA	
	1,4-Dioxane	0.0011	0.01	NA	

Primary Review: KR 12/23/14

Secondary Review: AD 12/23/14

Quantitation Report

Data File:	J:\MS13\DATA\121814\1218F011.D	Instrument:	MS13
Acqu Date:	12/18/2014 12:07	Quant Date:	12/18/2014 12:37
Run Type:	MB	Vial:	8
Lab ID:	KWG1416392-5	Dilution:	1.0
		Soln Conc. Units:	PPB

Bottle ID:	Tier:	Matrix:	WATER
Prod Code:	8260C VOC Unp	Collect Date:	12/18/2014

Analysis Lot:	Prep Lot:	Report Group:
Analysis Method:	Prep Method:	
Prep Ref:	Prep Date:	

Quant Method:	Title:	Calibration ID:
Tune Ref:	MB Ref:	Method ID:
		Quant based on Method

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	427362	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	157539	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	153094	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.09	0.00	0.00	113	98897	10.54	105	85-115	OK
1	1,2-Dichloroethane-d4	5.64	0.00	0.00	65	89867	10.46	105	70-120	OK
1	Toluene-d8	9.30	0.00	0.00	98	412316	9.70	97	85-120	OK
2	4-Bromofluorobenzene	13.68	0.00	0.00	95	128213	9.81	98	75-120	OK

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane				85	0		0.13	U	
1	Chloromethane				50	0		0.068	U	
1	Vinyl Chloride				62	0		0.075	U	
1	Bromomethane				96	0		0.10	U	
1	Chloroethane				64	0		0.16	U	
1	Trichlorofluoromethane				101	0		0.12	U	
1	Acrolein				56	0		1.2	U	
1	Trichlorotrifluoroethane				151	0		0.13	U	
1	1,1-Dichloroethene				96	0		0.080	U	
1	Acetone				43	0		3.3	U	
1	Iodomethane				142	0		0.12	U	
1	Carbon Disulfide	2.55		0.00	76	4930	0.1500	0.150	J	
1	3-Chloro-1-propene				76	0d		0.094	U	
1	Acetonitrile				40	0d		4.5	U	

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F011.D	Instrument:	MS13
Acqu Date:	12/18/2014 12:07	Quant Date:	12/18/2014 12:37
Run Type:	MB	Vial:	8
Lab ID:	KWG1416392-5	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

						Final Conc. Units: ug/L				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Methylene Chloride	2.89		0.00	84	909	0.0800	0.10	U	
1	tert-Butyl Alcohol				59	0		4.4	U	
1	Acrylonitrile				53	0		0.28	U	
1	Methyl tert-Butyl Ether				73	0		0.11	U	
1	trans-1,2-Dichloroethene				96	0		0.072	U	
1	Diisopropyl Ether				45	0		0.048	U	
1	1,1-Dichloroethane				63	0		0.077	U	
1	Vinyl Acetate				86	0		0.43	U	
1	Chloroprene				53	0		3.6	U	
1	tert-Butyl Ethyl Ether				59	0		0.048	U	
1	2,2-Dichloropropane				77	0		0.060	U	
1	cis-1,2-Dichloroethene				96	0		0.067	U	
1	2-Butanone (MEK)				72	0		1.9	U	
1	Propionitrile				54	0		1.1	U	
1	Ethyl Acetate				61	0		0.57	U	
1	Methacrylonitrile				67	0		0.32	U	
1	Bromochloromethane				128	0		0.16	U	
1	Chloroform				83	0		0.072	U	
1	1,1,1-Trichloroethane (TCA)				97	0		0.075	U	
1	Carbon Tetrachloride				117	0		0.096	U	
1	1,1-Dichloropropene				75	0		0.089	U	
1	Isobutyl Alcohol				43	0		6.9	U	
1	Benzene				78	0		0.062	U	
1	1,2-Dichloroethane (EDC)				62	0		0.080	U	
1	tert-Amyl Methyl Ether				55	0		0.098	U	
1	Trichloroethene (TCE)				95	0		0.10	U	
1	1,2-Dichloropropane				63	0		0.095	U	
1	Dibromomethane				93	0		0.15	U	
1	Methyl Methacrylate				69	0		0.13	U	
1	1,4-Dioxane				88	0		11	U	
1	Bromodichloromethane				83	0		0.091	U	
1	2-Nitropropane				43	0		0.96	U	
1	2-Chloroethyl Vinyl Ether				63	0		0.16	U	
1	cis-1,3-Dichloropropene				75	0		0.18	U	
1	4-Methyl-2-pentanone (MIBK)	9.30	0.03	0.00	58	2653	1.69	2.6	U	
1	Toluene				92	0		0.054	U	
2	trans-1,3-Dichloropropene				75	0		0.068	U	
2	Ethyl Methacrylate				69	0		0.15	U	
2	1,1,2-Trichloroethane				83	0		0.14	U	
2	Tetrachloroethene (PCE)				164	0		0.099	U	
2	2-Hexanone				57	0		2.7	U	
2	1,3-Dichloropropane				76	0		0.14	U	

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAI
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAI
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F011.D	Instrument:	MS13
Acqu Date:	12/18/2014 12:07	Quant Date:	12/18/2014 12:37
Run Type:	MB	Vial:	8
Lab ID:	KWG1416392-5	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

		Final Conc. Units:		ug/L						
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Dibromochloromethane				129	0		0.14	U	
2	1,2-Dibromoethane (EDB)				107	0		0.10	U	
2	1-Chlorohexane				91	0d		0.058	U	
2	Chlorobenzene				112	0		0.11	U	
2	Ethylbenzene				106	0		0.050	U	
2	1,1,1,2-Tetrachloroethane				131	0		0.11	U	
2	m,p-Xylenes				106	0		0.11	U	
2	o-Xylene				106	0		0.074	U	
2	Styrene				103	0		0.089	U	
2	Bromoform				173	0		0.16	U	
2	Isopropylbenzene				105	0		0.051	U	
2	cis-1,4-Dichloro-2-butene				89	0		1.4	U	
3	1,1,2,2-Tetrachloroethane				83	0		0.16	U	
3	trans-1,4-Dichloro-2-butene				53	0		0.35	U	
3	Bromobenzene				156	0		0.12	U	
3	n-Propylbenzene				91	0		0.054	U	
3	1,2,3-Trichloropropane				110	0		0.20	U	
3	2-Chlorotoluene				91	0		0.10	U	
3	1,3,5-Trimethylbenzene				105	0		0.089	U	
3	4-Chlorotoluene				91	0		0.13	U	
3	tert-Butylbenzene				119	0		0.059	U	
3	1,2,4-Trimethylbenzene				105	0		0.069	U	
3	sec-Butylbenzene				105	0d		0.062	U	
3	4-Isopropyltoluene				119	0		0.060	U	
3	1,3-Dichlorobenzene				146	0		0.10	U	
3	1,4-Dichlorobenzene				146	0		0.12	U	
3	n-Butylbenzene				91	0		0.054	U	
3	1,2-Dichlorobenzene				146	0		0.12	U	
3	1,2-Dibromo-3-chloropropane				155	0		0.20	U	
3	1,3,5-Trichlorobenzene				180	0		0.10	U	
3	1,2,4-Trichlorobenzene	17.21		0.00	180	549	0.0400	0.096	U	
3	Hexachlorobutadiene				225	0		0.11	U	
3	Naphthalene	17.47		0.00	128	618	0.0300	0.088	U	
3	1,2,3-Trichlorobenzene	17.72	-0.01	0.00	180	558	0.0400	0.11	U	

Prep Amount: 10 ml Dilution: 1.0
 Prep Final Vol: 10 ml Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL, also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound
 D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis
 *: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File : J:\MS13\DATA\121814\1218F011.D
 Acq On : 18 Dec 2014 12:07 pm
 Sample : MB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 12:36:45 2014

Vial: 8
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

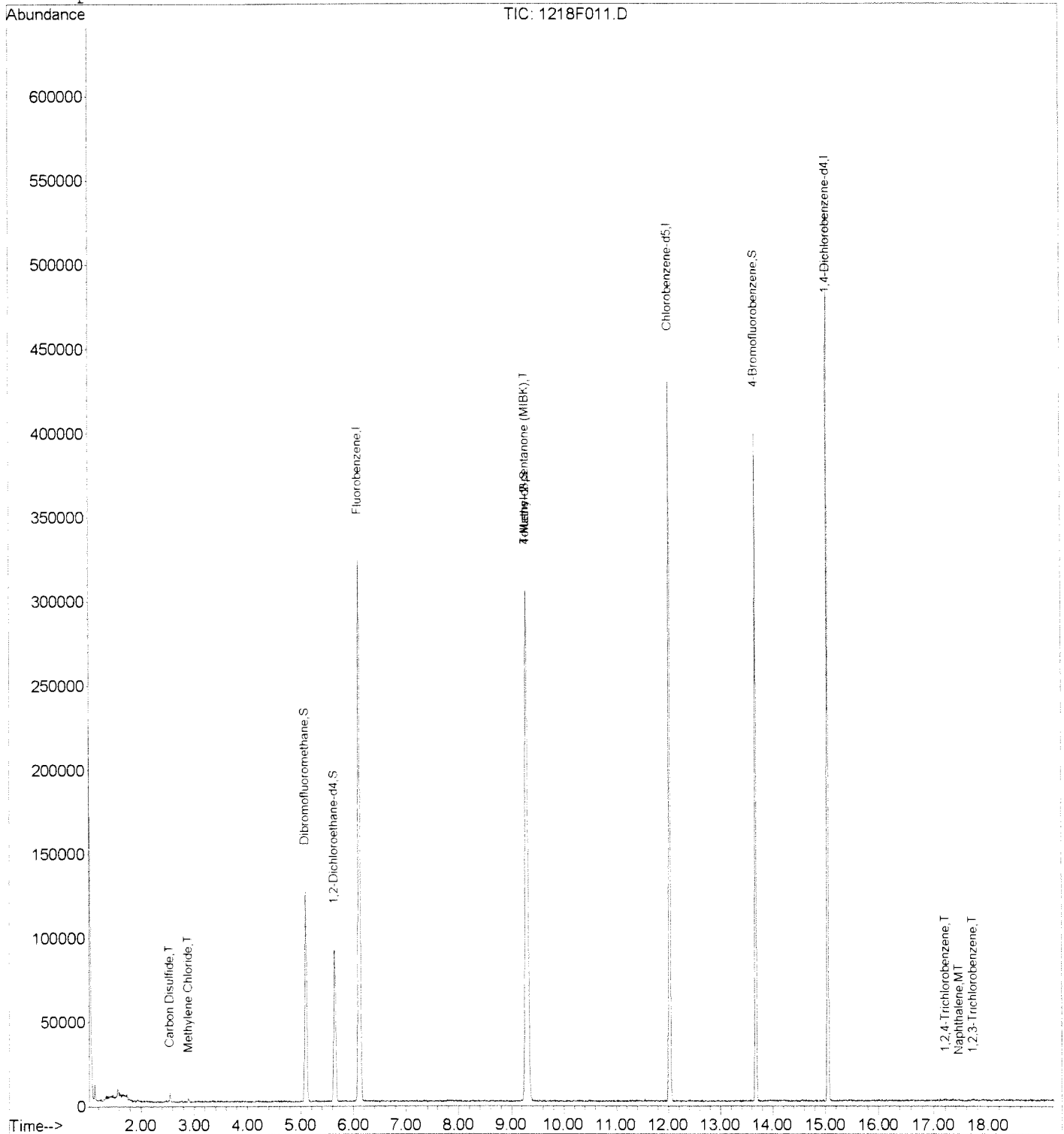
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Fluorobenzene	6.11	96	427362	10.00	PPB	0.00	
64) Chlorobenzene-d5	12.02	82	157539	10.00	PPB	0.00	
85) 1,4-Dichlorobenzene-d4	15.05	152	153094	10.00	PPB	0.00	
System Monitoring Compounds							
42) Dibromofluoromethane	5.09	113	98897	10.54	PPB	0.00	
Spiked Amount	10.000		Recovery	=	105.40%		
47) 1,2-Dichloroethane-d4	5.64	65	89867	10.46	PPB	0.00	
Spiked Amount	10.000		Recovery	=	104.60%		
62) Toluene-d8	9.30	98	412316	9.70	PPB	0.00	
Spiked Amount	10.000		Recovery	=	97.00%		
84) 4-Bromofluorobenzene	13.68	95	128213	9.81	PPB	0.00	
Spiked Amount	10.000		Recovery	=	98.10%		
Target Compounds							
15) Carbon Disulfide	2.55	76	4930	0.15	PPB		Qvalue 81
20) Methylene Chloride	2.89	84	909	0.08	PPB	#	80
61) 4-Methyl-2-pentanone (MIBK)	9.30	58	2653	1.69	PPB	#	1
104) 1,2,4-Trichlorobenzene	17.21	180	549	0.04	PPB		80
106) Naphthalene	17.47	128	618	0.03	PPB		72
107) 1,2,3-Trichlorobenzene	17.72	180	558	0.04	PPB	#	59

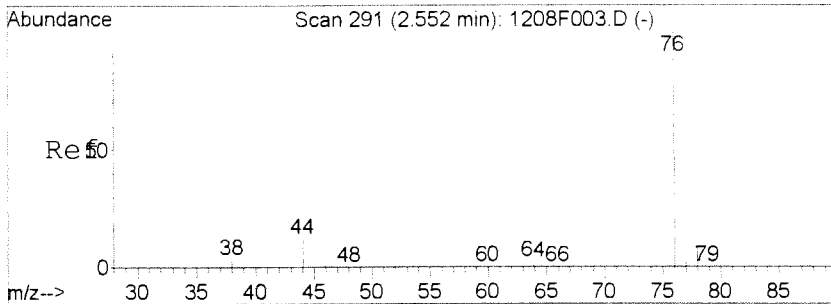
Data File : J:\MS13\DATA\121814\1218F011.D
Acq On : 18 Dec 2014 12:07 pm
Sample : MB
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 18 12:37 2014

Vial: 8
Operator: KR
Inst : MS13
Multiplr: 1.00

Quant Results File: 101714MS13_8

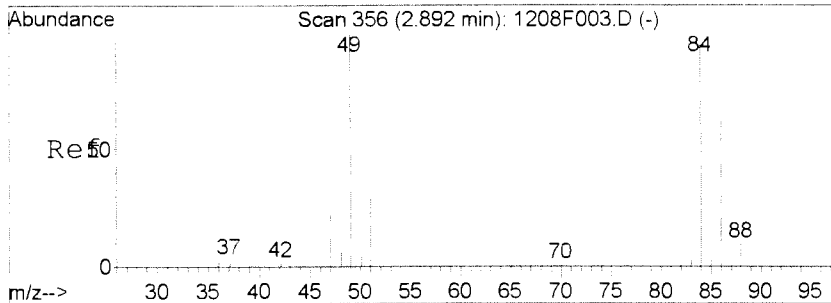
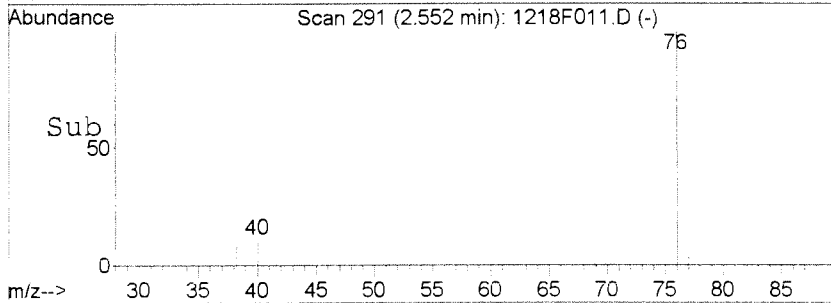
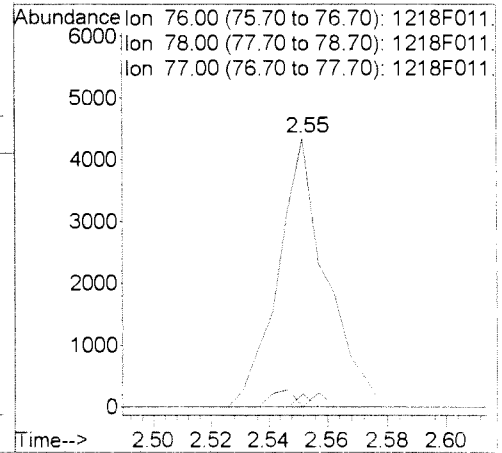
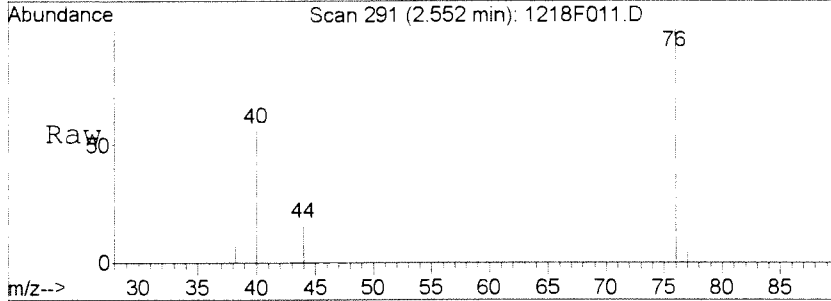
Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Oct 30 20:22:08 2014
Response via : Initial Calibration





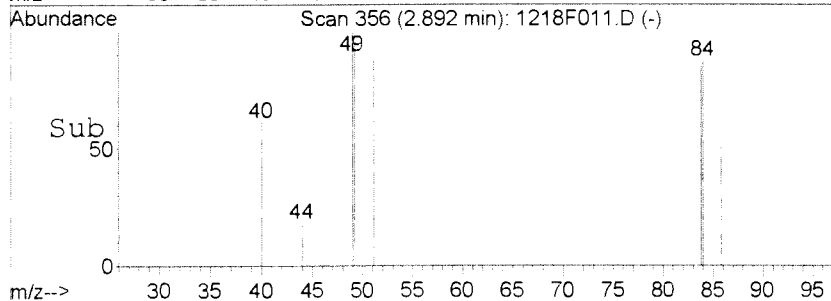
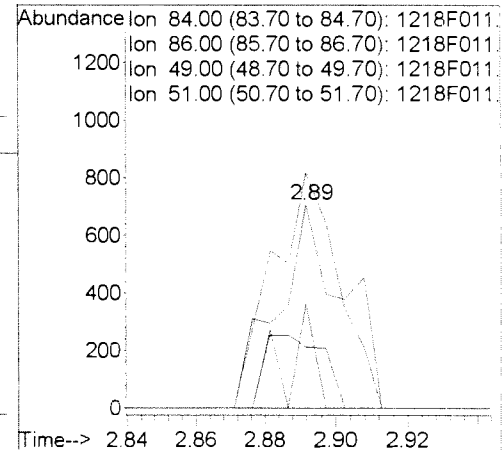
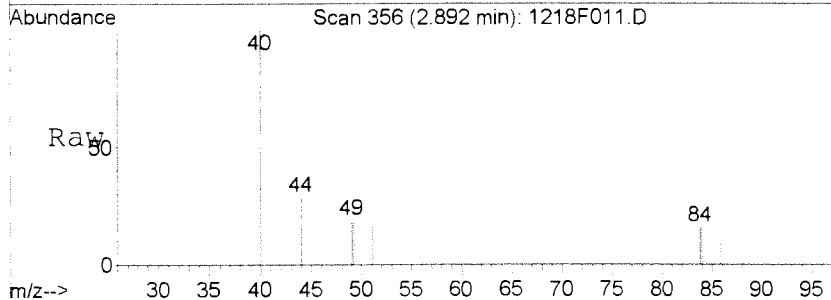
#15
 Carbon Disulfide
 Concen: 0.15 PPB
 RT: 2.55 min Scan# 291
 Delta R.T. 0.00 min
 Lab File: 1218F011.D
 Acq: 18 Dec 2014 12:07 pm

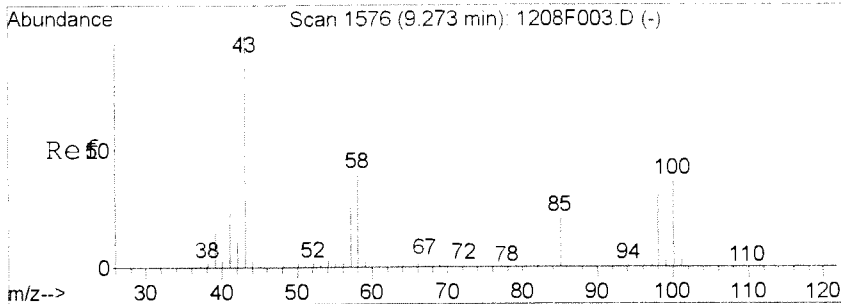
Tgt Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	38.5
77	4.9	0.0	32.8



#20
 Methylene Chloride
 Concen: 0.08 PPB.
 RT: 2.89 min Scan# 356
 Delta R.T. 0.00 min
 Lab File: 1218F011.D
 Acq: 18 Dec 2014 12:07 pm

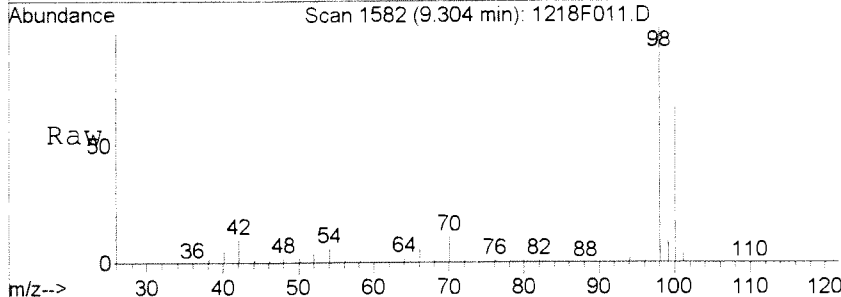
Tgt Ion	Ratio	Lower	Upper
84	100		
86	30.0	33.7	93.7#
49	115.8	82.9	142.9
51	51.5	3.5	63.5



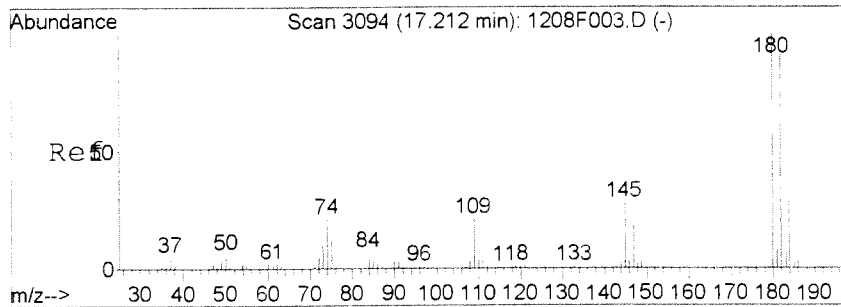
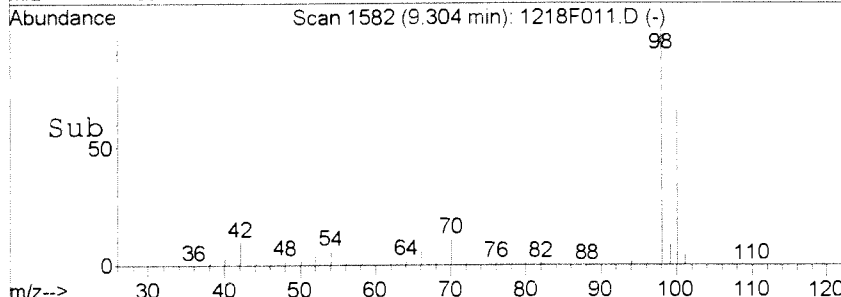
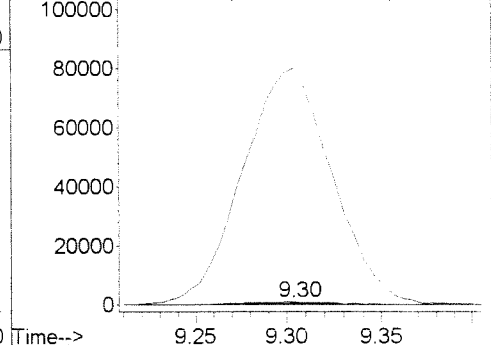


#61
 4-Methyl-2-pentanone (MIBK)
 Concen: 1.69 PPB
 RT: 9.30 min Scan# 1582
 Delta R.T. 0.03 min
 Lab File: 1218F011.D
 Acq: 18 Dec 2014 12:07 pm

Tgt Ion	Resp	Lower	Upper
58	2653		
58	100		
43	44.3	218.0	278.0#
85	0.0	20.1	80.1#
100	9678.8	72.0	132.0#

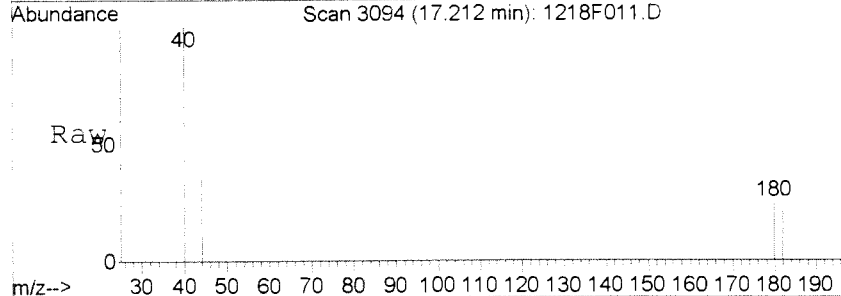


Abundance Ion 58.00 (57.70 to 58.70): 1218F011
 Ion 43.00 (42.70 to 43.70): 1218F011
 Ion 85.00 (84.70 to 85.70): 1218F011
 Ion 100.00 (99.70 to 100.70): 1218F011

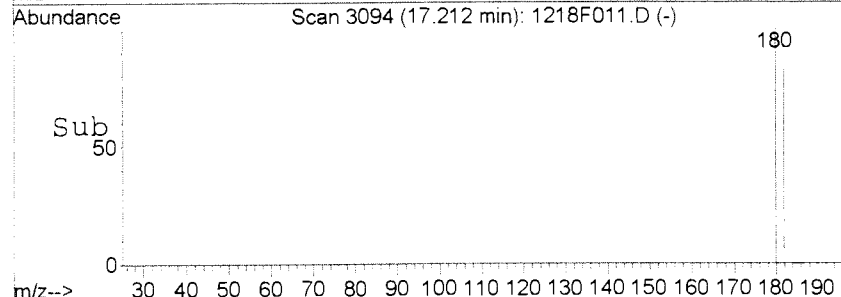
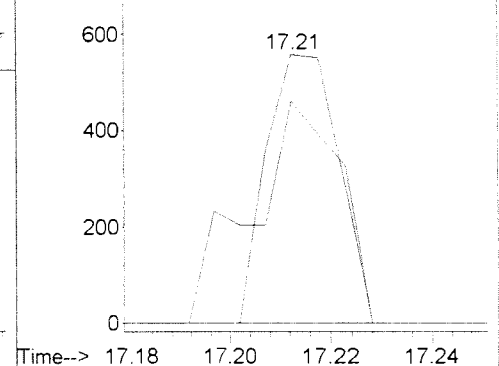


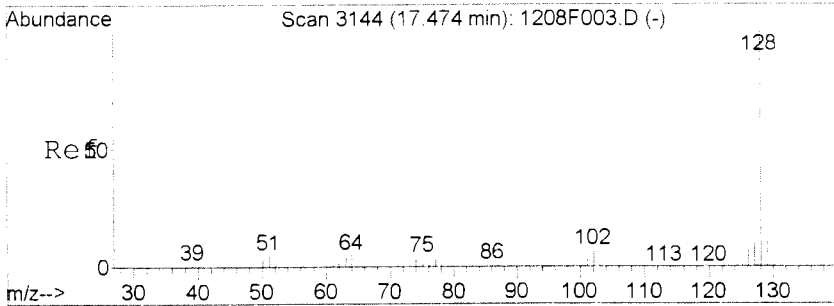
#104
 1,2,4-Trichlorobenzene
 Concen: 0.04 PPB
 RT: 17.21 min Scan# 3094
 Delta R.T. 0.00 min
 Lab File: 1218F011.D
 Acq: 18 Dec 2014 12:07 pm

Tgt Ion	Resp	Lower	Upper
180	549		
180	100		
182	82.8	65.1	125.1
145	0.0	0.0	55.0



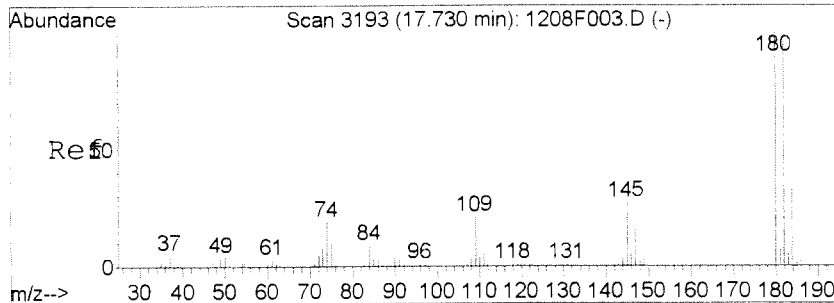
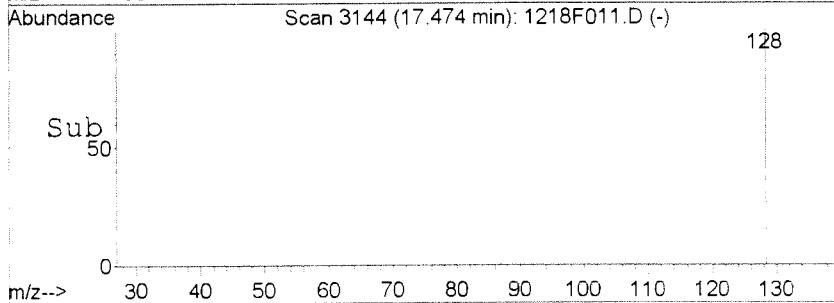
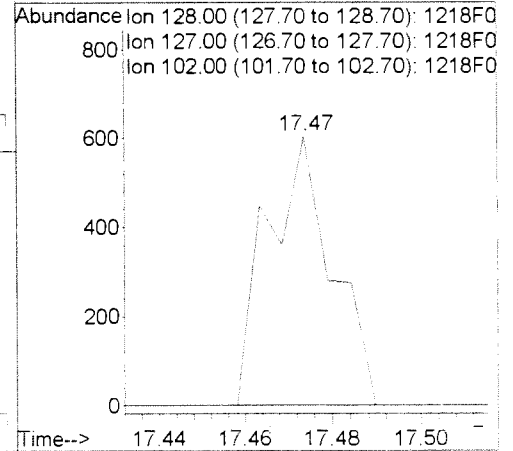
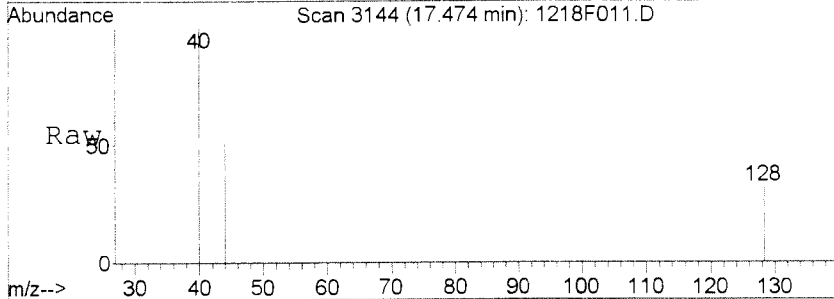
Abundance Ion 180.00 (179.70 to 180.70): 1218F0
 Ion 182.00 (181.70 to 182.70): 1218F0
 Ion 145.00 (144.70 to 145.70): 1218F0





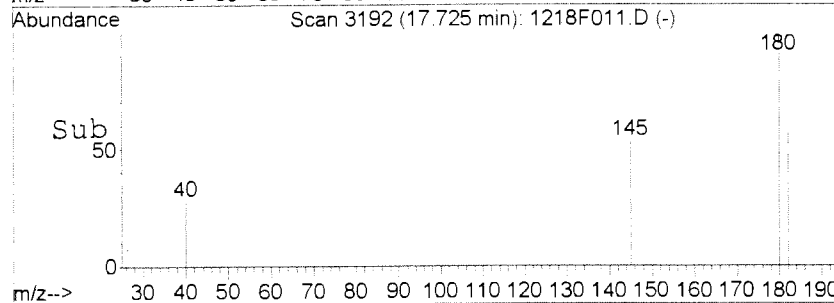
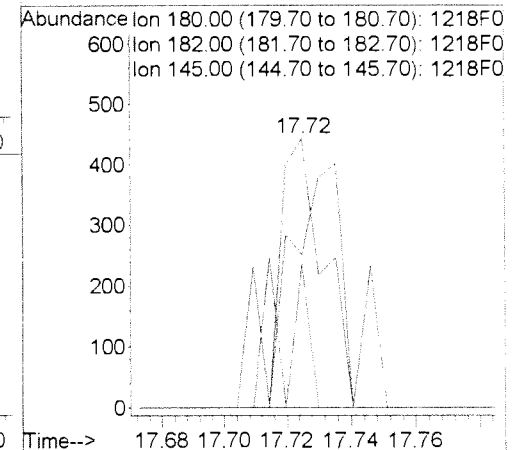
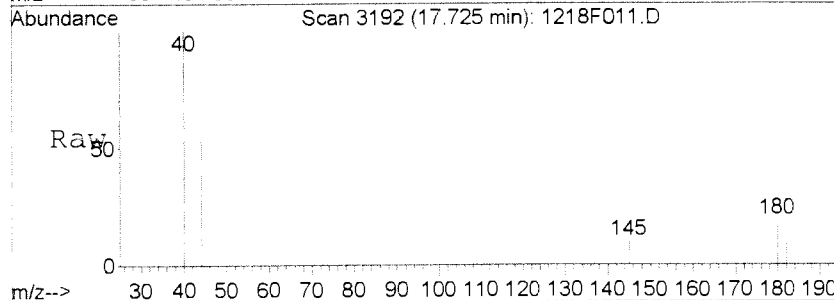
#106
 Naphthalene
 Concen: 0.03 PPB
 RT: 17.47 min Scan# 3144
 Delta R.T. 0.00 min
 Lab File: 1218F011.D
 Acq: 18 Dec 2014 12:07 pm

Tgt Ion	Ratio	Lower	Upper
128	100		
127	0.0	0.0	42.2
102	0.0	0.0	38.7



#107
 1,2,3-Trichlorobenzene
 Concen: 0.04 PPB
 RT: 17.72 min Scan# 3192
 Delta R.T. -0.01 min
 Lab File: 1218F011.D
 Acq: 18 Dec 2014 12:07 pm

Tgt Ion	Ratio	Lower	Upper
180	100		
182	56.7	65.0	125.0#
145	53.5	0.0	58.6



Exception Report

Data File: J:\MS13\DATA\121814\1218F012.D
Lab ID: K1414067-002
RunType: SMPL
Matrix: WATER

Date Acquired: 12/18/2014 12:34
Date Quantitated: 12/18/2014 13:38
Batch ID: KWG1416381
Analysis Method: 8260C
ListJoinID: LJ9560

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: KA 12/18/14

Secondary Review: QA 12.23.14

Quantitation Report

Data File: J:\MS13\DATA\121814\1218F012.D	Instrument: MS13
Acqu Date: 12/18/2014 12:34	Quant Date: 12/18/2014 13:38
Run Type: SMPL	Vial: 9
Lab ID: K1414067-002	Dilution: 1.0
	Soln Conc. Units: PPB

Bottle ID:	Tier: V	Matrix: WATER
Prod Code: 8260C VOC FP	Collect Date: 12/15/2014	Receive Date: 12/16/2014

Analysis Lot: KWG1416381	Prep Lot: KWG1416392	Report Group: K1414067
Analysis Method: 8260C	Prep Method: EPA 5030B	
Prep Ref: 1404436	Prep Date: 12/18/2014	

Quant Method: J:\MS13\METHODS\101714MS13_8	Calibration ID: CAL13625
Title: Volatile Organic Compounds	Report List ID: LJ9560
Tune Ref: J:\MS13\DATA\121814\1218F001.D	Method ID: MJ119
MB Ref: J:\MS13\DATA\121814\1218F011.D	Quant based on Report List

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	434144	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	160100	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	155310	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.09	0.00	0.00	113	98966	10.38	104	73-122	OK
1	Toluene-d8	9.30	0.00	0.00	98	415949	9.63	96	65-144	OK
2	4-Bromofluorobenzene	13.68	0.00	0.00	95	131693	9.92	99	68-117	OK

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Vinyl Chloride				62	0		0.075	U	
1	1,1-Dichloroethene				96	0		0.080	U	
1	2-Butanone (MEK)				72	0		1.9	U	
1	Chloroform	4.85		0.00	83	6114	0.3100	0.31	J	
1	Carbon Tetrachloride				117	0		0.096	U	
1	Benzene				78	0		0.062	U	
1	1,2-Dichloroethane (EDC)				62	0		0.080	U	
1	Trichloroethene (TCE)				95	0		0.10	U	
2	Tetrachloroethene (PCE)				164	0		0.099	U	
2	Chlorobenzene				112	0		0.11	U	
3	1,4-Dichlorobenzene	15.07		0.00	146	1589	0.0600	0.12	U	

Final Conc. Units: ug/L

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F012.D	Instrument:	MS13
Acqu Date:	12/18/2014 12:34	Quant Date:	12/18/2014 13:38
Run Type:	SMPL	Vial:	9
Lab ID:	K1414067-002	Dilution:	1.0
		Soln Conc. Units:	PPB

Prep Amount: 10 ml **Dilution:** 1.0
Prep Final Vol: 10 ml **Unit Factor:** 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U Undetected at or above MDL
J Analyte detected above MDL, but below MRL
B Hit above MRL, also found in Method Blank
E Analyte concentration above high point of ICAL
N Presumptive evidence of compound

D Result from dilution
m Manual integration performed
d Compound manually deleted
NR Analyte not reported from this analysis

* Result fails acceptance criteria
= Acceptance criteria not applicable
? Insufficient information to determine acceptance
e Result >= MRL, but MRL less than low point of ICAL
c check for co-elution

Data File : J:\MS13\DATA\121814\1218F012.D
 Acq On : 18 Dec 2014 12:34 pm
 Sample : K14067-002
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 13:37:42 2014

Vial: 9
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

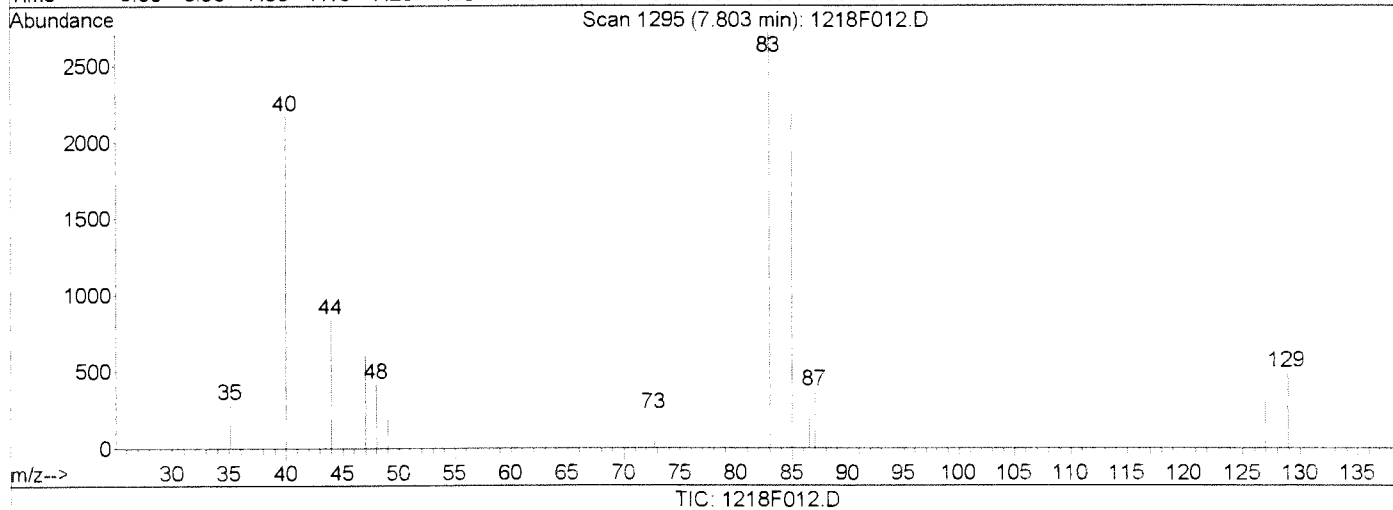
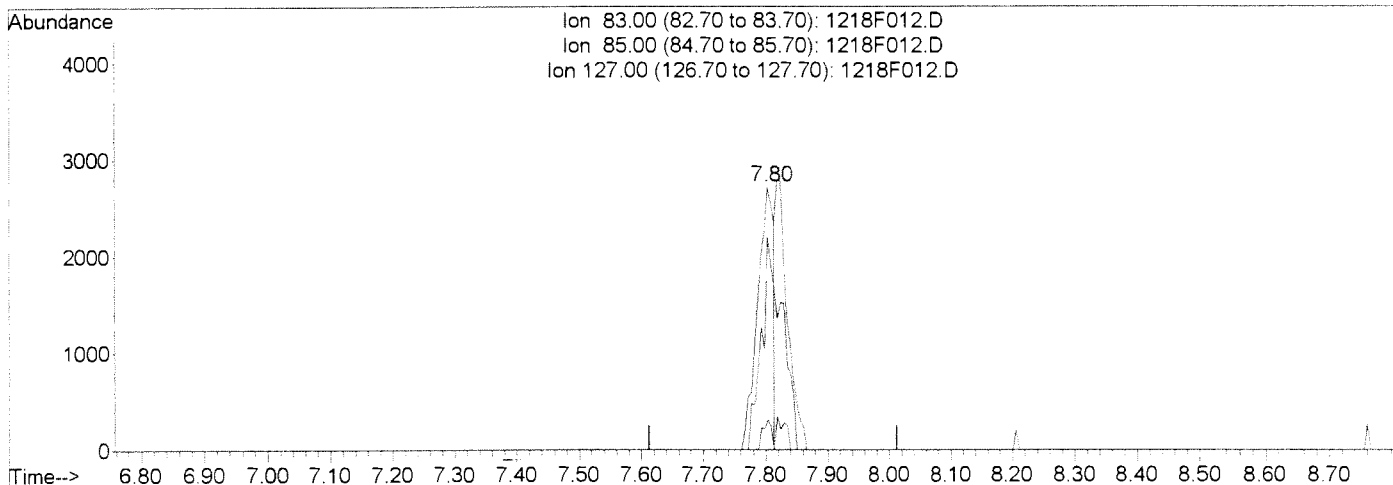
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.11	96	434144	10.00	PPB	0.00
64) Chlorobenzene-d5	12.02	82	160100	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.05	152	155310	10.00	PPB	0.00
System Monitoring Compounds						
42) Dibromofluoromethane	5.09	113	98966	10.38	PPB	0.00
Spiked Amount	10.000		Recovery	=	103.80%	
47) 1,2-Dichloroethane-d4	5.64	65	89578	10.26	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.60%	
62) Toluene-d8	9.30	98	415949	9.63	PPB	0.00
Spiked Amount	10.000		Recovery	=	96.30%	
84) 4-Bromofluorobenzene	13.68	95	131693	9.92	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.20%	
Target Compounds						
13) Acetone	2.48	43	972	0.71	PPB	Qvalue # 51
15) Carbon Disulfide	2.55	76	4175	0.13	PPB	91
39) Chloroform	4.85	83	6114	0.31	PPB	83
57) Bromodichloromethane	7.82	83	8640m	0.62	PPB	
81) Bromoform	13.24	173	1735	0.31	PPB	80
99) 1,4-Dichlorobenzene	15.07	146	1589	0.06	PPB	# 64

Data File : J:\MS13\DATA\121814\1218F012.D
Acq On : 18 Dec 2014 12:34 pm
Sample : K14067-002
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 18 13:38 2014

Vial: 9
Operator: KR
Inst : MS13
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Oct 30 20:22:08 2014
Response via : Multiple Level Calibration



(57) Bromodichloromethane (T)

Manual Integration:

7.80min 0.36PPB

Before

response 5005

Ion	Exp%	Act%
83.00	100	100
85.00	61.50	81.16
127.00	9.20	11.41
0.00	0.00	0.00

12/18/14

Handwritten signature

Data File : J:\MS13\DATA\121814\1218F012.D
Acq On : 18 Dec 2014 12:34 pm
Sample : K14067-002
Misc :

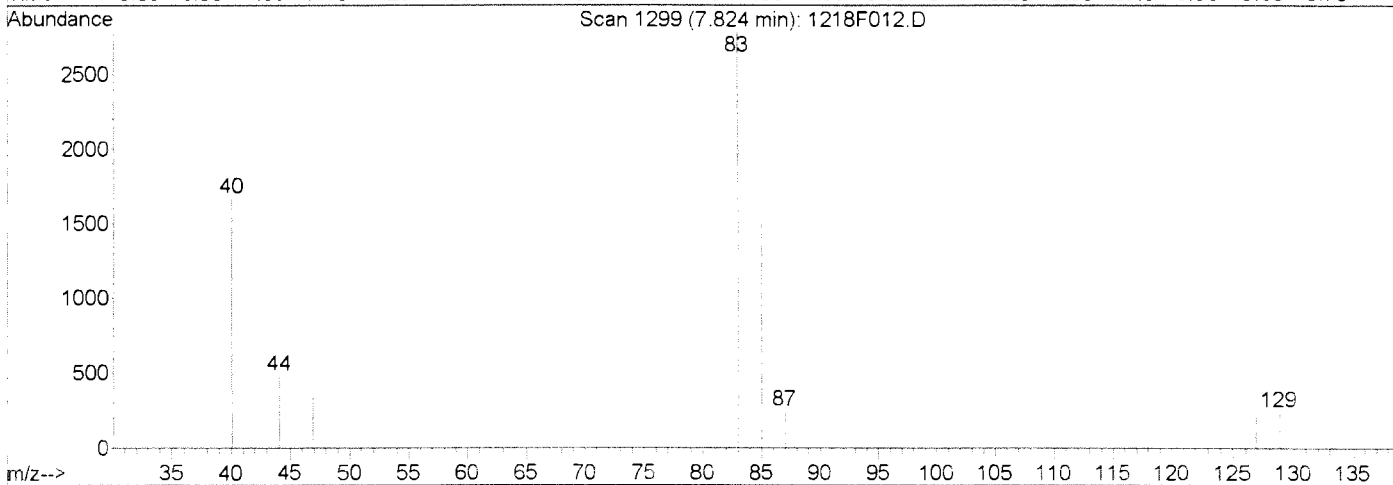
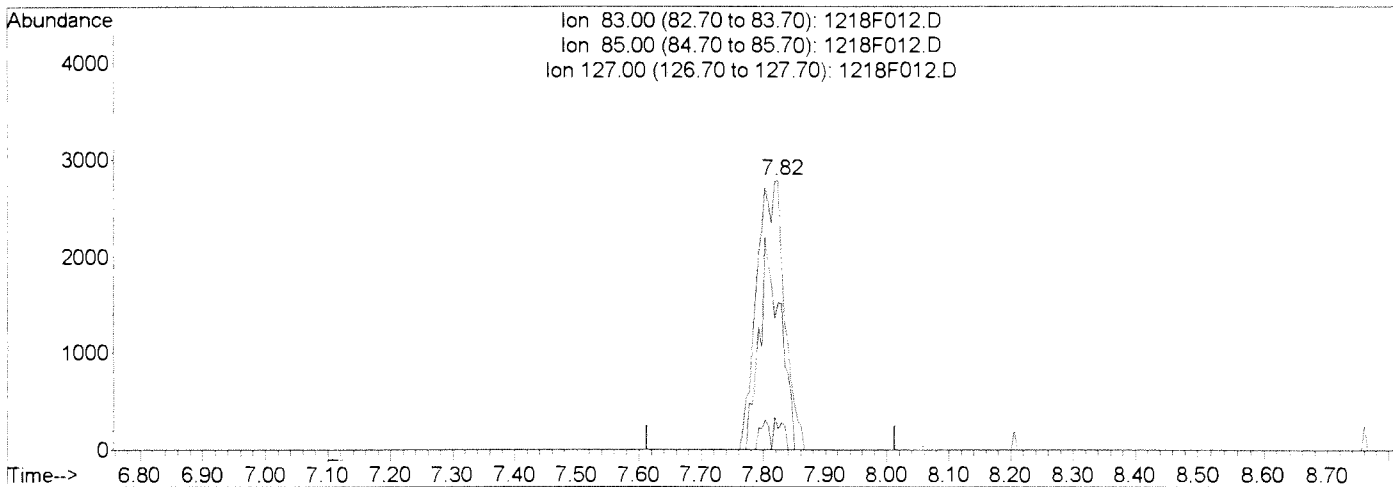
Vial: 9
Operator: KR
Inst : MS13
Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Dec 18 13:38 2014

Quant Results File: temp.res

Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Oct 30 20:22:08 2014
Response via : Multiple Level Calibration



TIC: 1218F012.D

(57) Bromodichloromethane (T)

7.82min 0.62PPB m

response 8640

Ion	Exp%	Act%
83.00	100	100
85.00	61.50	54.55
127.00	9.20	7.51
0.00	0.00	0.00

Manual Integration:

After

Baseline correction

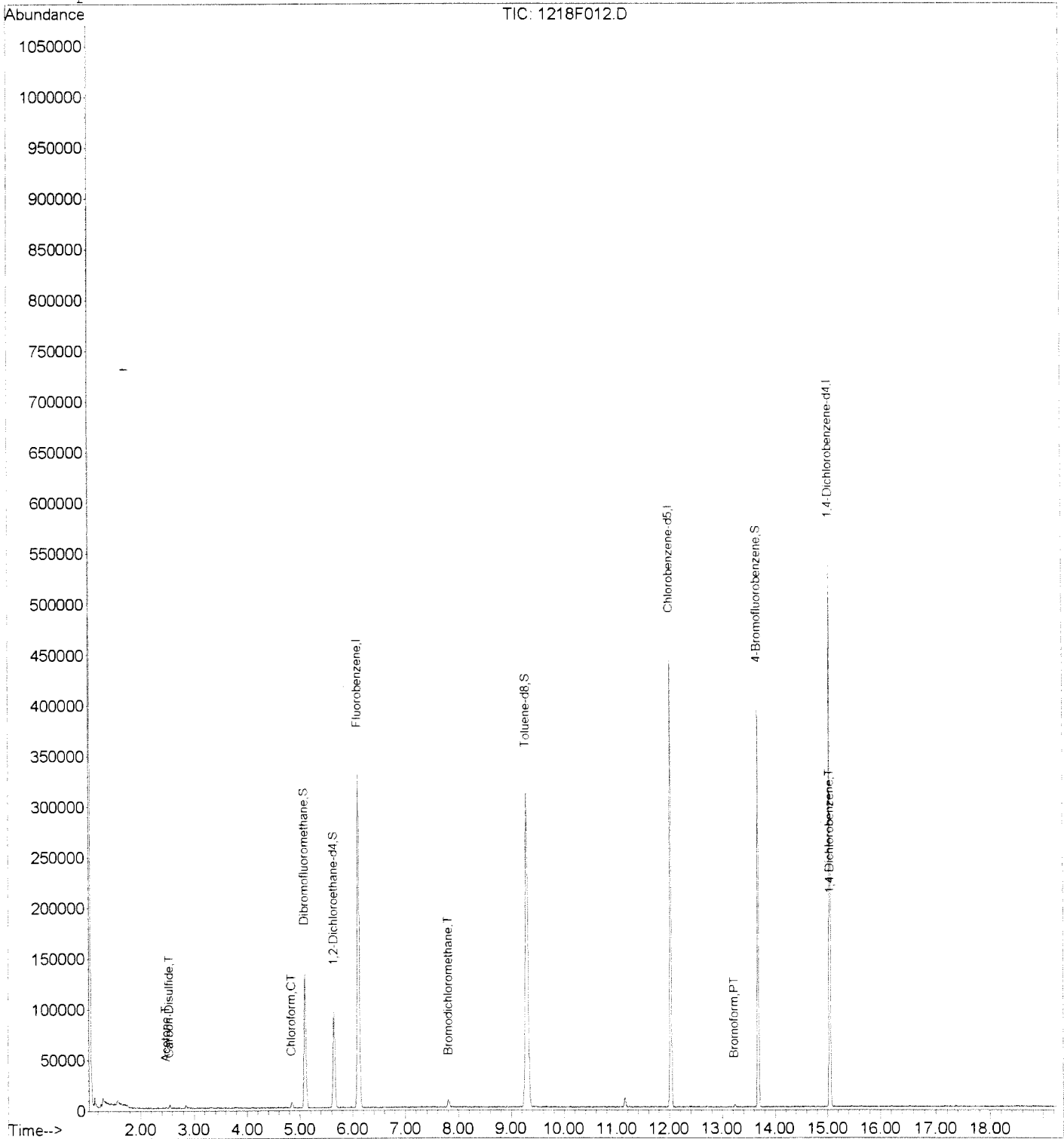
12/18/14

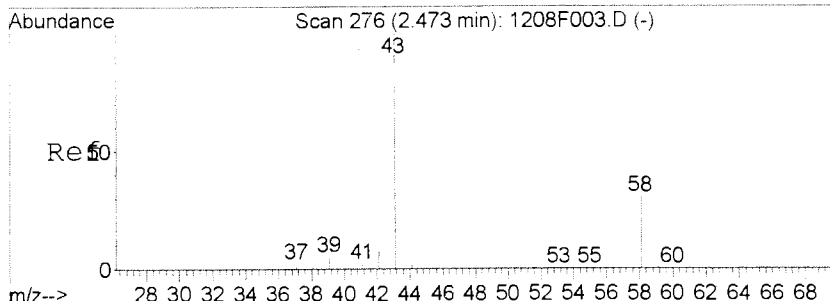
Data File : J:\MS13\DATA\121814\1218F012.D
 Acq On : 18 Dec 2014 12:34 pm
 Sample : K14067-002
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 13:38 2014

Vial: 9
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8

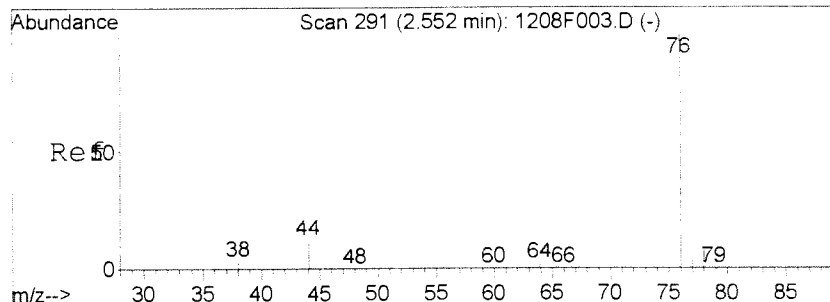
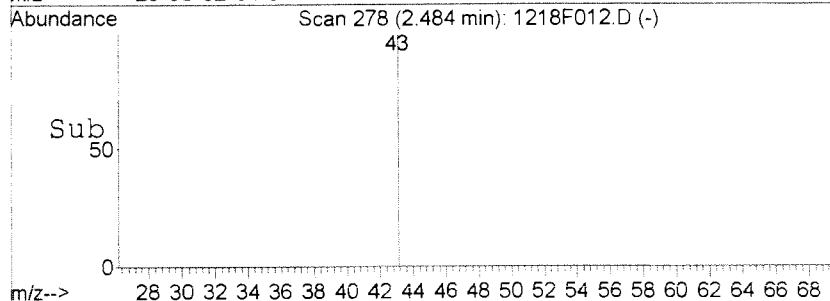
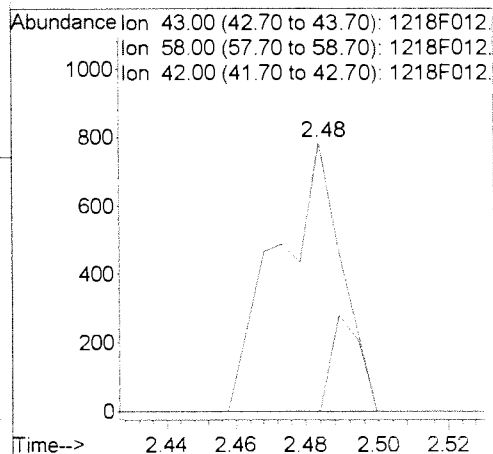
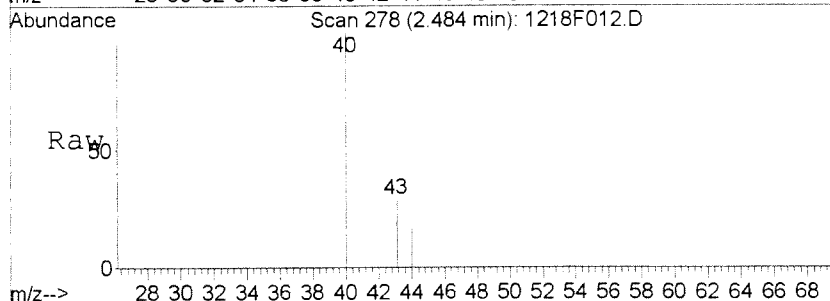
Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration





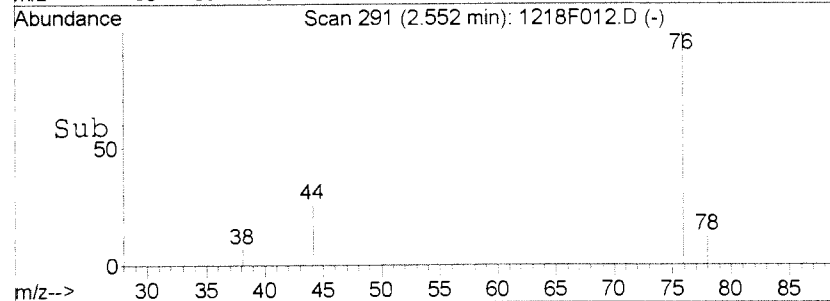
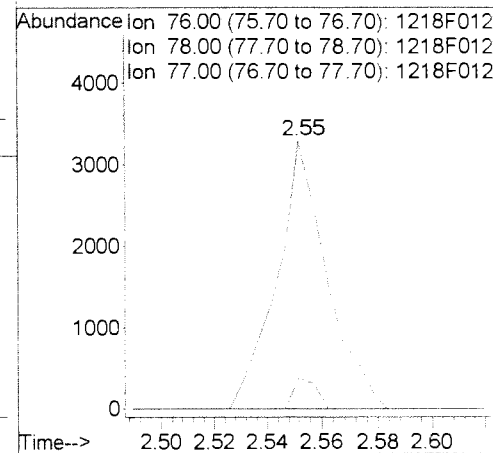
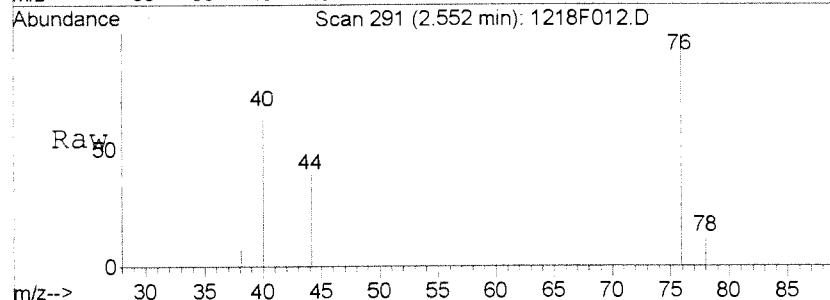
#13
 Acetone
 Concen: 0.71 PPB
 RT: 2.48 min Scan# 278
 Delta R.T. 0.01 min
 Lab File: 1218F012.D
 Acq: 18 Dec 2014 12:34 pm

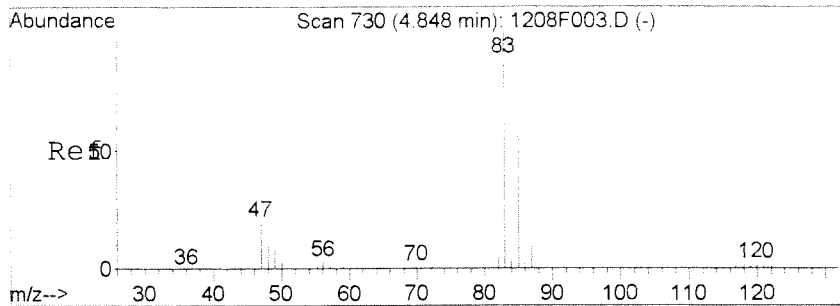
Tgt Ion	Resp	Lower	Upper
43	100		
58	0.0	1.1	61.1#
42	0.0	0.0	38.4



#15
 Carbon Disulfide
 Concen: 0.13 PPB
 RT: 2.55 min Scan# 291
 Delta R.T. 0.00 min
 Lab File: 1218F012.D
 Acq: 18 Dec 2014 12:34 pm

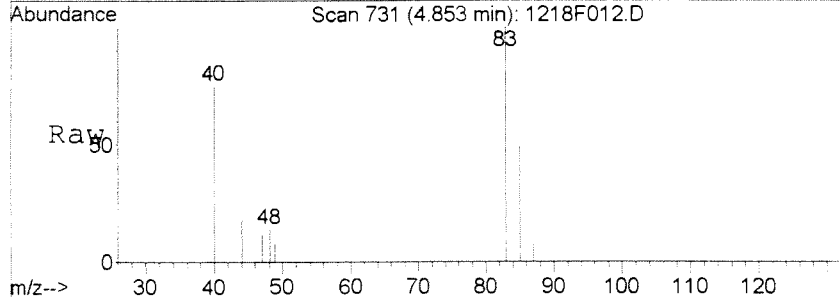
Tgt Ion	Resp	Lower	Upper
76	100		
78	11.7	0.0	38.5
77	0.0	0.0	32.8



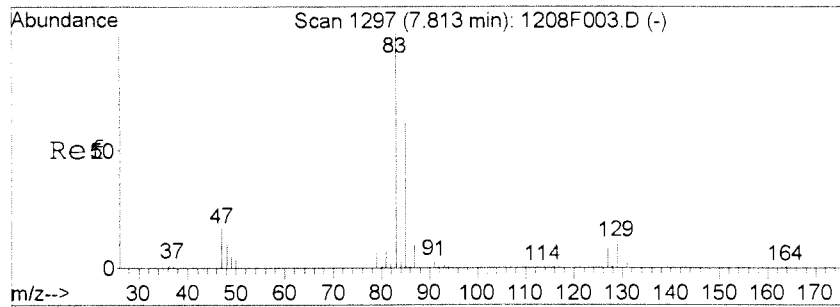
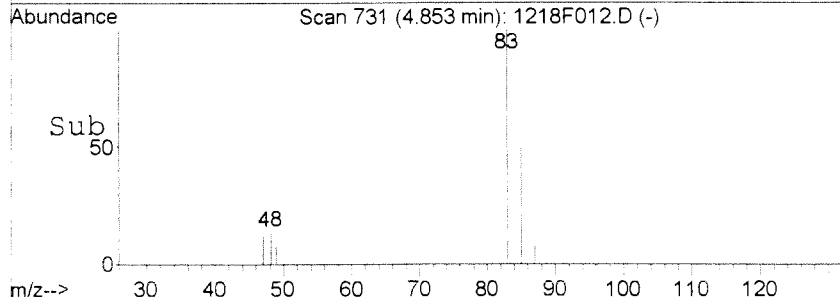
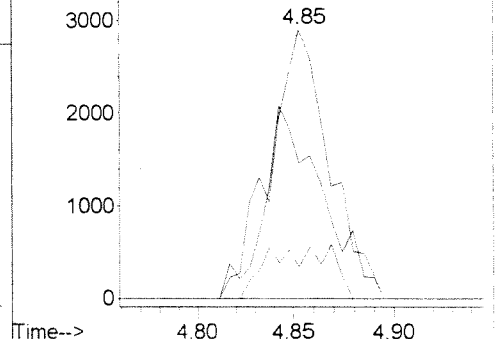


#39
 Chloroform
 Concen: 0.31 PPB
 RT: 4.85 min Scan# 731
 Delta R.T. 0.00 min
 Lab File: 1218F012.D
 Acq: 18 Dec 2014 12:34 pm

Tgt Ion	Ratio	Lower	Upper
83	100		
85	50.4	32.5	92.5
47	11.8	0.0	51.0

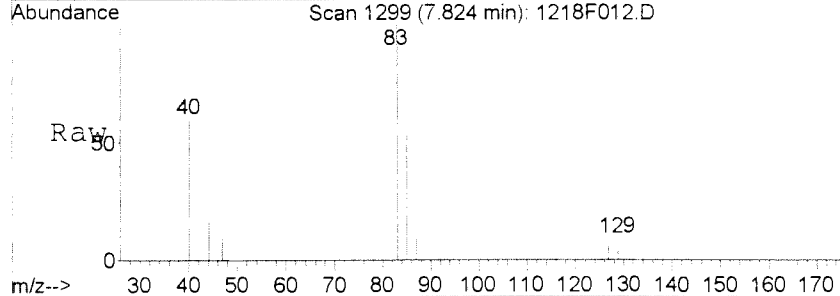


Abundance Ion 83.00 (82.70 to 83.70): 1218F012
 Ion 85.00 (84.70 to 85.70): 1218F012
 Ion 47.00 (46.70 to 47.70): 1218F012

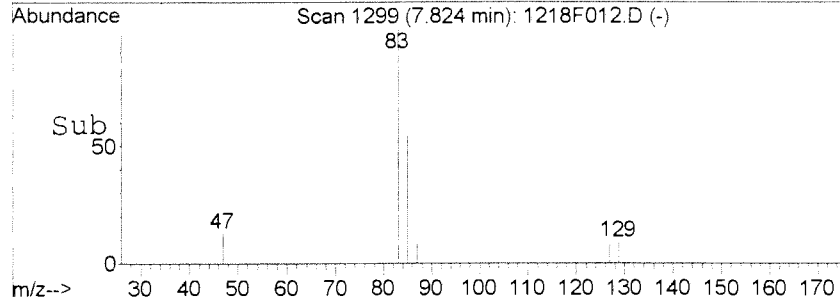
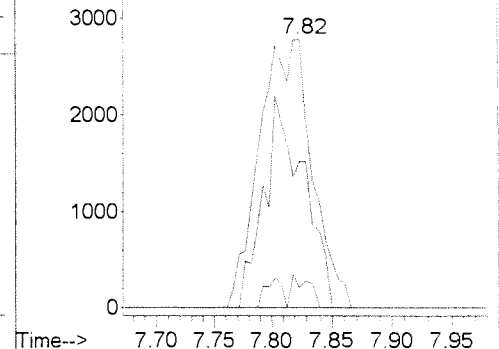


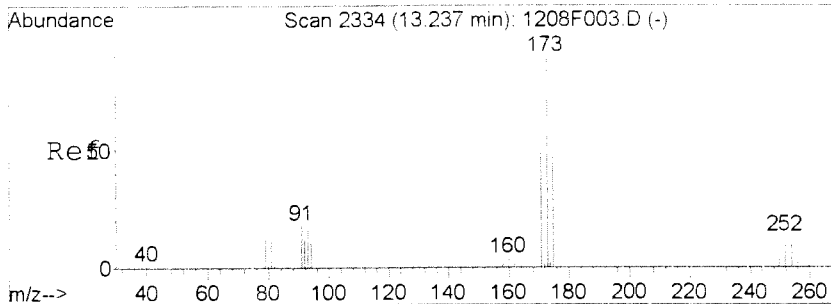
#57
 Bromodichloromethane
 Concen: 0.62 PPB m
 RT: 7.82 min Scan# 1299
 Delta R.T. 0.01 min
 Lab File: 1218F012.D
 Acq: 18 Dec 2014 12:34 pm

Tgt Ion	Ratio	Lower	Upper
83	100		
85	54.5	31.5	91.5
127	7.5	0.0	39.2



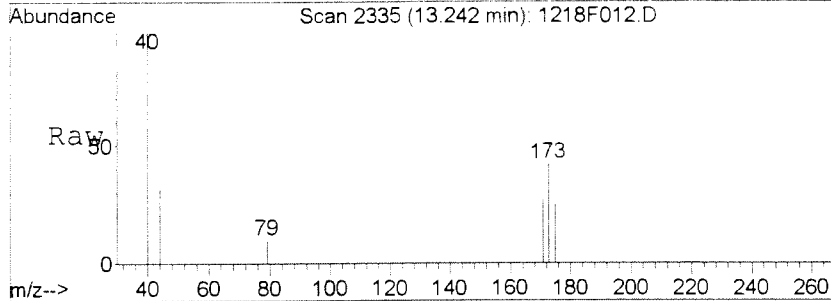
Abundance Ion 83.00 (82.70 to 83.70): 1218F012
 Ion 85.00 (84.70 to 85.70): 1218F012
 Ion 127.00 (126.70 to 127.70): 1218F012



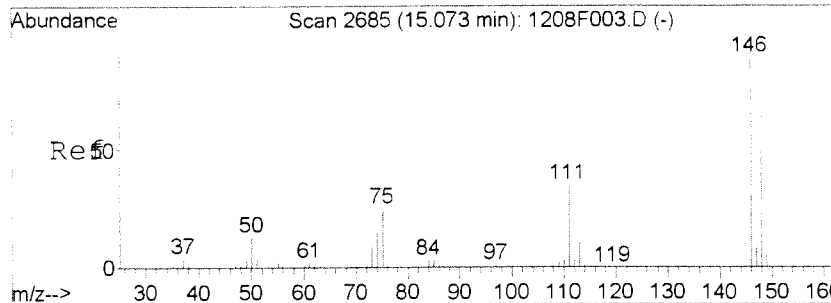
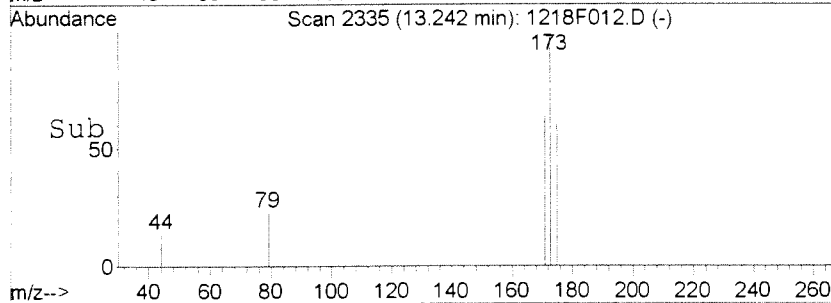
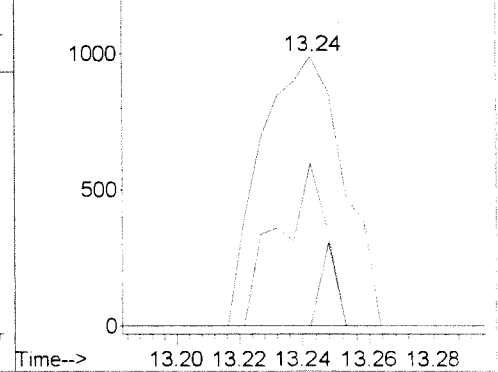


#81
 Bromoform
 Concen: 0.31 PPB
 RT: 13.24 min Scan# 2335
 Delta R.T. 0.00 min
 Lab File: 1218F012.D
 Acq: 18 Dec 2014 12:34 pm

Tgt Ion	Ratio	Lower	Upper
173	100		
254	0.0	0.0	42.7
175	60.5	19.2	79.2

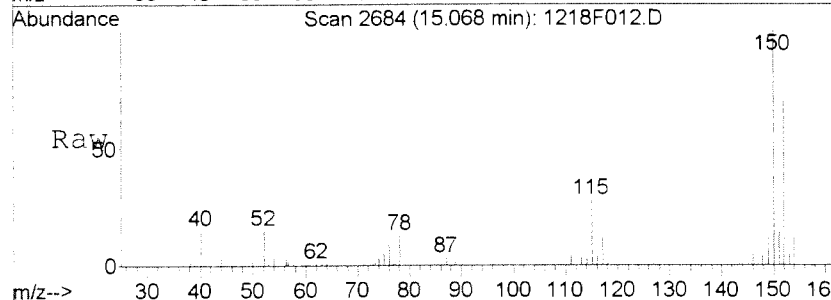


Abundance Ion 173.00 (172.70 to 173.70): 1218F0
 Ion 254.00 (253.70 to 254.70): 1218F0
 Ion 175.00 (174.70 to 175.70): 1218F0

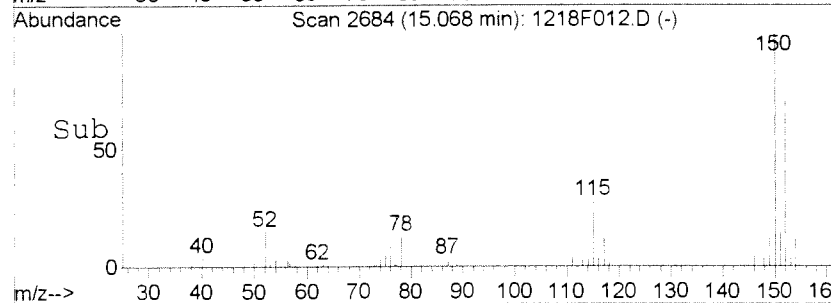
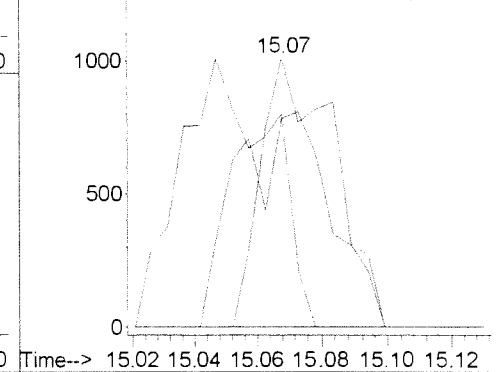


#99
 1,4-Dichlorobenzene
 Concen: 0.06 PPB
 RT: 15.07 min Scan# 2684
 Delta R.T. -0.01 min
 Lab File: 1218F012.D
 Acq: 18 Dec 2014 12:34 pm

Tgt Ion	Ratio	Lower	Upper
146	100		
111	79.3	7.3	67.3#
148	77.5	35.1	95.1



Abundance Ion 146.00 (145.70 to 146.70): 1218F0
 Ion 111.00 (110.70 to 111.70): 1218F0
 Ion 148.00 (147.70 to 148.70): 1218F0



Exception Report

Data File: J:\MS13\DATA\121814\1218F008.D
Lab ID: KWG1416392-1 -- K1414067-002MS
RunType: MS ✓
Matrix: WATER

Date Acquired: 12/18/2014 10:46
Date Quantitated: 12/18/2014 11:55
Batch ID: KWG1416381
Analysis Method: 8260C
MethodJoinID: MJ1093

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA		x
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	Acrolein	0.0064	0.01	NA	NT
	Acetonitrile	0.0072	0.01	NA	
	tert-Butyl Alcohol	0.0046	0.01	NA	
	Isobutyl Alcohol	0.0030	0.01	NA	
	1,4-Dioxane	0.0010	0.01	NA	
Second Source ICAL Verification	Acrolein	33.1	NA	30	Carole
Continuing Calibration Recovery	Naphthalene	-28.7	NA	20	
Continuing Calibration Minimum RF	Acetonitrile	0.0068	0.01	NA	NT
	tert-Butyl Alcohol	0.0039	0.01	NA	
	Isobutyl Alcohol	0.0028	0.01	NA	
	1,4-Dioxane	0.0011	0.01	NA	

Primary Review: KR 12/18/14

Secondary Review: JDA 12/23/14

Quantitation Report

Data File:	J:\MS13\DATA\121814\1218F008.D	Instrument:	MS13
Acqu Date:	12/18/2014 10:46	Quant Date:	12/18/2014 11:55
Run Type:	MS	Vial:	6
Lab ID:	KWG1416392-1 -- K1414067-002MS	Dilution:	1.0
		Soln Conc. Units:	PPB

Bottle ID:	Tier:	Matrix:	WATER
Prod Code:	8260C VOC FP	Collect Date:	12/18/2014

Analysis Lot:	KWG1416381	Prep Lot:	KWG1416392	Report Group:
Analysis Method:	8260C	Prep Method:	EPA 5030B	
Prep Ref:	1404444	Prep Date:	12/18/2014	

Quant Method:	J:\MS13\METHODS\101714MS13_8	Calibration ID:	CAL13625
Title:		Method ID:	MJ1093
Tune Ref:	J:\MS13\DATA\121814\1218F001.D	Quant based on Method	
MB Ref:	J:\MS13\DATA\121814\1218F011.D		

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	433433	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	163356	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	163588	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.09	0.00	0.00	113	97598	10.26	103	85-115	OK
1	1,2-Dichloroethane-d4	5.65	0.01	0.00	65	87839	10.08	101	70-120	OK
1	Toluene-d8	9.30	0.00	0.00	98	442013	10.26	103	85-120	OK
2	4-Bromofluorobenzene	13.68	0.00	0.00	95	140207	10.35	104	75-120	OK

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane	1.17		0.00	85	65092	4.25	4.25		
1	Chloromethane	1.31		0.00	50	87652	5.62	5.62		
1	Vinyl Chloride	1.39		0.00	62	105519	7.82	7.82		
1	Bromomethane	1.64	-0.01	0.00	96	67715	7.58	7.58		
1	Chloroethane	1.73		0.00	64	71454	10.29	10.3		
1	Trichlorofluoromethane	1.90		0.00	101	172270	8.13	8.13		
1	Acrolein				56	0d		1.2		U
1	Trichlorotrifluoroethane	2.34		0.00	151	115222	11.22	11.2		
1	1,1-Dichloroethene	2.36		0.00	96	113184	11.90	11.9		
1	Acetone	2.47		0.00	43	62510	46.05	46.1		
1	Iodomethane	2.53		0.00	142	464233	39.25	39.3		
1	Carbon Disulfide	2.55		0.00	76	763640	23.52	23.5		
1	3-Chloro-1-propene	2.73	-0.01	0.00	76	177587	30.65	30.7		
1	Acetonitrile	2.81		0.00	40	90516	290.81	291		

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result \geq MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F008.D	Instrument:	MS13
Acqu Date:	12/18/2014 10:46	Quant Date:	12/18/2014 11:55
Run Type:	MS	Vial:	6
Lab ID:	KWG1416392-1 -- K1414067-002MS	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

						Final Conc. Units: ug/L				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Methylene Chloride	2.89		0.00	84	100512	8.82	8.82		
1	tert-Butyl Alcohol	3.00		0.00	59	17903	90.47	90.5		
1	Acrylonitrile	3.22	-0.01	0.00	53	72582	38.36	38.4		
1	Methyl tert-Butyl Ether	3.11	0.01	0.00	73	133930	9.12	9.12		
1	trans-1,2-Dichloroethene	3.13		0.00	96	126425	11.35	11.4		
1	Diisopropyl Ether	3.65		0.00	45	510060	19.51	19.5		
1	1,1-Dichloroethane	3.65	-0.01	0.00	63	197430	10.79	10.8		
1	Vinyl Acetate	3.71	-0.01	0.00	86	68182	61.61	61.6		
1	Chloroprene	3.71		0.00	53	534471	27.94	27.9		
1	tert-Butyl Ethyl Ether	4.10		0.00	59	309920	18.42	18.4		
1	2,2-Dichloropropane	4.35	-0.01	0.00	77	96499	10.38	10.4		
1	cis-1,2-Dichloroethene	4.40		0.00	96	132357	10.68	10.7		
1	2-Butanone (MEK)	4.47	0.01	0.00	72	26368	52.94	52.9		
1	Propionitrile	4.65		0.00	54	19955	30.18	30.2		
1	Ethyl Acetate	4.50		0.00	61	18794	29.00	29.0		
1	Methacrylonitrile	4.81		0.00	67	70383	28.94	28.9		
1	Bromochloromethane	4.73	-0.01	0.00	128	57406	10.89	10.9		
1	Chloroform	4.85		0.00	83	214882	10.93	10.9		
1	1,1,1-Trichloroethane (TCA)	5.03		0.00	97	166582	10.54	10.5		
1	Carbon Tetrachloride	5.21		0.00	117	179567	11.06	11.1		
1	1,1-Dichloropropene	5.29		0.00	75	177044	11.38	11.4		
1	Isobutyl Alcohol	5.65		0.00	43	35065	267.62	268		
1	Benzene	5.59	-0.01	0.00	78	495045	10.87	10.9		
1	1,2-Dichloroethane (EDC)	5.76	-0.01	0.00	62	129365	10.03	10.0		
1	tert-Amyl Methyl Ether	5.77	-0.01	0.00	55	193160	22.28	22.3		
1	Trichloroethene (TCE)	6.73		0.00	95	130010	10.71	10.7		
1	1,2-Dichloropropane	7.24		0.00	63	96696	9.62	9.62		
1	Dibromomethane	7.46		0.00	93	52681	10.34	10.3		
1	Methyl Methacrylate	7.54	-0.01	0.00	69	116401	29.53	29.5		
1	1,4-Dioxane	7.51	0.01	0.00	88	14367	333.87	334		
1	Bromodichloromethane	7.81		0.00	83	152544	11.04	11.0		
1	2-Nitropropane	8.49	-0.01	0.00	43	41253	27.29	27.3		
1	2-Chloroethyl Vinyl Ether				63	0		0.16	U	
1	cis-1,3-Dichloropropene	8.82		0.00	75	130287	9.60	9.60		
1	4-Methyl-2-pentanone (MIBK)	9.27		0.00	58	74523	46.83	46.8		
1	Toluene	9.46		0.00	92	332258	10.49	10.5		
2	trans-1,3-Dichloropropene	10.23		0.00	75	83909	8.46	8.46		
2	Ethyl Methacrylate	10.40		0.00	69	224462	30.81	30.8		
2	1,1,2-Trichloroethane	10.55		0.00	83	63198	10.16	10.2		
2	Tetrachloroethene (PCE)	10.53	-0.01	0.00	164	133643	11.60	11.6		
2	2-Hexanone	11.05		0.00	57	22803	42.16	42.2		
2	1,3-Dichloropropane	10.85		0.00	76	130653	9.60	9.60		

U Undetected at or above MDL
J Analyte detected above MDL, but below MRL
B Hit above MRL also found in Method Blank
E Analyte concentration above high point of ICAL
N Presumptive evidence of compound

D Result from dilution
m Manual integration performed
d Compound manually deleted
NR Analyte not reported from this analysis

* Result fails acceptance criteria
Acceptance criteria not applicable
? Insufficient information to determine acceptance
e Result >= MRL, but MRL less than low point of ICAL
c check for co-elution

Data File:	J:\MS13\DATA\121814\1218F008.D	Instrument:	MS13
Acqu Date:	12/18/2014 10:46	Quant Date:	12/18/2014 11:55
Run Type:	MS	Vial:	6
Lab ID:	KWG1416392-1 -- K1414067-002MS	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

		Final Conc. Units:		ug/L						
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Dibromochloromethane	11.16		0.00	129	111576	11.25	11.3		
2	1,2-Dibromoethane (EDB)	11.30	-0.01	0.00	107	73892	10.37	10.4		
2	1-Chlorohexane	12.10		0.00	91	135578	10.25	10.3		
2	Chlorobenzene	12.07		0.00	112	374234	10.92	10.9		
2	Ethylbenzene	12.23		0.00	106	204132	11.01	11.0		
2	1,1,1,2-Tetrachloroethane	12.24		0.00	131	117350	10.53	10.5		
2	m,p-Xylenes	12.42		0.00	106	504707	22.41	22.4		
2	o-Xylene	12.95		0.00	106	238378	11.27	11.3		
2	Styrene	13.00		0.00	103	178495	11.03	11.0		
2	Bromoform	13.24		0.00	173	61049	10.80	10.8		
2	Isopropylbenzene	13.45		0.00	105	635381	11.34	11.3		
2	cis-1,4-Dichloro-2-butene	13.66		0.00	89	23110	29.65	29.7		
3	1,1,2,2-Tetrachloroethane	13.95		0.00	83	74077	9.55	9.55		
3	trans-1,4-Dichloro-2-butene	14.03		0.00	53	77123	34.68	34.7		
3	Bromobenzene	13.82		0.00	156	159845	10.68	10.7		
3	n-Propylbenzene	13.96		0.00	91	705393	10.64	10.6		
3	1,2,3-Trichloropropane	13.98		0.00	110	23663	9.47	9.47		
3	2-Chlorotoluene	14.06		0.00	91	436795	10.87	10.9		
3	1,3,5-Trimethylbenzene	14.20		0.00	105	505834	10.99	11.0		
3	4-Chlorotoluene	14.21		0.00	91	483601	10.24	10.2		
3	tert-Butylbenzene	14.56		0.00	119	460838	11.10	11.1		
3	1,2,4-Trimethylbenzene	14.64		0.00	105	467925	10.56	10.6		
3	sec-Butylbenzene	14.82		0.00	105	613353	10.68	10.7		
3	4-Isopropyltoluene	15.00		0.00	119	523094	11.06	11.1		
3	1,3-Dichlorobenzene	14.96	0.01	0.00	146	314097	10.65	10.7		
3	1,4-Dichlorobenzene	15.07		0.00	146	312271	10.34	10.3		
3	n-Butylbenzene	15.46		0.00	91	414746	10.44	10.4		
3	1,2-Dichlorobenzene	15.49		0.00	146	271202	10.36	10.4		
3	1,2-Dibromo-3-chloropropane	16.38		0.00	155	10302	8.92	8.92		
3	1,3,5-Trichlorobenzene	16.54		0.00	180	208109	10.74	10.7		
3	1,2,4-Trichlorobenzene	17.21		0.00	180	160718	9.75	9.75		
3	Hexachlorobutadiene	17.35		0.00	225	92254	10.25	10.3		
3	Naphthalene	17.47		0.00	128	148506	6.16	6.16		
3	1,2,3-Trichlorobenzene	17.72	-0.01	0.00	180	135975	9.73	9.73		

Prep Amount: 10 ml Dilution: 1.0
 Prep Final Vol: 10 ml Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

I: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File : J:\MS13\DATA\121814\1218F008.D
 Acq On : 18 Dec 2014 10:46 am
 Sample : K14067-002MS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:55:02 2014

Vial: 6
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.11	96	433433	10.00	PPB	0.00
64) Chlorobenzene-d5	12.02	82	163356	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.05	152	163588	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.09	113	97598	10.26	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.60%	
47) 1,2-Dichloroethane-d4	5.65	65	87839	10.08	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.80%	
62) Toluene-d8	9.30	98	442013	10.26	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.60%	
84) 4-Bromofluorobenzene	13.68	95	140207	10.35	PPB	0.00
Spiked Amount	10.000		Recovery	=	103.50%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	1.17	85	65092	4.25	PPB	96
3) Chloromethane	1.31	50	87652	5.62	PPB	97
4) Vinyl Chloride	1.39	62	105519	7.82	PPB	95
5) Bromomethane	1.64	96	67715	7.58	PPB	100
6) Chloroethane	1.73	64	71454	10.29	PPB	99
7) Dichlorofluoromethane	1.90	67	244716	11.94	PPB	97
8) Trichlorofluoromethane	1.90	101	172270	8.13	PPB	99
9) Ethyl Ether	2.15	59	63493	10.14	PPB	95
11) Trichlorotrifluoroethane	2.34	151	115222	11.22	PPB	94
12) 1,1-Dichloroethene	2.36	96	113184	11.90	PPB	93
13) Acetone	2.47	43	62510	46.05	PPB	96
14) Iodomethane	2.53	142	464233	39.25	PPB	97
15) Carbon Disulfide	2.55	76	763640	23.52	PPB	99
17) 3-Chloro-1-propene	2.73	76	177587	30.65	PPB	98
18) Acetonitrile	2.81	40	90516	290.81	PPB	96
20) Methylene Chloride	2.89	84	100512	8.82	PPB	96
21) tert-Butyl Alcohol	3.00	59	17903	90.47	PPB	86
22) Acrylonitrile	3.22	53	72582	38.36	PPB	97
23) Methyl tert-Butyl Ether	3.11	73	133930	9.12	PPB	97
24) trans-1,2-Dichloroethene	3.13	96	126425	11.35	PPB	97
25) Hexane	3.35	57	470095	31.07	PPB	97
26) Diisopropyl Ether	3.65	45	510060	19.51	PPB	100
27) 1,1-Dichloroethane	3.65	63	197430	10.79	PPB	99
28) Vinyl Acetate	3.71	86	68182	61.61	PPB	94
29) Chloroprene	3.71	53	534471	27.94	PPB	99
30) tert-Butyl Ethyl Ether	4.10	59	309920	18.42	PPB	98
31) 2,2-Dichloropropane	4.35	77	96499	10.38	PPB	97

(#) = qualifier out of range (m) = manual integration

1218F008.D 101714MS13_8260W.M

Thu Dec 18 11:56:00 2014

Page 1

Data File : J:\MS13\DATA\121814\1218F008.D
 Acq On : 18 Dec 2014 10:46 am
 Sample : K14067-002MS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:55:02 2014

Vial: 6
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
32) cis-1,2-Dichloroethene	4.40	96	132357	10.68	PPB	96
33) 2-Butanone	4.47	72	26368	52.94	PPB	# 85
34) Propionitrile	4.65	54	19955	30.18	PPB	92
35) Ethyl Acetate	4.50	61	18794	29.00	PPB	87
36) Methacrylonitrile	4.81	67	70383	28.94	PPB	94
37) Bromochloromethane	4.73	128	57406	10.89	PPB	90
39) Chloroform	4.85	83	214882	10.93	PPB	96
41) 1,1,1-Trichloroethane	5.03	97	166582	10.54	PPB	95
44) Carbon Tetrachloride	5.21	117	179567	11.06	PPB	97
45) 1,1-Dichloropropene	5.29	75	177044	11.38	PPB	97
46) Isobutyl Alcohol	5.65	43	35065	267.62	PPB	91
48) Benzene	5.59	78	495045	10.87	PPB	98
49) 1,2-Dichloroethane	5.76	62	129365	10.03	PPB	98
50) tert-Amyl Methyl Ether	5.77	55	193160	22.28	PPB	98
51) Trichloroethene	6.73	95	130010	10.71	PPB	88
53) 1,2-Dichloropropane	7.24	63	96696	9.62	PPB	98
54) Dibromomethane	7.46	93	52681	10.34	PPB	91
55) Methyl methacrylate	7.54	69	116401	29.53	PPB	95
56) 1,4-Dioxane	7.51	88	14367	333.87	PPB	98
57) Bromodichloromethane	7.81	83	152544	11.04	PPB	97
58) 2-Nitropropane	8.49	43	41253	27.29	PPB	92
60) cis-1,3-Dichloropropene	8.82	75	130287	9.60	PPB	96
61) 4-Methyl-2-pentanone (MIBK)	9.27	58	74523	46.83	PPB	# 53
63) Toluene	9.46	92	332258	10.49	PPB	93
66) trans-1,3-Dichloropropene	10.23	75	83909	8.46	PPB	98
67) Ethyl methacrylate	10.40	69	224462	30.81	PPB	94
68) 1,1,2-Trichloroethane	10.55	83	63198	10.16	PPB	96
69) Tetrachloroethene	10.53	164	133643	11.60	PPB	92
70) 2-Hexanone	11.05	57	22803	42.16	PPB	# 79
71) 1,3-Dichloropropane	10.85	76	130653	9.60	PPB	99
72) Dibromochloromethane	11.16	129	111576	11.25	PPB	99
73) 1,2-Dibromoethane (EDB)	11.30	107	73892	10.37	PPB	92
74) 1-Chlorohexane	12.10	91	135578	10.25	PPB	98
75) Chlorobenzene	12.07	112	374234	10.92	PPB	98
76) Ethylbenzene	12.23	106	204132	11.01	PPB	100
77) 1,1,1,2-Tetrachloroethane	12.24	131	117350	10.53	PPB	97
78) m,p-Xylenes	12.42	106	504707	22.41	PPB	99
79) o-Xylene	12.95	106	238378	11.27	PPB	99
80) Styrene	13.00	103	178495	11.03	PPB	98
81) Bromoform	13.24	173	61049	10.80	PPB	94
82) Isopropylbenzene	13.45	105	635381	11.34	PPB	98

(#) = qualifier out of range (m) = manual integration

1218F008.D 101714MS13_8260W.M

Thu Dec 18 11:56:00 2014

Page 2

Data File : J:\MS13\DATA\121814\1218F008.D
 Acq On : 18 Dec 2014 10:46 am
 Sample : K14067-002MS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:55:02 2014

Vial: 6
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
83) cis-1,4-Dichloro-2-butene	13.66	89	23110	29.65	PPB	# 78
86) 1,1,2,2-Tetrachloroethane	13.95	83	74077	9.55	PPB	99
87) trans-1,4-Dichloro-2-buten	14.03	53	77123	34.68	PPB	98
88) Bromobenzene	13.82	156	159845	10.68	PPB	92
89) n-Propylbenzene	13.96	91	705393	10.64	PPB	98
90) 1,2,3-Trichloropropane	13.98	110	23663	9.47	PPB	# 81
91) 2-Chlorotoluene	14.06	91	436795	10.87	PPB	99
92) 1,3,5-Trimethylbenzene	14.20	105	505834	10.99	PPB	98
93) 4-Chlorotoluene	14.21	91	483601	10.24	PPB	97
94) tert-Butylbenzene	14.56	119	460838	11.10	PPB	95
95) 1,2,4-Trimethylbenzene	14.64	105	467925	10.56	PPB	100
96) sec-Butylbenzene	14.82	105	613353	10.68	PPB	99
97) p-Isopropyltoluene	15.00	119	523094	11.06	PPB	98
98) 1,3-Dichlorobenzene	14.96	146	314097	10.65	PPB	97
99) 1,4-Dichlorobenzene	15.07	146	312271	10.34	PPB	96
100) n-Butylbenzene	15.46	91	414746	10.44	PPB	97
101) 1,2-Dichlorobenzene	15.49	146	271202	10.36	PPB	99
102) 1,2-Dibromo-3-chloropropan	16.38	155	10302	8.92	PPB	80
103) 1,3,5-Trichlorobenzene	16.54	180	208109	10.74	PPB	95
104) 1,2,4-Trichlorobenzene	17.21	180	160718	9.75	PPB	97
105) Hexachlorobutadiene	17.35	225	92254	10.25	PPB	98
106) Naphthalene	17.47	128	148506	6.16	PPB	96
107) 1,2,3-Trichlorobenzene	17.72	180	135975	9.73	PPB	97

(#) = qualifier out of range (m) = manual integration

1218F008.D 101714MS13_8260W.M

Thu Dec 18 11:56:01 2014

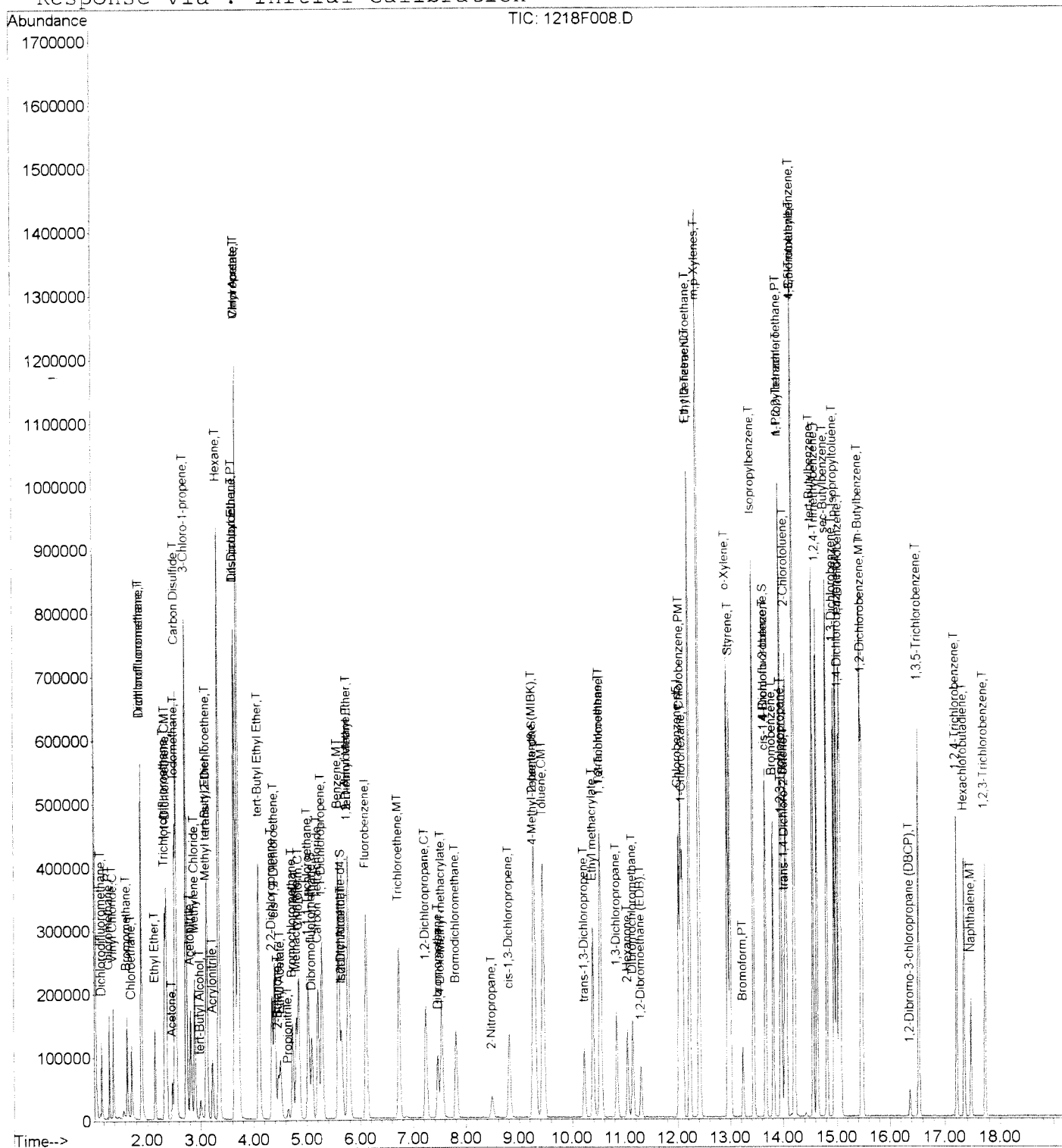
Page 3

Data File : J:\MS13\DATA\121814\1218F008.D
 Acq On : 18 Dec 2014 10:46 am
 Sample : K14067-002MS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:55 2014

Vial: 6
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8

Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration



Exception Report

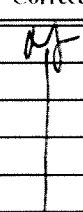
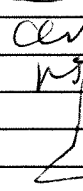
Data File: J:\MS13\DATA\121814\1218F009.D
Lab ID: KWG1416392-2 -- K1414067-002DMS
RunType: DMS
Matrix: WATER

Date Acquired: 12/18/2014 11:13
Date Quantitated: 12/18/2014 11:56
Batch ID: KWG141638T
Analysis Method: 8260C
MethodJoinID: MJ1093

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA		x
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	Acrolein	0.0064	0.01	NA	
	Acetonitrile	0.0072	0.01	NA	
	tert-Butyl Alcohol	0.0046	0.01	NA	
	Isobutyl Alcohol	0.0030	0.01	NA	
	1,4-Dioxane	0.0010	0.01	NA	
Second Source ICAL Verification	Acrolein	33.1	NA	30	←
Continuing Calibration Recovery	Naphthalene	-28.7	NA	20	center
Continuing Calibration Minimum RF	Acetonitrile	0.0068	0.01	NA	
	tert-Butyl Alcohol	0.0039	0.01	NA	
	Isobutyl Alcohol	0.0028	0.01	NA	
	1,4-Dioxane	0.0011	0.01	NA	

Primary Review: KA 12/23/14 x

Secondary Review: [Signature] 12/23/14

Quantitation Report

Data File: J:\MS13\DATA\121814\1218F009.D	Instrument: MS13
Acqu Date: 12/18/2014 11:13	Quant Date: 12/18/2014 11:56
Run Type: DMS	Vial: 6
Lab ID: KWG1416392-2 -- K1414067-002DMS	Dilution: 1.0
	Soln Conc. Units: PPE

Bottle ID:	Tier:	Matrix: WATER
Prod Code: 8260C VOC FP	Collect Date:	Receive Date: 12/18/2014

Analysis Lot: KWG1416381	Prep Lot: KWG1416392	Report Group:
Analysis Method: 8260C	Prep Method: EPA 5030B	
Prep Ref: 1404445	Prep Date: 12/18/2014	

Quant Method: J:\MS13\METHODS\101714MS13_8	Calibration ID: CAL13625
Title:	
Tune Ref: J:\MS13\DATA\121814\1218F001.D	Method ID: MJ1093
MB Ref:	Quant based on Method

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	437010	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	161492	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	165320	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.10	0.01	0.00	113	98827	10.30	103	85-115	OK
1	1,2-Dichloroethane-d4	5.64	0.00	0.00	65	87564	9.96	100	70-120	OK
1	Toluene-d8	9.30	0.00	0.00	98	441460	10.16	102	85-120	OK
2	4-Bromofluorobenzene	13.68	0.00	0.00	95	141563	10.57	106	75-120	OK

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane	1.17		0.00	85	59101	3.83	3.83		
1	Chloromethane	1.31		0.00	50	82032	5.22	5.22		
1	Vinyl Chloride	1.39		0.00	62	95648	7.03	7.03		
1	Bromomethane	1.64	-0.01	0.00	96	61826	6.86	6.86		
1	Chloroethane	1.73		0.00	64	66558	9.50	9.50		
1	Trichlorofluoromethane	1.90		0.00	101	159329	7.46	7.46		
1	Acrolein				56	0d		1.2		U
1	Trichlorotrifluoroethane	2.34		0.00	151	104104	10.05	10.1		
1	1,1-Dichloroethene	2.36		0.00	96	104016	10.85	10.9		
1	Acetone	2.47		0.00	43	62147	45.41	45.4		
1	Iodomethane	2.53		0.00	142	427696	35.86	35.9		
1	Carbon Disulfide	2.55		0.00	76	690544	21.09	21.1		
1	3-Chloro-1-propene	2.73	-0.01	0.00	76	166056	28.43	28.4		
1	Acetonitrile	2.81		0.00	40	90475	288.29	288		

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File: J:\MS13\DATA\121814\1218F009.D
 Acq Date: 12/18/2014 11:13
 Run Type: DMS
 Lab ID: KWG1416392-2 -- K1414067-002DMS

Quant Date: 12/18/2014 11:56

Instrument: MS13
 Vial: 6
 Dilution: 1.0
 Soln Conc. Units: PPB

Target Compounds

						Final Conc. Units: ug/L				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Methylene Chloride	2.89		0.00	84	95076	8.28	8.28		
1	tert-Butyl Alcohol	3.00		0.00	59	18462	92.53	92.5		
1	Acrylonitrile	3.23		0.00	53	72259	37.88	37.9		
1	Methyl tert-Butyl Ether	3.11	0.01	0.00	73	130391	8.80	8.80		
1	trans-1,2-Dichloroethene	3.13		0.00	96	115192	10.25	10.3		
1	Diisopropyl Ether	3.65		0.00	45	491304	18.64	18.6		
1	1,1-Dichloroethane	3.66		0.00	63	186782	10.12	10.1		
1	Vinyl Acetate	3.71	-0.01	0.00	86	66891	59.95	60.0		
1	Chloroprene	3.71		0.00	53	446255	23.14	23.1		
1	tert-Butyl Ethyl Ether	4.10		0.00	59	303209	17.88	17.9		
1	2,2-Dichloropropane	4.35	-0.01	0.00	77	91412	9.76	9.76		
1	cis-1,2-Dichloroethene	4.40		0.00	96	125296	10.03	10.0		
1	2-Butanone (MEK)	4.46		0.00	72	25185	50.15	50.2		
1	Propionitrile	4.64	-0.01	0.00	54	19962	29.94	29.9		
1	Ethyl Acetate	4.50		0.00	61	17934	27.44	27.4		
1	Methacrylonitrile	4.81		0.00	67	70033	28.56	28.6		
1	Bromochloromethane	4.74		0.00	128	56834	10.70	10.7		
1	Chloroform	4.85		0.00	83	208380	10.51	10.5		
1	1,1,1-Trichloroethane (TCA)	5.03		0.00	97	153288	9.62	9.62		
1	Carbon Tetrachloride	5.21		0.00	117	164491	10.04	10.0		
1	1,1-Dichloropropene	5.28	-0.01	0.00	75	161066	10.27	10.3		
1	Isobutyl Alcohol	5.66	0.01	0.00	43	35828	271.20	271		
1	Benzene	5.59	-0.01	0.00	78	464321	10.11	10.1		
1	1,2-Dichloroethane (EDC)	5.76	-0.01	0.00	62	123568	9.50	9.50		
1	tert-Amyl Methyl Ether	5.78		0.00	55	185837	21.26	21.3		
1	Trichloroethene (TCE)	6.73		0.00	95	119003	9.73	9.73		
1	1,2-Dichloropropane	7.24		0.00	63	91965	9.07	9.07		
1	Dibromomethane	7.46		0.00	93	50614	9.85	9.85		
1	Methyl Methacrylate	7.54	-0.01	0.00	69	116765	29.38	29.4		
1	1,4-Dioxane	7.52	0.02	0.00	88	14421	332.38	332		
1	Bromodichloromethane	7.81		0.00	83	143162	10.27	10.3		
1	2-Nitropropane	8.49	-0.01	0.00	43	41431	27.18	27.2		
1	2-Chloroethyl Vinyl Ether				63	0		0.16		U
1	cis-1,3-Dichloropropene	8.82		0.00	75	119972	8.77	8.77		
1	4-Methyl-2-pentanone (MIBK)	9.28	0.01	0.00	58	74814	46.63	46.6		
1	Toluene	9.46		0.00	92	309044	9.68	9.68		
2	trans-1,3-Dichloropropene	10.23		0.00	75	83402	8.50	8.50		
2	Ethyl Methacrylate	10.40		0.00	69	221751	30.79	30.8		
2	1,1,2-Trichloroethane	10.55		0.00	83	61576	10.01	10.0		
2	Tetrachloroethene (PCE)	10.53	-0.01	0.00	164	123523	10.85	10.9		
2	2-Hexanone	11.05		0.00	57	22306	41.71	41.7		
2	1,3-Dichloropropane	10.85		0.00	76	125147	9.30	9.30		

U Undetected at or above MDL
 J Analyte detected above MDL, but below MRL
 B Hit above MRL also found in Method Blank
 E Analyte concentration above high point of ICAL
 N Presumptive evidence of compound

D Result from dilution
 m Manual integration performed
 d Compound manually deleted
 NR Analyte not reported from this analysis

* Result fails acceptance criteria
 # Acceptance criteria not applicable
 ? Insufficient information to determine acceptance
 e Result >= MRL, but MRL less than low point of ICAL
 c check for co-elution

Data File:	J:\MS13\DATA\121814\1218F009.D	Instrument:	MS13
Acqu Date:	12/18/2014 11:13	Quant Date:	12/18/2014 11:56
Run Type:	DMS	Vial:	6
Lab ID:	KWG1416392-2 -- K1414067-002DMS	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

						Final Conc. Units: ug/L				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Dibromochloromethane	11.16		0.00	129	107202	10.93	10.9		
2	1,2-Dibromoethane (EDB)	11.31		0.00	107	71599	10.16	10.2		
2	1-Chlorohexane	12.10		0.00	91	122914	9.40	9.40		
2	Chlorobenzene	12.07		0.00	112	348836	10.30	10.3		
2	Ethylbenzene	12.23		0.00	106	189958	10.36	10.4		
2	1,1,1,2-Tetrachloroethane	12.24		0.00	131	111212	10.10	10.1		
2	m,p-Xylenes	12.42		0.00	106	475834	21.37	21.4		
2	o-Xylene	12.95		0.00	106	223682	10.69	10.7		
2	Styrene	13.00		0.00	103	170820	10.67	10.7		
2	Bromoform	13.24		0.00	173	59724	10.69	10.7		
2	Isopropylbenzene	13.45		0.00	105	581545	10.50	10.5		
2	cis-1,4-Dichloro-2-butene	13.66		0.00	89	21722	28.19	28.2		
3	1,1,2,2-Tetrachloroethane	13.95		0.00	83	74638	9.52	9.52		
3	trans-1,4-Dichloro-2-butene	14.04	0.01	0.00	53	74792	33.28	33.3		
3	Bromobenzene	13.82		0.00	156	152961	10.12	10.1		
3	n-Propylbenzene	13.96		0.00	91	668538	9.98	9.98		
3	1,2,3-Trichloropropane	13.98		0.00	110	24084	9.54	9.54		
3	2-Chlorotoluene	14.06		0.00	91	412273	10.15	10.2		
3	1,3,5-Trimethylbenzene	14.20		0.00	105	483190	10.39	10.4		
3	4-Chlorotoluene	14.22	0.01	0.00	91	452354	9.48	9.48		
3	tert-Butylbenzene	14.56		0.00	119	428521	10.22	10.2		
3	1,2,4-Trimethylbenzene	14.64		0.00	105	437759	9.78	9.78		
3	sec-Butylbenzene	14.82		0.00	105	567653	9.78	9.78		
3	4-Isopropyltoluene	15.00		0.00	119	485377	10.15	10.2		
3	1,3-Dichlorobenzene	14.95		0.00	146	296533	9.95	9.95		
3	1,4-Dichlorobenzene	15.07		0.00	146	299761	9.82	9.82		
3	n-Butylbenzene	15.46		0.00	91	387627	9.66	9.66		
3	1,2-Dichlorobenzene	15.49		0.00	146	263308	9.95	9.95		
3	1,2-Dibromo-3-chloropropane	16.38		0.00	155	10233	8.76	8.76		
3	1,3,5-Trichlorobenzene	16.54		0.00	180	203293	10.38	10.4		
3	1,2,4-Trichlorobenzene	17.21		0.00	180	151375	9.08	9.08		
3	Hexachlorobutadiene	17.35		0.00	225	89004	9.78	9.78		
3	Naphthalene	17.47		0.00	128	157800	6.48	6.48		
3	1,2,3-Trichlorobenzene	17.72	-0.01	0.00	180	128594	9.11	9.11		

Prep Amount: 10 ml **Dilution:** 1.0
Prep Final Vol: 10 ml **Unit Factor:** 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\MS13\DATA\121814\1218F009.D
 Acq On : 18 Dec 2014 11:13 am
 Sample : K14067-002DMS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:56:06 2014

Vial: 6
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Internal Standards	R.T.	Q	Ion	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.11	96		437010	10.00	PPB	0.00
64) Chlorobenzene-d5	12.02	82		161492	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.05	152		165320	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.10	113		98827	10.30	PPB	0.00
Spiked Amount	10.000			Recovery	=	103.00%	
47) 1,2-Dichloroethane-d4	5.64	65		87564	9.96	PPB	0.00
Spiked Amount	10.000			Recovery	=	99.60%	
62) Toluene-d8	9.30	98		441460	10.16	PPB	0.00
Spiked Amount	10.000			Recovery	=	101.60%	
84) 4-Bromofluorobenzene	13.68	95		141563	10.57	PPB	0.00
Spiked Amount	10.000			Recovery	=	105.70%	

Target Compounds

	R.T.	Q	Ion	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.17	85		59101	3.83	PPB	99
3) Chloromethane	1.31	50		82032	5.22	PPB	100
4) Vinyl Chloride	1.39	62		95648	7.03	PPB	95
5) Bromomethane	1.64	96		61826	6.86	PPB	95
6) Chloroethane	1.73	64		66558	9.50	PPB	99
7) Dichlorofluoromethane	1.90	67		224041	10.85	PPB	97
8) Trichlorofluoromethane	1.90	101		159329	7.46	PPB	99
9) Ethyl Ether	2.15	59		64066	10.15	PPB	93
11) Trichlorotrifluoroethane	2.34	151		104104	10.05	PPB	97
12) 1,1-Dichloroethene	2.36	96		104016	10.85	PPB	93
13) Acetone	2.47	43		62147	45.41	PPB	97
14) Iodomethane	2.53	142		427696	35.86	PPB	99
15) Carbon Disulfide	2.55	76		690544	21.09	PPB	98
17) 3-Chloro-1-propene	2.73	76		166056	28.43	PPB	100
18) Acetonitrile	2.81	40		90475	288.29	PPB	99
20) Methylene Chloride	2.89	84		95076	8.28	PPB	97
21) tert-Butyl Alcohol	3.00	59		18462	92.53	PPB	96
22) Acrylonitrile	3.23	53		72259	37.88	PPB	94
23) Methyl tert-Butyl Ether	3.11	73		130391	8.80	PPB	97
24) trans-1,2-Dichloroethene	3.13	96		115192	10.25	PPB	98
25) Hexane	3.35	57		418410	27.42	PPB	97
26) Diisopropyl Ether	3.65	45		491304	18.64	PPB	99
27) 1,1-Dichloroethane	3.66	63		186782	10.12	PPB	98
28) Vinyl Acetate	3.71	86		66891	59.95	PPB	# 89
29) Chloroprene	3.71	53		446255	23.14	PPB	99
30) tert-Butyl Ethyl Ether	4.10	59		303209	17.88	PPB	92
31) 2,2-Dichloropropane	4.35	77		91412	9.76	PPB	96

(#) = qualifier out of range (m) = manual integration

1218F009.D 101714MS13_8260W.M

Thu Dec 18 11:56:22 2014

Page 1

Data File : J:\MS13\DATA\121814\1218F009.D
Acq On : 18 Dec 2014 11:13 am
Sample : K14067-002DMS
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 18 11:56:06 2014

Vial: 6
Operator: KR
Inst : MS13
Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Oct 30 20:22:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
32) cis-1,2-Dichloroethene	4.40	96	125296	10.03	PPB	100
33) 2-Butanone	4.46	72	25185	50.15	PPB	97
34) Propionitrile	4.64	54	19962	29.94	PPB	100
35) Ethyl Acetate	4.50	61	17934	27.44	PPB	87
36) Methacrylonitrile	4.81	67	70033	28.56	PPB	89
37) Bromochloromethane	4.74	128	56834	10.70	PPB	85
39) Chloroform	4.85	83	208380	10.51	PPB	99
41) 1,1,1-Trichloroethane	5.03	97	153288	9.62	PPB	98
44) Carbon Tetrachloride	5.21	117	164491	10.04	PPB	96
45) 1,1-Dichloropropene	5.28	75	161066	10.27	PPB	99
46) Isobutyl Alcohol	5.66	43	35828	271.20	PPB	97
48) Benzene	5.59	78	464321	10.11	PPB	99
49) 1,2-Dichloroethane	5.76	62	123568	9.50	PPB	97
50) tert-Amyl Methyl Ether	5.78	55	185837	21.26	PPB	95
51) Trichloroethene	6.73	95	119003	9.73	PPB	83
53) 1,2-Dichloropropane	7.24	63	91965	9.07	PPB	95
54) Dibromomethane	7.46	93	50614	9.85	PPB	92
55) Methyl methacrylate	7.54	69	116765	29.38	PPB	93
56) 1,4-Dioxane	7.52	88	14421	332.38	PPB	86
57) Bromodichloromethane	7.81	83	143162	10.27	PPB	97
58) 2-Nitropropane	8.49	43	41431	27.18	PPB	95
60) cis-1,3-Dichloropropene	8.82	75	119972	8.77	PPB	97
61) 4-Methyl-2-pentanone (MIBK)	9.28	58	74814	46.63	PPB #	29
63) Toluene	9.46	92	309044	9.68	PPB	95
66) trans-1,3-Dichloropropene	10.23	75	83402	8.50	PPB	99
67) Ethyl methacrylate	10.40	69	221751	30.79	PPB	94
68) 1,1,2-Trichloroethane	10.55	83	61576	10.01	PPB	95
69) Tetrachloroethene	10.53	164	123523	10.85	PPB	92
70) 2-Hexanone	11.05	57	22306	41.71	PPB	97
71) 1,3-Dichloropropane	10.85	76	125147	9.30	PPB	99
72) Dibromochloromethane	11.16	129	107202	10.93	PPB	97
73) 1,2-Dibromoethane (EDB)	11.31	107	71599	10.16	PPB	93
74) 1-Chlorohexane	12.10	91	122914	9.40	PPB	95
75) Chlorobenzene	12.07	112	348836	10.30	PPB	97
76) Ethylbenzene	12.23	106	189958	10.36	PPB	99
77) 1,1,1,2-Tetrachloroethane	12.24	131	111212	10.10	PPB	98
78) m,p-Xylenes	12.42	106	475834	21.37	PPB	99
79) o-Xylene	12.95	106	223682	10.69	PPB	94
80) Styrene	13.00	103	170820	10.67	PPB	98
81) Bromoform	13.24	173	59724	10.69	PPB	96
82) Isopropylbenzene	13.45	105	581545	10.50	PPB	98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\121814\1218F009.D
Acq On : 18 Dec 2014 11:13 am
Sample : K14067-002DMS
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 18 11:56:06 2014

Vial: 6
Operator: KR
Inst : MS13
Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Oct 30 20:22:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260W5

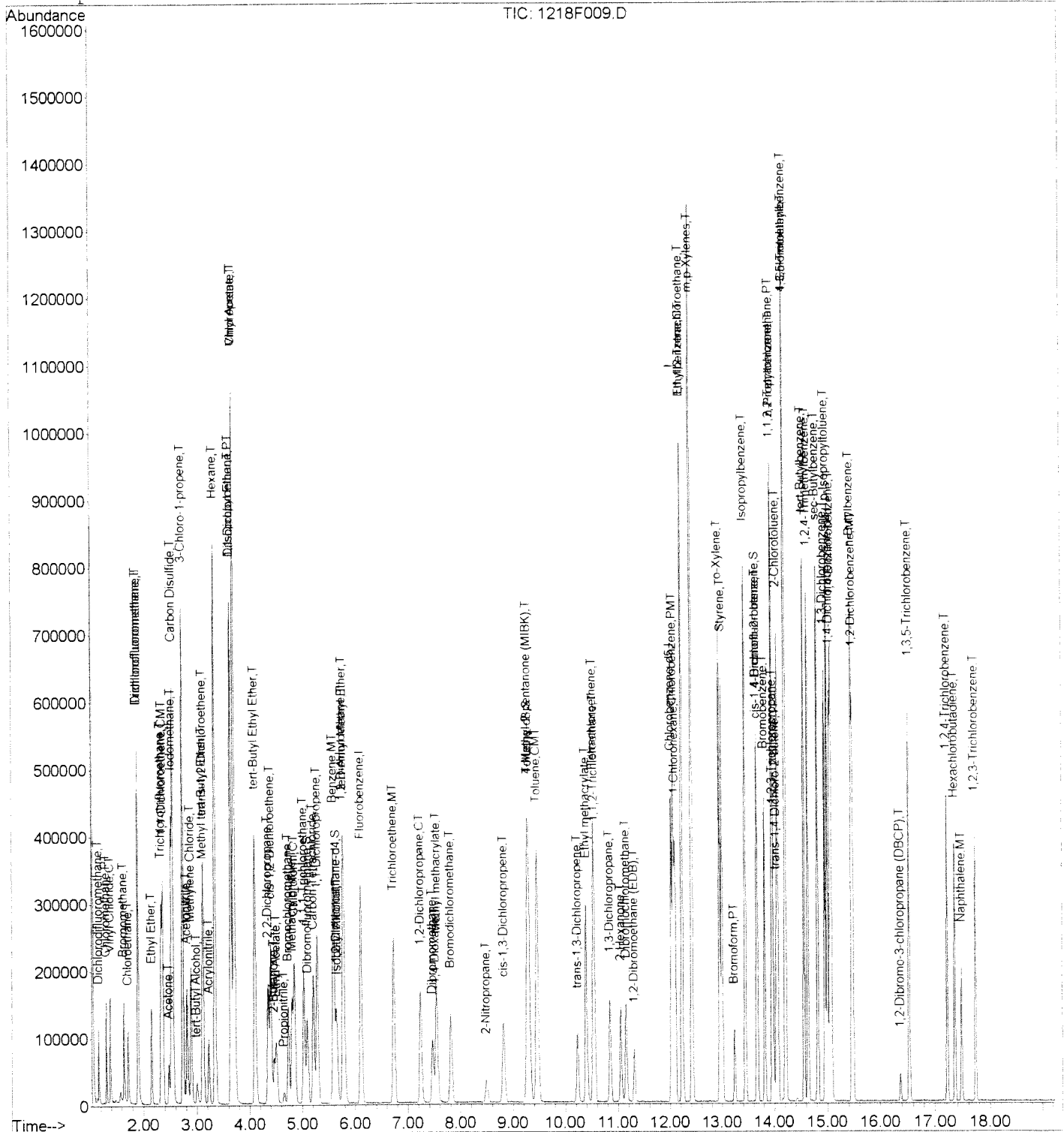
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
83) cis-1,4-Dichloro-2-butene	13.66	89	21722	28.19	PPB	96
86) 1,1,2,2-Tetrachloroethane	13.95	83	74638	9.52	PPB	95
87) trans-1,4-Dichloro-2-buten	14.04	53	74792	33.28	PPB	93
88) Bromobenzene	13.82	156	152961	10.12	PPB	93
89) n-Propylbenzene	13.96	91	668538	9.98	PPB	99
90) 1,2,3-Trichloropropane	13.98	110	24084	9.54	PPB	89
91) 2-Chlorotoluene	14.06	91	412273	10.15	PPB	96
92) 1,3,5-Trimethylbenzene	14.20	105	483190	10.39	PPB	99
93) 4-Chlorotoluene	14.22	91	452354	9.48	PPB	97
94) tert-Butylbenzene	14.56	119	428521	10.22	PPB	97
95) 1,2,4-Trimethylbenzene	14.64	105	437759	9.78	PPB	99
96) sec-Butylbenzene	14.82	105	567653	9.78	PPB	99
97) p-Isopropyltoluene	15.00	119	485377	10.15	PPB	99
98) 1,3-Dichlorobenzene	14.95	146	296533	9.95	PPB	97
99) 1,4-Dichlorobenzene	15.07	146	299761	9.82	PPB	97
100) n-Butylbenzene	15.46	91	387627	9.66	PPB	99
101) 1,2-Dichlorobenzene	15.49	146	263308	9.95	PPB	99
102) 1,2-Dibromo-3-chloropropan	16.38	155	10233	8.76	PPB	# 68
103) 1,3,5-Trichlorobenzene	16.54	180	203293	10.38	PPB	96
104) 1,2,4-Trichlorobenzene	17.21	180	151375	9.08	PPB	97
105) Hexachlorobutadiene	17.35	225	89004	9.78	PPB	98
106) Naphthalene	17.47	128	157800	6.48	PPB	99
107) 1,2,3-Trichlorobenzene	17.72	180	128594	9.11	PPB	99

Data File : J:\MS13\DATA\121814\1218F009.D
 Acq On : 18 Dec 2014 11:13 am
 Sample : K14067-002DMS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:56 2014

Vial: 6
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8

Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration



Exception Report

Data File: J:\MS13\DATA\121814\1218F004.D
Lab ID: KWG1416392-3
RunType: LCS
Matrix: WATER

Date Acquired: 12/18/2014 08:58
Date Quantitated: 12/18/2014 09:23
Batch ID: KWG1416381
Analysis Method: 8260C
MethodJoinID: MJ119

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA		x
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	Acrolein	0.0064	0.01	NA	NR
	2-Propanol	0.0041	0.01	NA	↓
	Acetonitrile	0.0072	0.01	NA	
	tert-Butyl Alcohol	0.0046	0.01	NA	
	Isobutyl Alcohol	0.0030	0.01	NA	
	1,4-Dioxane	0.0010	0.01	NA	
Second Source ICAL Verification	Acrolein	33.1	NA	30	
Continuing Calibration Recovery	Naphthalene	-28.7	NA	20	Check
Continuing Calibration Minimum RF	2-Propanol	0.0037	0.01	NA	NR
	Acetonitrile	0.0068	0.01	NA	↓
	tert-Butyl Alcohol	0.0039	0.01	NA	
	Isobutyl Alcohol	0.0028	0.01	NA	
	1,4-Dioxane	0.0011	0.01	NA	

Primary Review: KA 12/18/14

Secondary Review: QA 12/23/14

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Std MRL Unsupported by ICAL	tert-Butyl Formate	1.0	0.50	NA	<i>M</i>

Primary Review: *KA 12/18/14*

Secondary Review: *QA 12.23.14*

Quantitation Report

Data File: J:\MS13\DATA\121814\1218F004.D	Instrument: MS13
Acqu Date: 12/18/2014 08:58	Quant Date: 12/18/2014 09:23
Run Type: LCS	Vial: 4
Lab ID: KWG1416392-3	Dilution: 1.0
	Soln Conc. Units: PPB

Bottle ID:	Tier:	Matrix: WATER
Prod Code: 8260C VOC Unp	Collect Date:	Receive Date: 12/18/2014

Analysis Lot: KWG1416381	Prep Lot: KWG1416392	Report Group:
Analysis Method: 8260C	Prep Method: EPA 5030B	
Prep Ref: 1404446	Prep Date: 12/18/2014	

Quant Method: J:\MS13\METHODS\101714MS13_8	Calibration ID: CAL13625
Title:	
Tune Ref: J:\MS13\DATA\121814\1218F001.D	Method ID: MJ119
MB Ref:	Quant based on Method

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	431207	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	158867	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	161183	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.09	0.00	0.00	113	96865	10.23	102	73-122	OK
1	1,2-Dichloroethane-d4	5.65	0.01	0.00	65	85601	9.87	99	59-127	OK
1	Toluene-d8	9.30	0.00	0.00	98	438315	10.22	102	65-144	OK
2	4-Bromofluorobenzene	13.68	0.00	0.00	95	137518	10.44	104	68-117	OK

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane	1.16	-0.01	0.00	85	58229	3.82	3.82		
1	Chloromethane	1.31		0.00	50	81035	5.22	5.22		
1	Vinyl Chloride	1.38	-0.01	0.00	62	94916	7.07	7.07		
1	Bromomethane	1.64	-0.01	0.00	96	64558	7.26	7.26		
1	Chloroethane	1.73		0.00	64	64789	9.37	9.37		
1	Dichlorofluoromethane (CFC 21	1.90		0.00	67	218751	10.73	10.7		
1	Trichlorofluoromethane	1.90		0.00	101	160431	7.61	7.61		
1	Ethyl Ether	2.15		0.00	59	61344	9.85	9.85		
1	Acrolein				56	0d		1.2		U
1	Trichlorotrifluoroethane	2.34		0.00	151	103891	10.17	10.2		
1	1,1-Dichloroethene	2.36		0.00	96	105097	11.11	11.1		
1	Acetone	2.47		0.00	43	62523	46.30	46.3		
1	Iodomethane	2.53		0.00	142	413293	35.12	35.1		
1	Carbon Disulfide	2.55		0.00	76	689208	21.33	21.3		

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F004.D	Instrument:	MS13
Acqu Date:	12/18/2014 08:58	Quant Date:	12/18/2014 09:23
Run Type:	LCS	Vial:	4
Lab ID:	KWG1416392-3	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

		Final Conc. Units:		ug/L						
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
1	2-Propanol				45	0d		17	U	
1	3-Chloro-1-propene	2.74		0.00	76	154299	26.77	26.8		
1	Acetonitrile	2.81		0.00	40	85489	276.07	276		
1	Methyl Acetate				43	0d		0.38	U	
1	Methylene Chloride	2.89		0.00	84	98311	8.67	8.67		
1	tert-Butyl Alcohol	3.00		0.00	59	17150	87.11	87.1		
1	Acrylonitrile	3.22	-0.01	0.00	53	69641	37.00	37.0		
1	Methyl tert-Butyl Ether	3.11	0.01	0.00	73	129769	8.88	8.88		
1	trans-1,2-Dichloroethene	3.12	-0.01	0.00	96	119304	10.76	10.8		
1	n-Hexane	3.35		0.00	57	397012	26.37	26.4		
1	Diisopropyl Ether	3.65		0.00	45	481554	18.52	18.5		
1	1,1-Dichloroethane	3.65	-0.01	0.00	63	186424	10.24	10.2		
1	Vinyl Acetate	3.71	-0.01	0.00	86	60649	55.09	55.1		
1	Chloroprene	3.71		0.00	53	528124	27.75	27.8		
1	tert-Butyl Ethyl Ether	4.10		0.00	59	301134	17.99	18.0		
1	2,2-Dichloropropane	4.35	-0.01	0.00	77	91115	9.85	9.85		
1	cis-1,2-Dichloroethene	4.40		0.00	96	125424	10.17	10.2		
1	2-Butanone (MEK)	4.46		0.00	72	26599	53.68	53.7		
1	Propionitrile	4.65		0.00	54	17948	27.28	27.3		
1	Ethyl Acetate	4.50		0.00	61	18678	28.97	29.0		
1	Methacrylonitrile	4.81		0.00	67	68094	28.14	28.1		
1	Bromochloromethane	4.73	-0.01	0.00	128	56238	10.73	10.7		
1	Tetrahydrofuran				71	0d		0.94	U	
1	Chloroform	4.85		0.00	83	196974	10.07	10.1		
1	tert-Butyl Formate				59	0d		0.26	U	
1	1,1,1-Trichloroethane (TCA)	5.03		0.00	97	153295	9.75	9.75		
1	Cyclohexane	4.99		0.00	56	627	0.0400	0.36	U	
1	Carbon Tetrachloride	5.21		0.00	117	164999	10.21	10.2		
1	1,1-Dichloropropene	5.28	-0.01	0.00	75	163766	10.58	10.6		
1	Isobutyl Alcohol	5.66	0.01	0.00	43	33041	253.47	253		
1	Benzene	5.59	-0.01	0.00	78	464758	10.25	10.3		
1	1,2-Dichloroethane (EDC)	5.77		0.00	62	121582	9.48	9.48		
1	tert-Amyl Methyl Ether	5.77	-0.01	0.00	55	182516	21.16	21.2		
1	Trichloroethene (TCE)	6.73		0.00	95	122076	10.11	10.1		
1	Methylcyclohexane				83	0		0.33	U	
1	1,2-Dichloropropane	7.24		0.00	63	92202	9.22	9.22		
1	Dibromomethane	7.47	0.01	0.00	93	51948	10.24	10.2		
1	Methyl Methacrylate	7.54	-0.01	0.00	69	110575	28.20	28.2		
1	1,4-Dioxane	7.51	0.01	0.00	88	12270	286.61	287		
1	Bromodichloromethane	7.81		0.00	83	136210	9.91	9.91		
1	2-Nitropropane	8.50		0.00	43	40445	26.89	26.9		
1	2-Chloroethyl Vinyl Ether	8.59		0.00	63	35915	9.61	9.61		

U Undetected at or above MDL
 J Analyte detected above MDL, but below MRL
 B Hit above MRL also found in Method Blank
 E Analyte concentration above high point of ICAL
 N Presumptive evidence of compound

D Result from dilution
 m Manual integration performed
 d Compound manually deleted
 NR Analyte not reported from this analysis

* Result fails acceptance criteria
 # Acceptance criteria not applicable
 ? Insufficient information to determine acceptance
 e Result >= MRL, but MRL less than low point of ICAL
 c check for co-elution

Data File:	J:\MS13\DATA\121814\1218F004.D	Instrument:	MS13
Acqu Date:	12/18/2014 08:58	Quant Date:	12/18/2014 09:23
Run Type:	LCS	Vial:	4
Lab ID:	KWG1416392-3	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

						Final Conc. Units:	ug/L			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
1	cis-1,3-Dichloropropene	8.82		0.00	75	127780	9.46	9.46		
1	4-Methyl-2-pentanone (MIBK)	9.28	0.01	0.00	58	73562	46.47	46.5		
1	Toluene	9.46		0.00	92	308445	9.79	9.79		
2	n-Octane				85	0d		0.16	U	
2	trans-1,3-Dichloropropene	10.23		0.00	75	83296	8.63	8.63		
2	Ethyl Methacrylate	10.40		0.00	69	213328	30.11	30.1		
2	1,1,2-Trichloroethane	10.55		0.00	83	59968	9.91	9.91		
2	Tetrachloroethene (PCE)	10.53	-0.01	0.00	164	124357	11.10	11.1		
2	2-Hexanone	11.05		0.00	57	22707	43.16	43.2		
2	1,3-Dichloropropane	10.85		0.00	76	126250	9.54	9.54		
2	Dibromochloromethane	11.15	-0.01	0.00	129	96820	10.03	10.0		
2	1,2-Dibromoethane (EDB)	11.31		0.00	107	71674	10.34	10.3		
2	1-Chlorohexane	12.10		0.00	91	126082	9.80	9.80		
2	Chlorobenzene	12.07		0.00	112	350864	10.53	10.5		
2	Ethylbenzene	12.23		0.00	106	189796	10.53	10.5		
2	1,1,1,2-Tetrachloroethane	12.23	-0.01	0.00	131	109660	10.12	10.1		
2	m,p-Xylenes	12.42		0.00	106	477495	21.80	21.8		
2	o-Xylene	12.95		0.00	106	226136	10.99	11.0		
2	Styrene	13.00		0.00	103	172500	10.96	11.0		
2	Bromoform	13.24		0.00	173	55694	10.14	10.1		
2	Isopropylbenzene	13.45		0.00	105	596924	10.96	11.0		
2	cis-1,4-Dichloro-2-butene	13.66		0.00	89	23191	30.59	30.6		
3	1,1,2,2-Tetrachloroethane	13.95		0.00	83	73221	9.58	9.58		
3	trans-1,4-Dichloro-2-butene	14.03		0.00	53	71911	32.82	32.8		
3	Bromobenzene	13.82		0.00	156	150379	10.20	10.2		
3	n-Propylbenzene	13.96		0.00	91	670606	10.27	10.3		
3	1,2,3-Trichloropropane	13.99	0.01	0.00	110	23273	9.46	9.46		
3	2-Chlorotoluene	14.06		0.00	91	412880	10.43	10.4		
3	1,3,5-Trimethylbenzene	14.20		0.00	105	485133	10.70	10.7		
3	4-Chlorotoluene	14.22	0.01	0.00	91	463959	9.97	9.97		
3	tert-Butylbenzene	14.56		0.00	119	435708	10.65	10.7		
3	1,2,4-Trimethylbenzene	14.63	-0.01	0.00	105	442310	10.13	10.1		
3	sec-Butylbenzene	14.82		0.00	105	579187	10.24	10.2		
3	4-Isopropyltoluene	15.00		0.00	119	493305	10.58	10.6		
3	1,3-Dichlorobenzene	14.95		0.00	146	293517	10.10	10.1		
3	1,4-Dichlorobenzene	15.07		0.00	146	303542	10.20	10.2		
3	n-Butylbenzene	15.46		0.00	91	394257	10.08	10.1		
3	1,2-Dichlorobenzene	15.49		0.00	146	261083	10.12	10.1		
3	1,2-Dibromo-3-chloropropane	16.38		0.00	155	9897	8.69	8.69		
3	1,3,5-Trichlorobenzene	16.54		0.00	180	204641	10.72	10.7		
3	1,2,4-Trichlorobenzene	17.21		0.00	180	156629	9.64	9.64		
3	Hexachlorobutadiene	17.35		0.00	225	87756	9.89	9.89		

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F004.D	Instrument:	MS13
Acqu Date:	12/18/2014 08:58	Quant Date:	12/18/2014 09:23
Run Type:	LCS	Vial:	4
Lab ID:	KWG1416392-3	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Naphthalene	17.47		0.00	128	151292	6.37	6.37		
3	1,2,3-Trichlorobenzene	17.73		0.00	180	130090	9.45	9.45		
	Benzyl Chloride				0	0		1.0	U	NR
	Isopropyl Acetate				0	0		20	U	NR
	Cyclohexanone				0	0		1.0	U	NR
	2-Ethoxyethanol				0	0		1.0	U	NR
	Bis(2-chloroethyl) Ether				0	0		20	U	NR
	beta-Pinene				0	0		1.0	U	NR
	1,1,2-Trifluoroethane				0	0		1.0	U	NR
	2,2,4-Trimethylpentane				0	0		1.0	U	NR
	Bis(chloromethyl) Ether				0	0		1.0	U	NR
	Amyl Acetate				0	0		20	U	NR
	Bromoethane				0	0		1.0	U	NR
	Pentachloroethane				0	0		5.0	U	NR
	1,1-Dichloropropane				0	0		1.0	U	NR
	alpha-Pinene				0	0		1.0	U	NR
	1,1,1,2-Tetrafluoroethane				0	0		1.0	U	NR
	Nitrobenzene				0	0		20	U	NR

Prep Amount: 10 ml Dilution: 1.0
 Prep Final Vol: 10 ml Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U Undetected at or above MDL
 J Analyte detected above MDL, but below MRL
 B Hit above MRL also found in Method Blank
 E Analyte concentration above high point of ICAL
 N Presumptive evidence of compound

D Result from dilution
 m Manual integration performed
 d Compound manually deleted
 NR Analyte not reported from this analysis

* Result fails acceptance criteria
 # Acceptance criteria not applicable
 ? Insufficient information to determine acceptance
 e Result >= MRL, but MRL less than low point of ICAL
 c check for co-elution

Data File : J:\MS13\DATA\121814\1218F004.D
 Acq On : 18 Dec 2014 8:58 am
 Sample : 8260 LCS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 09:22:24 2014

Vial: 4
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.11	96	431207	10.00	PPB	0.00
64) Chlorobenzene-d5	12.02	82	158867	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.05	152	161183	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.09	113	96865	10.23	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.30%	
47) 1,2-Dichloroethane-d4	5.65	65	85601	9.87	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.70%	
62) Toluene-d8	9.30	98	438315	10.22	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.20%	
84) 4-Bromofluorobenzene	13.68	95	137518	10.44	PPB	0.00
Spiked Amount	10.000		Recovery	=	104.40%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	1.16	85	58229	3.82	PPB	97
3) Chloromethane	1.31	50	81035	5.22	PPB	99
4) Vinyl Chloride	1.38	62	94916	7.07	PPB	97
5) Bromomethane	1.64	96	64558	7.26	PPB	99
6) Chloroethane	1.73	64	64789	9.37	PPB	98
7) Dichlorofluoromethane	1.90	67	218751	10.73	PPB	97
8) Trichlorofluoromethane	1.90	101	160431	7.61	PPB	98
9) Ethyl Ether	2.15	59	61344	9.85	PPB	96
11) Trichlorotrifluoroethane	2.34	151	103891	10.17	PPB	93
12) 1,1-Dichloroethene	2.36	96	105097	11.11	PPB	99
13) Acetone	2.47	43	62523	46.30	PPB	100
14) Iodomethane	2.53	142	413293	35.12	PPB	98
15) Carbon Disulfide	2.55	76	689208	21.33	PPB	99
17) 3-Chloro-1-propene	2.74	76	154299	26.77	PPB	97
18) Acetonitrile	2.81	40	85489	276.07	PPB	98
20) Methylene Chloride	2.89	84	98311	8.67	PPB	95
21) tert-Butyl Alcohol	3.00	59	17150	87.11	PPB	96
22) Acrylonitrile	3.22	53	69641	37.00	PPB	96
23) Methyl tert-Butyl Ether	3.11	73	129769	8.88	PPB	97
24) trans-1,2-Dichloroethene	3.12	96	119304	10.76	PPB	97
25) Hexane	3.35	57	397012	26.37	PPB	95
26) Diisopropyl Ether	3.65	45	481554	18.52	PPB	99
27) 1,1-Dichloroethane	3.65	63	186424	10.24	PPB	99
28) Vinyl Acetate	3.71	86	60649	55.09	PPB	# 87
29) Chloroprene	3.71	53	528124	27.75	PPB	97
30) tert-Butyl Ethyl Ether	4.10	59	301134	17.99	PPB	99
31) 2,2-Dichloropropane	4.35	77	91115	9.85	PPB	97

(#) = qualifier out of range (m) = manual integration

1218F004.D 101714MS13_8260W.M

Thu Dec 18 09:23:24 2014

Page 1

Data File : J:\MS13\DATA\121814\1218F004.D
 Acq On : 18 Dec 2014 8:58 am
 Sample : 8260 LCS
 Misc :

Vial: 4
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

MS Integration Params: rteint.p
 Quant Time: Dec 18 09:22:24 2014

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
32) cis-1,2-Dichloroethene	4.40	96	125424	10.17	PPB	94
33) 2-Butanone	4.46	72	26599	53.68	PPB	96
34) Propionitrile	4.65	54	17948	27.28	PPB	98
35) Ethyl Acetate	4.50	61	18678	28.97	PPB	77
36) Methacrylonitrile	4.81	67	68094	28.14	PPB	96
37) Bromochloromethane	4.73	128	56238	10.73	PPB	93
39) Chloroform	4.85	83	196974	10.07	PPB	98
41) 1,1,1-Trichloroethane	5.03	97	153295	9.75	PPB	97
43) Cyclohexane	4.99	56	627	0.04	PPB	# 16
44) Carbon Tetrachloride	5.21	117	164999	10.21	PPB	98
45) 1,1-Dichloropropene	5.28	75	163766	10.58	PPB	98
46) Isobutyl Alcohol	5.66	43	33041	253.47	PPB	94
48) Benzene	5.59	78	464758	10.25	PPB	99
49) 1,2-Dichloroethane	5.77	62	121582	9.48	PPB	97
50) tert-Amyl Methyl Ether	5.77	55	182516	21.16	PPB	95
51) Trichloroethene	6.73	95	122076	10.11	PPB	89
53) 1,2-Dichloropropane	7.24	63	92202	9.22	PPB	96
54) Dibromomethane	7.47	93	51948	10.24	PPB	89
55) Methyl methacrylate	7.54	69	110575	28.20	PPB	93
56) 1,4-Dioxane	7.51	88	12270	286.61	PPB	96
57) Bromodichloromethane	7.81	83	136210	9.91	PPB	100
58) 2-Nitropropane	8.50	43	40445	26.89	PPB	96
59) 2-Chloroethyl Vinyl Ether	8.59	63	35915	9.61	PPB	98
60) cis-1,3-Dichloropropene	8.82	75	127780	9.46	PPB	97
61) 4-Methyl-2-pentanone (MIBK)	9.28	58	73562	46.47	PPB	# 31
63) Toluene	9.46	92	308445	9.79	PPB	92
66) trans-1,3-Dichloropropene	10.23	75	83296	8.63	PPB	97
67) Ethyl methacrylate	10.40	69	213328	30.11	PPB	97
68) 1,1,2-Trichloroethane	10.55	83	59968	9.91	PPB	94
69) Tetrachloroethene	10.53	164	124357	11.10	PPB	88
70) 2-Hexanone	11.05	57	22707	43.16	PPB	92
71) 1,3-Dichloropropane	10.85	76	126250	9.54	PPB	100
72) Dibromochloromethane	11.15	129	96820	10.03	PPB	98
73) 1,2-Dibromoethane (EDB)	11.31	107	71674	10.34	PPB	94
74) 1-Chlorohexane	12.10	91	126082	9.80	PPB	96
75) Chlorobenzene	12.07	112	350864	10.53	PPB	99
76) Ethylbenzene	12.23	106	189796	10.53	PPB	92
77) 1,1,1,2-Tetrachloroethane	12.23	131	109660	10.12	PPB	96
78) m,p-Xylenes	12.42	106	477495	21.80	PPB	98
79) o-Xylene	12.95	106	226136	10.99	PPB	97
80) Styrene	13.00	103	172500	10.96	PPB	95

(#) = qualifier out of range (m) = manual integration

1218F004.D 101714MS13_8260W.M

Thu Dec 18 09:23:24 2014

Page 2

Data File : J:\MS13\DATA\121814\1218F004.D
 Acq On : 18 Dec 2014 8:58 am
 Sample : 8260 LCS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 09:22:24 2014

Vial: 4
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
81) Bromoform	13.24	173	55694	10.14	PPB	95
82) Isopropylbenzene	13.45	105	596924	10.96	PPB	98
83) cis-1,4-Dichloro-2-butene	13.66	89	23191	30.59	PPB	89
86) 1,1,2,2-Tetrachloroethane	13.95	83	73221	9.58	PPB	90
87) trans-1,4-Dichloro-2-buten	14.03	53	71911	32.82	PPB	95
88) Bromobenzene	13.82	156	150379	10.20	PPB	93
89) n-Propylbenzene	13.96	91	670606	10.27	PPB	97
90) 1,2,3-Trichloropropane	13.99	110	23273	9.46	PPB	87
91) 2-Chlorotoluene	14.06	91	412880	10.43	PPB	100
92) 1,3,5-Trimethylbenzene	14.20	105	485133	10.70	PPB	100
93) 4-Chlorotoluene	14.22	91	463959	9.97	PPB	97
94) tert-Butylbenzene	14.56	119	435708	10.65	PPB	95
95) 1,2,4-Trimethylbenzene	14.63	105	442310	10.13	PPB	98
96) sec-Butylbenzene	14.82	105	579187	10.24	PPB	98
97) p-Isopropyltoluene	15.00	119	493305	10.58	PPB	100
98) 1,3-Dichlorobenzene	14.95	146	293517	10.10	PPB	97
99) 1,4-Dichlorobenzene	15.07	146	303542	10.20	PPB	96
100) n-Butylbenzene	15.46	91	394257	10.08	PPB	97
101) 1,2-Dichlorobenzene	15.49	146	261083	10.12	PPB	100
102) 1,2-Dibromo-3-chloropropan	16.38	155	9897	8.69	PPB #	77
103) 1,3,5-Trichlorobenzene	16.54	180	204641	10.72	PPB	99
104) 1,2,4-Trichlorobenzene	17.21	180	156629	9.64	PPB	97
105) Hexachlorobutadiene	17.35	225	87756	9.89	PPB	98
106) Naphthalene	17.47	128	151292	6.37	PPB	98
107) 1,2,3-Trichlorobenzene	17.73	180	130090	9.45	PPB	99

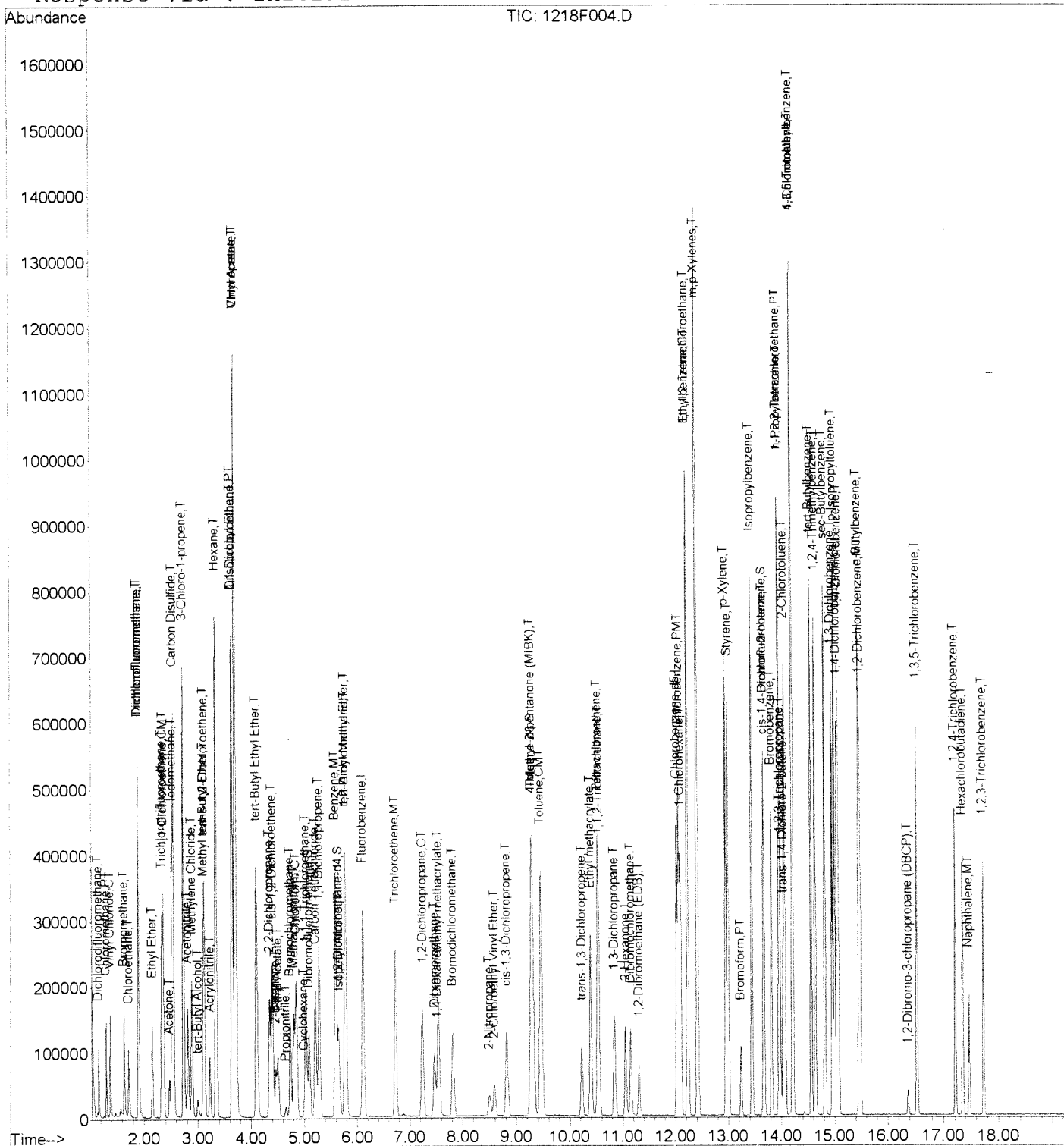
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\121814\1218F004.D
 Acq On : 18 Dec 2014 8:58 am
 Sample : 8260 LCS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 9:23 2014

Vial: 4
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8

Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration



Exception Report

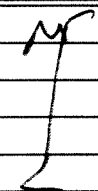

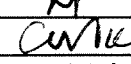
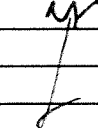
Data File: J:\MS13\DATA\121814\1218F005.D
Lab ID: KWG1416392-4
RunType: DLCS
Matrix: WATER

Date Acquired: 12/18/2014 09:25
Date Quantitated: 12/18/2014 11:54
Batch ID: KWG1416381
Analysis Method: 8260C
MethodJoinID: MJ1093

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA		x
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	Acrolein	0.0064	0.01	NA	
	Acetonitrile	0.0072	0.01	NA	
	tert-Butyl Alcohol	0.0046	0.01	NA	
	Isobutyl Alcohol	0.0030	0.01	NA	
	1,4-Dioxane	0.0010	0.01	NA	
Second Source ICAL Verification	Acrolein	33.1	NA	30	
Continuing Calibration Recovery	Naphthalene	-28.7	NA	20	
Continuing Calibration Minimum RF	Acetonitrile	0.0068	0.01	NA	
	tert-Butyl Alcohol	0.0039	0.01	NA	
	Isobutyl Alcohol	0.0028	0.01	NA	
	1,4-Dioxane	0.0011	0.01	NA	

Primary Review: KL 12/23/14 x

Secondary Review: [Signature] 12/23/14

Quantitation Report

Data File:	J:\MS13\DATA\121814\1218F005.D	Instrument:	MS13
Acqu Date:	12/18/2014 09:25	Quant Date:	12/18/2014 11:54
Run Type:	DLCS	Vial:	4
Lab ID:	KWG1416392-4	Dilution:	1.0
		Soln Conc. Units:	PPB

Bottle ID:		Tier:		Matrix:	WATER
Prod Code:	8260C VOC Unp	Collect Date:		Receive Date:	12/18/2014

Analysis Lot:	KWG1416381	Prep Lot:	KWG1416392	Report Group:	
Analysis Method:	8260C	Prep Method:	EPA 5030B		
Prep Ref:	1404447	Prep Date:	12/18/2014		

Quant Method:	J:\MS13\METHODS\101714MS13_8	Calibration ID:	CAL13625
Title:		Method ID:	MJ1093
Tune Ref:	J:\MS13\DATA\121814\1218F001.D	Quant based on Method	
MB Ref:			

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	428139	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	162003	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	164382	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.10	0.01	0.00	113	95477	10.16	102	85-115	OK
1	1,2-Dichloroethane-d4	5.64	0.00	0.00	65	86241	10.02	100	70-120	OK
1	Toluene-d8	9.30	0.00	0.00	98	431531	10.14	101	85-120	OK
2	4-Bromofluorobenzene	13.68	0.00	0.00	95	137681	10.25	103	75-120	OK

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dichlorodifluoromethane	1.17		0.00	85	51539	3.41	3.41		
1	Chloromethane	1.31		0.00	50	75706	4.91	4.91		
1	Vinyl Chloride	1.39		0.00	62	86616	6.50	6.50		
1	Bromomethane	1.64	-0.01	0.00	96	63773	7.22	7.22		
1	Chloroethane	1.73		0.00	64	62424	9.10	9.10		
1	Trichlorofluoromethane	1.90		0.00	101	148319	7.09	7.09		
1	Acrolein				56	0d		1.2		U
1	Trichlorotrifluoroethane	2.34		0.00	151	97017	9.56	9.56		
1	1,1-Dichloroethene	2.36		0.00	96	99059	10.54	10.5		
1	Acetone	2.47		0.00	43	63017	47.00	47.0		
1	Iodomethane	2.53		0.00	142	407392	34.87	34.9		
1	Carbon Disulfide	2.55		0.00	76	649343	20.24	20.2		
1	3-Chloro-1-propene	2.74		0.00	76	148366	25.93	25.9		
1	Acetonitrile	2.81		0.00	40	89551	291.26	291		

U: Undetected at or above MDL
 F: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F005.D	Instrument:	MS13
Acqu Date:	12/18/2014 09:25	Quant Date:	12/18/2014 11:54
Run Type:	DLCS	Vial:	4
Lab ID:	KWG1416392-4	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

						Final Conc. Units:	ug/L			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Methylene Chloride	2.89		0.00	84	93995	8.35	8.35		
1	tert-Butyl Alcohol	3.00		0.00	59	18100	92.60	92.6		
1	Acrylonitrile	3.23		0.00	53	69847	37.37	37.4		
1	Methyl tert-Butyl Ether	3.10		0.00	73	130987	9.03	9.03		
1	trans-1,2-Dichloroethene	3.13		0.00	96	111800	10.16	10.2		
1	Diisopropyl Ether	3.65		0.00	45	475242	18.40	18.4		
1	1,1-Dichloroethane	3.66		0.00	63	178163	9.86	9.86		
1	Vinyl Acetate	3.71	-0.01	0.00	86	61004	55.81	55.8		
1	Chloroprene	3.71		0.00	53	496885	26.29	26.3		
1	tert-Butyl Ethyl Ether	4.10		0.00	59	297000	17.87	17.9		
1	2,2-Dichloropropane	4.35	-0.01	0.00	77	86111	9.38	9.38		
1	cis-1,2-Dichloroethene	4.40		0.00	96	120547	9.85	9.85		
1	2-Butanone (MEK)	4.47	0.01	0.00	72	25623	52.08	52.1		
1	Propionitrile	4.64	-0.01	0.00	54	17866	27.35	27.4		
1	Ethyl Acetate	4.50		0.00	61	17819	27.83	27.8		
1	Methacrylonitrile	4.80	-0.01	0.00	67	67739	28.20	28.2		
1	Bromochloromethane	4.73	-0.01	0.00	128	55794	10.72	10.7		
1	Chloroform	4.85		0.00	83	189937	9.78	9.78		
1	1,1,1-Trichloroethane (TCA)	5.03		0.00	97	142886	9.15	9.15		
1	Carbon Tetrachloride	5.21		0.00	117	154991	9.66	9.66		
1	1,1-Dichloropropene	5.29		0.00	75	155501	10.12	10.1		
1	Isobutyl Alcohol	5.65		0.00	43	33960	262.39	262		
1	Benzene	5.59	-0.01	0.00	78	444227	9.87	9.87		
1	1,2-Dichloroethane (EDC)	5.77		0.00	62	121772	9.56	9.56		
1	tert-Amyl Methyl Ether	5.78		0.00	55	181258	21.17	21.2		
1	Trichloroethene (TCE)	6.73		0.00	95	115040	9.60	9.60		
1	1,2-Dichloropropane	7.24		0.00	63	91709	9.23	9.23		
1	Dibromomethane	7.46		0.00	93	49744	9.88	9.88		
1	Methyl Methacrylate	7.54	-0.01	0.00	69	109133	28.03	28.0		
1	1,4-Dioxane	7.52	0.02	0.00	88	12462	293.18	293		
1	Bromodichloromethane	7.81		0.00	83	132112	9.68	9.68		
1	2-Nitropropane	8.49	-0.01	0.00	43	38210	25.59	25.6		
1	2-Chloroethyl Vinyl Ether	8.59		0.00	63	35559	9.58	9.58		
1	cis-1,3-Dichloropropene	8.82		0.00	75	120814	9.01	9.01		
1	4-Methyl-2-pentanone (MIBK)	9.28	0.01	0.00	58	74031	47.10	47.1		
1	Toluene	9.46		0.00	92	300048	9.59	9.59		
2	trans-1,3-Dichloropropene	10.23		0.00	75	81615	8.29	8.29		
2	Ethyl Methacrylate	10.40		0.00	69	211382	29.26	29.3		
2	1,1,2-Trichloroethane	10.55		0.00	83	59357	9.62	9.62		
2	Tetrachloroethene (PCE)	10.53	-0.01	0.00	164	117923	10.32	10.3		
2	2-Hexanone	11.05		0.00	57	21647	40.36	40.4		
2	1,3-Dichloropropane	10.85		0.00	76	123705	9.17	9.17		

U: Undetected at or above MDL
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 D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis
 *: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File:	J:\MS13\DATA\121814\1218F005.D	Instrument:	MS13
Acqu Date:	12/18/2014 09:25	Quant Date:	12/18/2014 11:54
Run Type:	DLCS	Vial:	4
Lab ID:	KWG1416392-4	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

						Final Conc. Units: ug/L				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Dibromochloromethane	11.16		0.00	129	96135	9.77	9.77		
2	1,2-Dibromoethane (EDB)	11.31		0.00	107	68630	9.71	9.71		
2	1-Chlorohexane	12.10		0.00	91	117213	8.94	8.94		
2	Chlorobenzene	12.07		0.00	112	336434	9.90	9.90		
2	Ethylbenzene	12.23		0.00	106	183327	9.97	9.97		
2	1,1,1,2-Tetrachloroethane	12.23	-0.01	0.00	131	109216	9.88	9.88		
2	m,p-Xylenes	12.42		0.00	106	468689	20.98	21.0		
2	o-Xylene	12.95		0.00	106	214900	10.24	10.2		
2	Styrene	13.01	0.01	0.00	103	166882	10.39	10.4		
2	Bromoform	13.24		0.00	173	57258	10.22	10.2		
2	Isopropylbenzene	13.45		0.00	105	566892	10.21	10.2		
2	cis-1,4-Dichloro-2-butene	13.66		0.00	89	23158	29.96	30.0		
3	1,1,2,2-Tetrachloroethane	13.95		0.00	83	71562	9.18	9.18		
3	trans-1,4-Dichloro-2-butene	14.03		0.00	53	71864	32.16	32.2		
3	Bromobenzene	13.82		0.00	156	149474	9.94	9.94		
3	n-Propylbenzene	13.96		0.00	91	638238	9.58	9.58		
3	1,2,3-Trichloropropane	13.98		0.00	110	23779	9.47	9.47		
3	2-Chlorotoluene	14.06		0.00	91	401116	9.93	9.93		
3	1,3,5-Trimethylbenzene	14.20		0.00	105	457574	9.89	9.89		
3	4-Chlorotoluene	14.22	0.01	0.00	91	443254	9.34	9.34		
3	tert-Butylbenzene	14.56		0.00	119	411034	9.86	9.86		
3	1,2,4-Trimethylbenzene	14.64		0.00	105	428664	9.63	9.63		
3	sec-Butylbenzene	14.82		0.00	105	545720	9.46	9.46		
3	4-Isopropyltoluene	15.00		0.00	119	473920	9.97	9.97		
3	1,3-Dichlorobenzene	14.95		0.00	146	285205	9.62	9.62		
3	1,4-Dichlorobenzene	15.07		0.00	146	286236	9.43	9.43		
3	n-Butylbenzene	15.46		0.00	91	376757	9.44	9.44		
3	1,2-Dichlorobenzene	15.49		0.00	146	251070	9.54	9.54		
3	1,2-Dibromo-3-chloropropane	16.38		0.00	155	9827	8.46	8.46		
3	1,3,5-Trichlorobenzene	16.54		0.00	180	196596	10.10	10.1		
3	1,2,4-Trichlorobenzene	17.21		0.00	180	156574	9.45	9.45		
3	Hexachlorobutadiene	17.35		0.00	225	83696	9.25	9.25		
3	Naphthalene	17.47		0.00	128	163952	6.76	6.76		
3	1,2,3-Trichlorobenzene	17.73		0.00	180	133907	9.54	9.54		

Prep Amount: 10 ml Dilution: 1.0
 Prep Final Vol: 10 ml Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
 F: Analyte detected above MDL, but below MRL
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D: Result from dilution
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*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File : J:\MS13\DATA\121814\1218F005.D
 Acq On : 18 Dec 2014 9:25 am
 Sample : 8260 DLCS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:53:56 2014

Vial: 4
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.11	96	428139	10.00	PPB	0.00
64) Chlorobenzene-d5	12.02	82	162003	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.05	152	164382	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.10	113	95477	10.16	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.60%	
47) 1,2-Dichloroethane-d4	5.64	65	86241	10.02	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.20%	
62) Toluene-d8	9.30	98	431531	10.14	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.40%	
84) 4-Bromofluorobenzene	13.68	95	137681	10.25	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.50%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.17	85	51539	3.41	PPB	97
3) Chloromethane	1.31	50	75706	4.91	PPB	99
4) Vinyl Chloride	1.39	62	86616	6.50	PPB	96
5) Bromomethane	1.64	96	63773	7.22	PPB	97
6) Chloroethane	1.73	64	62424	9.10	PPB	95
7) Dichlorofluoromethane	1.90	67	208301	10.29	PPB	98
8) Trichlorofluoromethane	1.90	101	148319	7.09	PPB	96
9) Ethyl Ether	2.15	59	60658	9.81	PPB	93
11) Trichlorotrifluoroethane	2.34	151	97017	9.56	PPB	96
12) 1,1-Dichloroethene	2.36	96	99059	10.54	PPB	98
13) Acetone	2.47	43	63017	47.00	PPB	93
14) Iodomethane	2.53	142	407392	34.87	PPB	99
15) Carbon Disulfide	2.55	76	649343	20.24	PPB	99
17) 3-Chloro-1-propene	2.74	76	148366	25.93	PPB	92
18) Acetonitrile	2.81	40	89551	291.26	PPB	99
20) Methylene Chloride	2.89	84	93995	8.35	PPB	99
21) tert-Butyl Alcohol	3.00	59	18100	92.60	PPB	96
22) Acrylonitrile	3.23	53	69847	37.37	PPB	95
23) Methyl tert-Butyl Ether	3.10	73	130987	9.03	PPB	99
24) trans-1,2-Dichloroethene	3.13	96	111800	10.16	PPB	97
25) Hexane	3.35	57	359578	24.06	PPB	97
26) Diisopropyl Ether	3.65	45	475242	18.40	PPB	100
27) 1,1-Dichloroethane	3.66	63	178163	9.86	PPB	100
28) Vinyl Acetate	3.71	86	61004	55.81	PPB #	91
29) Chloroprene	3.71	53	496885	26.29	PPB	98
30) tert-Butyl Ethyl Ether	4.10	59	297000	17.87	PPB	97
31) 2,2-Dichloropropane	4.35	77	86111	9.38	PPB	97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\121814\1218F005.D
 Acq On : 18 Dec 2014 9:25 am
 Sample : 8260 DLCS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:53:56 2014

Vial: 4
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
32) cis-1,2-Dichloroethene	4.40	96	120547	9.85	PPB	95
33) 2-Butanone	4.47	72	25623	52.08	PPB	92
34) Propionitrile	4.64	54	17866	27.35	PPB	95
35) Ethyl Acetate	4.50	61	17819	27.83	PPB	87
36) Methacrylonitrile	4.80	67	67739	28.20	PPB	98
37) Bromochloromethane	4.73	128	55794	10.72	PPB	91
39) Chloroform	4.85	83	189937	9.78	PPB	99
41) 1,1,1-Trichloroethane	5.03	97	142886	9.15	PPB	96
44) Carbon Tetrachloride	5.21	117	154991	9.66	PPB	94
45) 1,1-Dichloropropene	5.29	75	155501	10.12	PPB	98
46) Isobutyl Alcohol	5.65	43	33960	262.39	PPB	89
48) Benzene	5.59	78	444227	9.87	PPB	98
49) 1,2-Dichloroethane	5.77	62	121772	9.56	PPB	95
50) tert-Amyl Methyl Ether	5.78	55	181258	21.17	PPB	96
51) Trichloroethene	6.73	95	115040	9.60	PPB	89
53) 1,2-Dichloropropane	7.24	63	91709	9.23	PPB	91
54) Dibromomethane	7.46	93	49744	9.88	PPB	91
55) Methyl methacrylate	7.54	69	109133	28.03	PPB	93
56) 1,4-Dioxane	7.52	88	12462	293.18	PPB	87
57) Bromodichloromethane	7.81	83	132112	9.68	PPB	93
58) 2-Nitropropane	8.49	43	38210	25.59	PPB	96
59) 2-Chloroethyl Vinyl Ether	8.59	63	35559	9.58	PPB	91
60) cis-1,3-Dichloropropene	8.82	75	120814	9.01	PPB	96
61) 4-Methyl-2-pentanone (MIBK)	9.28	58	74031	47.10	PPB	# 43
63) Toluene	9.46	92	300048	9.59	PPB	93
66) trans-1,3-Dichloropropene	10.23	75	81615	8.29	PPB	97
67) Ethyl methacrylate	10.40	69	211382	29.26	PPB	93
68) 1,1,2-Trichloroethane	10.55	83	59357	9.62	PPB	92
69) Tetrachloroethene	10.53	164	117923	10.32	PPB	91
70) 2-Hexanone	11.05	57	21647	40.36	PPB	95
71) 1,3-Dichloropropane	10.85	76	123705	9.17	PPB	97
72) Dibromochloromethane	11.16	129	96135	9.77	PPB	99
73) 1,2-Dibromoethane (EDB)	11.31	107	68630	9.71	PPB	98
74) 1-Chlorohexane	12.10	91	117213	8.94	PPB	95
75) Chlorobenzene	12.07	112	336434	9.90	PPB	97
76) Ethylbenzene	12.23	106	183327	9.97	PPB	99
77) 1,1,1,2-Tetrachloroethane	12.23	131	109216	9.88	PPB	99
78) m,p-Xylenes	12.42	106	468689	20.98	PPB	99
79) o-Xylene	12.95	106	214900	10.24	PPB	92
80) Styrene	13.01	103	166882	10.39	PPB	90
81) Bromoform	13.24	173	57258	10.22	PPB	92

(#) = qualifier out of range (m) = manual integration

1218F005.D 101714MS13_8260W.M

Thu Dec 18 11:54:52 2014

Page 2

Data File : J:\MS13\DATA\121814\1218F005.D
 Acq On : 18 Dec 2014 9:25 am
 Sample : 8260 DLCS
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 11:53:56 2014

Vial: 4
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

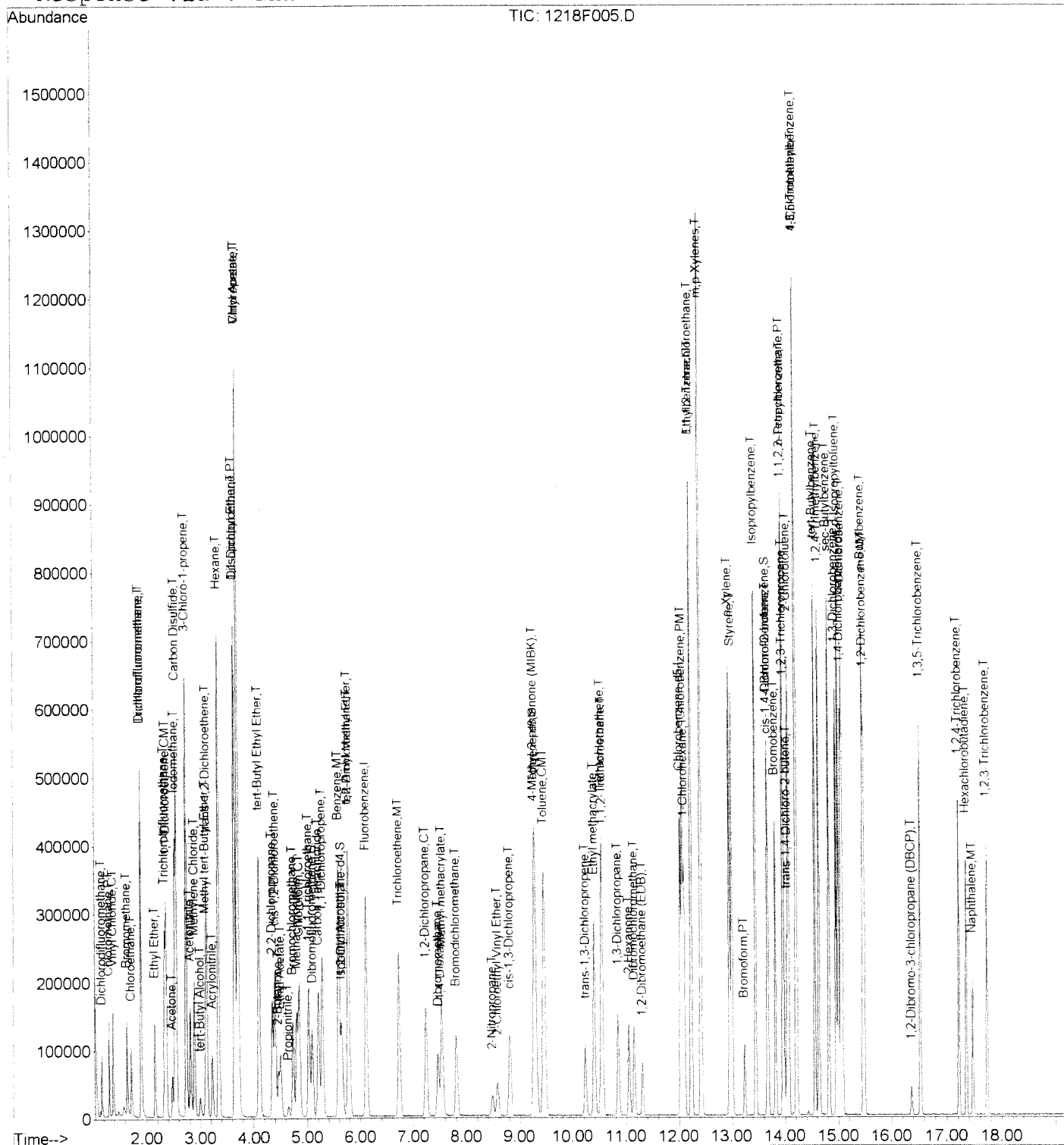
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
82) Isopropylbenzene	13.45	105	566892	10.21	PPB	99
83) cis-1,4-Dichloro-2-butene	13.66	89	23158	29.96	PPB	94
86) 1,1,2,2-Tetrachloroethane	13.95	83	71562	9.18	PPB	93
87) trans-1,4-Dichloro-2-buten	14.03	53	71864	32.16	PPB	97
88) Bromobenzene	13.82	156	149474	9.94	PPB	95
89) n-Propylbenzene	13.96	91	638238	9.58	PPB	98
90) 1,2,3-Trichloropropane	13.98	110	23779	9.47	PPB	93
91) 2-Chlorotoluene	14.06	91	401116	9.93	PPB	99
92) 1,3,5-Trimethylbenzene	14.20	105	457574	9.89	PPB	98
93) 4-Chlorotoluene	14.22	91	443254	9.34	PPB	97
94) tert-Butylbenzene	14.56	119	411034	9.86	PPB	96
95) 1,2,4-Trimethylbenzene	14.64	105	428664	9.63	PPB	98
96) sec-Butylbenzene	14.82	105	545720	9.46	PPB	98
97) p-Isopropyltoluene	15.00	119	473920	9.97	PPB	99
98) 1,3-Dichlorobenzene	14.95	146	285205	9.62	PPB	96
99) 1,4-Dichlorobenzene	15.07	146	286236	9.43	PPB	97
100) n-Butylbenzene	15.46	91	376757	9.44	PPB	99
101) 1,2-Dichlorobenzene	15.49	146	251070	9.54	PPB	96
102) 1,2-Dibromo-3-chloropropan	16.38	155	9827	8.46	PPB	89
103) 1,3,5-Trichlorobenzene	16.54	180	196596	10.10	PPB	97
104) 1,2,4-Trichlorobenzene	17.21	180	156574	9.45	PPB	97
105) Hexachlorobutadiene	17.35	225	83696	9.25	PPB	98
106) Naphthalene	17.47	128	163952	6.76	PPB	100
107) 1,2,3-Trichlorobenzene	17.73	180	133907	9.54	PPB	99

Data File : J:\MS13\DATA\121814\1218F005.D
Acq On : 18 Dec 2014 9:25 am
Sample : 8260 DLCS
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 18 11:54 2014

Vial: 4
Operator: KR
Inst : MS13
Multiplr: 1.00

Quant Results File: 101714MS13_8

Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Oct 30 20:22:08 2014
Response via : Initial Calibration



Date: 12/18/14

ALS Environmental

Tune File: BFDU

By: KR

Injection Log

New Tune: NO

IS/SS Std. ID: 770A-16B/1/12/15 MS13 - Agilent 5973

Run: 426243

CCV Std ID: 770A 2 SC 12/16/14 12/16/14

ICAL Date: 10/17/14 Cal 13625

MS/DMS/LCS/ICV Std ID: 770A 22/12/15/17/12/14/17/12/14

Second RV: 122314

BFB Std. ID: 770A-24B/1/2/15 17/12/14/12/14

LIMS ID: KW0416301/16392

ewo
psc

	Sample Name	File Name	Method	Dilution	pH < 2	Comments
1	BFB	1210F001	8260WS.M	4.4µl → 44µl		
2	CCV	2		10.5µl → 50µl		
3	PSC CW	3		10µl → 50µl		
4	LCS	4		10.5µl/7.5µl → 50µl		
5	DUS	5		↓		
6	PSC LCS	6		10µl → 50µl		
7	PSC DUS	7		↓		
8	K 14067-2MS	8		8.8/9.2/9.7/16.6µl → 44µl	✓	
9	↓ 20MS	9		↓	✓	
10	IB	10				
11	MB	11				
12	K14067-2	12			✓	
13	↓ 4	13			7	
14	K14001-1	14			7	TB 55171
15	↓ 2	15			7	
16	↓ 3	16			7	
17	↓ 4	17			7	
18	↓ 5	18			7	
19	↓ 6	19			7	
20	↓ 7	20			7	
21	K13809-2	21			✓	
22	K13816-1	22			✓	
23	↓ 2	23			✓	
24	↓ 3	24			✓	
25	↓ 4	25			✓	
26	K13912-10	26			✓	TB 55017
27	↓ 9	27			✓	

1000
+
1000

1000
1000

↓

1000
1000

↓ 90.0

↓ 28

10x 5ml → 50µl

NR Didnt run

Exception Report

Data File: J:\MS13\DATA\121814\1218F001.D
Lab ID: KWG1416381-1
RunType: TUNE
Matrix: WATER

Date Acquired: 12/18/2014 07:26
Date Quantitated:
Batch ID: KWG1416381
Analysis Method: BFB
ListJoinID: LJ774

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: KN 12/18/14

Secondary Review: JA 12/23/14

Quantitation Report

Data File: JAMS13\DATA\121814\1218F001.D		Instrument: MS13
Acqu Date: 12/18/2014 07:26	Quant Date:	Vial: 1
Run Type: TUNE		Dilution: 1.0
Lab ID: KWG1416381-1		Soln Conc. Units:

Bottle ID:	Tier:	Matrix: WATER
Prod Code: 8260B	Collect Date:	Receive Date: 12/18/2014

Analysis Lot: KWG1416381	Prep Lot:	Report Group:
Analysis Method: BFB	Prep Method:	
Prep Ref:	Prep Date:	

Quant Method: JAMS13\METHODS\101714MS13_8	Calibration ID: CAL13625	
Title: GC/MS Tuning Evaluation	Report List ID: LJ774	
Tune Ref:	Method ID: MJ159	
MB Ref:	Quant based on Report List	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	19.4	9169	Pass
75	95	30	60	45.6	21488	Pass
95	95	100	100	100.0	47144	Pass
96	95	5	9	5.4	2542	Pass
173	174	0	2	0.0	0	Pass
174	95	50	120	101.3	47736	Pass
175	174	5	9	6.6	3148	Pass
176	174	95	101	99.2	47368	Pass
177	176	5	9	7.5	3576	Pass

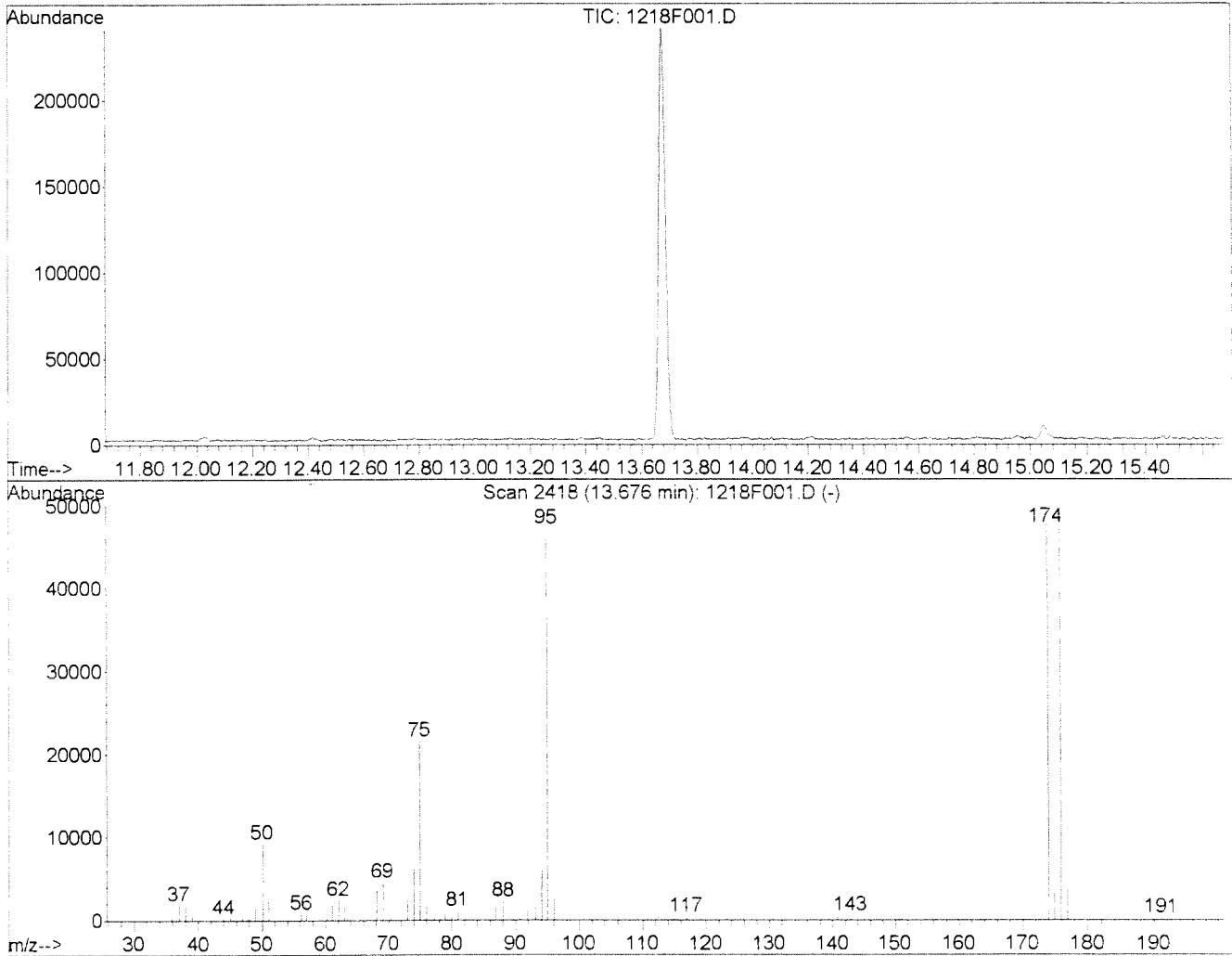
U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result == MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File : J:\MS13\DATA\121814\1218F001.D
 Acq On : 18 Dec 2014 7:26 am
 Sample : 50NG BFB
 Misc :
 MS Integration Params: rteint.p
 Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B

Vial: 1
 Operator: KR
 Inst : MS13
 Multiplr: 1.00



Spectrum Information: Scan 2418 *Qexp - 1209 Scan KR 12/18/14*

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.4	9169	PASS
75	95	30	60	45.6	21488	PASS
95	95	100	100	100.0	47144	PASS
96	95	5	9	5.4	2542	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	101.3	47736	PASS
175	174	5	9	6.6	3148	PASS
176	174	95	101	99.2	47368	PASS
177	176	5	9	7.5	3576	PASS

Exception Report

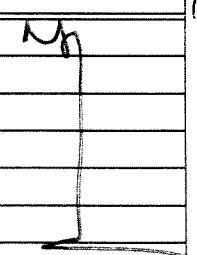
Data File: J:\MS13\DATA\121814\1218F002.D
Lab ID: KWG1416381-2
RunType: CCV
Matrix: WATER

Date Acquired: 12/18/2014 07:53
Date Quantitated: 12/18/2014 08:17
Batch ID: KWG1416381
Analysis Method: 8260C
MethodJoinID: MJ119

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA		x
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Initial Calibration Minimum RF	Acrolein	0.0064	0.01	NA	
	2-Propanol	0.0041	0.01	NA	
	Acetonitrile	0.0072	0.01	NA	
	tert-Butyl Alcohol	0.0046	0.01	NA	
	Isobutyl Alcohol	0.0030	0.01	NA	
	1,4-Dioxane	0.0010	0.01	NA	
Second Source ICAL Verification	Acrolein	33.1	NA	30	

Primary Review: KA 12/18/14

Secondary Review: QA 12/23/14

Quantitation Report

Data File:	J:\MS13\DATA\121814\1218F002.D	Instrument:	MS13
Acqu Date:	12/18/2014 07:53	Quant Date:	12/18/2014 08:17
Run Type:	CCV	Vial:	2
Lab ID:	KWG1416381-2	Dilution:	1.0
		Soln Conc. Units:	PPB

Bottle ID:	Tier:	Matrix:	WATER
Prod Code:	8260B	Collect Date:	12/18/2014

Analysis Lot:	KWG1416381	Prep Lot:	Report Group:
Analysis Method:	8260C	Prep Method:	
Prep Ref:		Prep Date:	

Quant Method:	J:\MS13\METHODS\101714MS13_8	Calibration ID:	CAL13625
Title:		Method ID:	MJ1093
Tune Ref:	J:\MS13\DATA\121814\1218F001.D	Quant based on Method	
MB Ref:			

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Fluorobenzene	6.11	0.00	96	432318	10.00	OK
2	Chlorobenzene-d5	12.02	0.00	82	157672	10.00	OK
3	1,4-Dichlorobenzene-d4	15.05	0.00	152	160555	10.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	Dibromofluoromethane	5.09			113	93870	9.89		85-115	NA
1	1,2-Dichloroethane-d4	5.64			65	83397	9.59		70-120	NA
1	Toluene-d8	9.30			98	439040	10.21		85-120	NA
2	4-Bromofluorobenzene	13.68			95	140275	10.73		75-120	NA

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
								Final Conc. Units: ug/L		
1	Dichlorodifluoromethane	1.17			85	162304	10.63			
1	Chloromethane	1.31			50	125592	8.07			
1	Vinyl Chloride	1.39			62	129716	9.63			
1	Bromomethane	1.65			96	75113	8.42			
1	Chloroethane	1.73			64	62886	9.08			
1	Trichlorofluoromethane	1.90			101	210074	9.94			
1	Acrolein	2.33			56	119315	432.41			
1	Trichlorotrifluoroethane	2.34			151	103069	10.06			
1	1,1-Dichloroethene	2.36			96	86254	9.09			
1	Acetone	2.47			43	248438	183.50			
1	Iodomethane	2.53			142	404611	34.29			
1	Carbon Disulfide	2.55			76	299916	9.26			
1	3-Chloro-1-propene	2.74			76	55163	9.55			
1	Acetonitrile	2.81			40	117672	379.03			

U Undetected at or above MDL
 J Analyte detected above MDL, but below MRL
 B Hit above MRL also found in Method Blank
 E Analyte concentration above high point of ICAL
 N Presumptive evidence of compound

D Result from dilution
 m Manual integration performed
 d Compound manually deleted
 NR Analyte not reported from this analysis

* Result fails acceptance criteria
 # Acceptance criteria not applicable
 ? Insufficient information to determine acceptance
 e Result >= MRL, but MRL less than low point of ICAL
 c check for co-elution

Data File:	J:\MS13\DATA\121814\1218F002.D	Instrument:	MS13
Acqu Date:	12/18/2014 07:53	Quant Date:	12/18/2014 08:17
Run Type:	CCV	Vial:	2
Lab ID:	KWG1416381-2	Dilution:	1.0
		Soln Conc. Units:	PPB

Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Methylene Chloride	2.89			84	95570	8.41			
1	tert-Butyl Alcohol	3.00			59	8423	42.68			
1	Acrylonitrile	3.23			53	71122	37.69			
1	Methyl tert-Butyl Ether	3.10			73	247998	16.92			
1	trans-1,2-Dichloroethene	3.13			96	103731	9.33			
1	Diisopropyl Ether	3.65			45	228219	8.75			
1	1,1-Dichloroethane	3.66			63	163241	8.94			
1	Vinyl Acetate	3.72			86	17769	16.10			
1	Chloroprene	3.71			53	778967	40.82			
1	tert-Butyl Ethyl Ether	4.10			59	139261	8.30			
1	2,2-Dichloropropane	4.36			77	82904	8.94			
1	cis-1,2-Dichloroethene	4.40			96	116232	9.40			
1	2-Butanone (MEK)	4.46			72	104980	211.30			
1	Propionitrile	4.65			54	25770	39.07			
1	Ethyl Acetate	4.50			61	13094	20.25			
1	Methacrylonitrile	4.81			67	93745	38.65			
1	Bromochloromethane	4.74			128	51998	9.89			
1	Chloroform	4.85			83	184547	9.41			
1	1,1,1-Trichloroethane (TCA)	5.03			97	141352	8.97			
1	Carbon Tetrachloride	5.21			117	152526	9.41			
1	1,1-Dichloropropene	5.29			75	144479	9.31			
1	Isobutyl Alcohol	5.65			43	47887	366.42			
1	Benzene	5.60			78	429830	9.46			
1	1,2-Dichloroethane (EDC)	5.77			62	115041	8.94			
1	tert-Amyl Methyl Ether	5.78			55	86330	9.98			
1	Trichloroethene (TCE)	6.73			95	114887	9.49			
1	1,2-Dichloropropane	7.24			63	92783	9.25			
1	Dibromomethane	7.46			93	49350	9.71			
1	Methyl Methacrylate	7.55			69	36336	9.24			
1	1,4-Dioxane	7.50			88	18986	442.34			
1	Bromodichloromethane	7.81			83	131403	9.53			
1	2-Nitropropane	8.50			43	71784	47.61			
1	2-Chloroethyl Vinyl Ether	8.59			63	33145	8.85			
1	cis-1,3-Dichloropropene	8.82			75	127052	9.38			
1	4-Methyl-2-pentanone (MIBK)	9.27			58	319547	201.32			
1	Toluene	9.46			92	307012	9.72			
2	trans-1,3-Dichloropropene	10.23			75	90054	9.40			
2	Ethyl Methacrylate	10.40			69	64334	9.15			
2	1,1,2-Trichloroethane	10.55			83	60835	10.13			
2	Tetrachloroethene (PCE)	10.54			164	120496	10.84			
2	2-Hexanone	11.05			57	104736	197.15			
2	1,3-Dichloropropane	10.85			76	125193	9.53			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL, also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: J:\MS13\DATA\121814\1218F002.D
 Acqu Date: 12/18/2014 07:53
 Run Type: CCV
 Lab ID: KWG1416381-2

Quant Date: 12/18/2014 08:17

Instrument: MS13
 Vial: 2
 Dilution: 1.0
 Soln Conc. Units: PPB

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Dibromochloromethane	11.16			129	97114	10.14			
2	1,2-Dibromoethane (EDB)	11.31			107	70524	10.25			
2	1-Chlorohexane	12.10			91	133342	10.44			
2	Chlorobenzene	12.07			112	344340	10.41			
2	Ethylbenzene	12.23			106	192911	10.78			
2	1,1,1,2-Tetrachloroethane	12.24			131	112171	10.43			
2	m,p-Xylenes	12.42			106	479098	22.04			
2	o-Xylene	12.95			106	221809	10.86			
2	Styrene	13.00			103	172827	11.06			
2	Bromoform	13.24			173	56460	10.35			
2	Isopropylbenzene	13.45			105	591876	10.95			
2	cis-1,4-Dichloro-2-butene	13.66			89	33471	44.49			
3	1,1,2,2-Tetrachloroethane	13.95			83	75495	9.91			
3	trans-1,4-Dichloro-2-butene	14.03			53	23527	10.78			
3	Bromobenzene	13.82			156	150579	10.25			
3	n-Propylbenzene	13.96			91	682817	10.50			
3	1,2,3-Trichloropropane	13.98			110	22884	9.34			
3	2-Chlorotoluene	14.06			91	404629	10.26			
3	1,3,5-Trimethylbenzene	14.20			105	489356	10.83			
3	4-Chlorotoluene	14.21			91	472057	10.18			
3	tert-Butylbenzene	14.56			119	435303	10.69			
3	1,2,4-Trimethylbenzene	14.64			105	475687	10.94			
3	sec-Butylbenzene	14.82			105	596938	10.59			
3	4-Isopropyltoluene	15.00			119	512905	11.05			
3	1,3-Dichlorobenzene	14.95			146	299198	10.33			
3	1,4-Dichlorobenzene	15.07			146	300595	10.14			
3	n-Butylbenzene	15.46			91	402358	10.32			
3	1,2-Dichlorobenzene	15.49			146	267099	10.39			
3	1,2-Dibromo-3-chloropropane	16.38			155	9945	8.77			
3	1,3,5-Trichlorobenzene	16.54			180	204150	10.74			
3	1,2,4-Trichlorobenzene	17.21			180	159856	9.88			
3	Hexachlorobutadiene	17.35			225	87502	9.90			
3	Naphthalene	17.47			128	169085	7.13			
3	1,2,3-Trichlorobenzene	17.73			180	135580	9.88			

U Undetected at or above MDL
 J Analyte detected above MDL, but below MRL
 B Hit above MRL also found in Method Blank
 E Analyte concentration above high point of ICAL
 N Presumptive evidence of compound

D Result from dilution
 m Manual integration performed
 d Compound manually deleted
 NR Analyte not reported from this analysis

* Result fails acceptance criteria
 # Acceptance criteria not applicable
 ? Insufficient information to determine acceptance
 e Result >= MRL, but MRL less than low point of ICAL
 c check for co-elution

Data File : J:\MS13\DATA\121814\1218F002.D
 Acq On : 18 Dec 2014 7:53 am
 Sample : 8260 CCV
 Misc :

Vial: 2
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

MS Integration Params: rteint.p
 Quant Time: Dec 18 08:17:57 2014

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.11	96	432318	10.00	PPB	0.00
64) Chlorobenzene-d5	12.02	82	157672	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.05	152	160555	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.09	113	93870	9.89	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.90%	
47) 1,2-Dichloroethane-d4	5.64	65	83397	9.59	PPB	0.00
Spiked Amount	10.000		Recovery	=	95.90%	
62) Toluene-d8	9.30	98	439040	10.21	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.10%	
84) 4-Bromofluorobenzene	13.68	95	140275	10.73	PPB	0.00
Spiked Amount	10.000		Recovery	=	107.30%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	1.17	85	162304	10.63	PPB	98
3) Chloromethane	1.31	50	125592	8.07	PPB	99
4) Vinyl Chloride	1.39	62	129716	9.63	PPB	94
5) Bromomethane	1.65	96	75113	8.42	PPB	98
6) Chloroethane	1.73	64	62886	9.08	PPB	96
7) Dichlorofluoromethane	1.90	67	192214	9.41	PPB	99
8) Trichlorofluoromethane	1.90	101	210074	9.94	PPB	99
9) Ethyl Ether	2.15	59	57504	9.21	PPB	93
10) Acrolein	2.33	56	119315	432.41	PPB	92
11) Trichlorotrifluoroethane	2.34	151	103069	10.06	PPB	96
12) 1,1-Dichloroethene	2.36	96	86254	9.09	PPB	97
13) Acetone	2.47	43	248438	183.50	PPB	97
14) Iodomethane	2.53	142	404611	34.29	PPB	98
15) Carbon Disulfide	2.55	76	299916	9.26	PPB	99
16) 2-Propanol (Isopropyl Alco	2.59	45	80925	452.29	PPB	98
17) 3-Chloro-1-propene	2.74	76	55163	9.55	PPB	90
18) Acetonitrile	2.81	40	117672	379.03	PPB	99
19) Methyl Acetate	2.77	43	55452	10.75	PPB	95
20) Methylene Chloride	2.89	84	95570	8.41	PPB	94
21) tert-Butyl Alcohol	3.00	59	8423	42.68	PPB	96
22) Acrylonitrile	3.23	53	71122	37.69	PPB	97
23) Methyl tert-Butyl Ether	3.10	73	247998	16.92	PPB	97
24) trans-1,2-Dichloroethene	3.13	96	103731	9.33	PPB	94
25) Hexane	3.35	57	141049	9.35	PPB	98
26) Diisopropyl Ether	3.65	45	228219	8.75	PPB	98
27) 1,1-Dichloroethane	3.66	63	163241	8.94	PPB	98
28) Vinyl Acetate	3.72	86	17769	16.10	PPB	# 76

(#) = qualifier out of range (m) = manual integration

1218F002.D 101714MS13_8260W.M

Thu Dec 18 08:18:41 2014

Page 1

Data File : J:\MS13\DATA\121814\1218F002.D
 Acq On : 18 Dec 2014 7:53 am
 Sample : 8260 CCV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 08:17:57 2014

Vial: 2
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Chloroprene	3.71	53	778967	40.82	PPB	99
30) tert-Butyl Ethyl Ether	4.10	59	139261	8.30	PPB	95
31) 2,2-Dichloropropane	4.36	77	82904	8.94	PPB	96
32) cis-1,2-Dichloroethene	4.40	96	116232	9.40	PPB	93
33) 2-Butanone	4.46	72	104980	211.30	PPB	97
34) Propionitrile	4.65	54	25770	39.07	PPB	99
35) Ethyl Acetate	4.50	61	13094	20.25	PPB	81
36) Methacrylonitrile	4.81	67	93745	38.65	PPB	93
37) Bromochloromethane	4.74	128	51998	9.89	PPB	88
38) Tetrahydrofuran	4.74	71	4800	9.04	PPB	# 83
39) Chloroform	4.85	83	184547	9.41	PPB	95
40) tert-Butyl Formate	4.88	59	9290	10.75	PPB	93
41) 1,1,1-Trichloroethane	5.03	97	141352	8.97	PPB	97
43) Cyclohexane	4.99	56	182968	11.10	PPB	97
44) Carbon Tetrachloride	5.21	117	152526	9.41	PPB	96
45) 1,1-Dichloropropene	5.29	75	144479	9.31	PPB	98
46) Isobutyl Alcohol	5.65	43	47887	366.42	PPB	90
48) Benzene	5.60	78	429830	9.46	PPB	99
49) 1,2-Dichloroethane	5.77	62	115041	8.94	PPB	99
50) tert-Amyl Methyl Ether	5.78	55	86330	9.98	PPB	95
51) Trichloroethene	6.73	95	114887	9.49	PPB	84
52) Methyl Cyclohexane	6.91	83	197871	11.19	PPB	98
53) 1,2-Dichloropropane	7.24	63	92783	9.25	PPB	86
54) Dibromomethane	7.46	93	49350	9.71	PPB	88
55) Methyl methacrylate	7.55	69	36336	9.24	PPB	90
56) 1,4-Dioxane	7.50	88	18986	442.34	PPB	88
57) Bromodichloromethane	7.81	83	131403	9.53	PPB	97
58) 2-Nitropropane	8.50	43	71784	47.61	PPB	99
59) 2-Chloroethyl Vinyl Ether	8.59	63	33145	8.85	PPB	89
60) cis-1,3-Dichloropropene	8.82	75	127052	9.38	PPB	93
61) 4-Methyl-2-pentanone (MIBK)	9.27	58	319547	201.32	PPB	98
63) Toluene	9.46	92	307012	9.72	PPB	96
65) n-Octane	9.73	85	74367	11.58	PPB	91
66) trans-1,3-Dichloropropene	10.23	75	90054	9.40	PPB	97
67) Ethyl methacrylate	10.40	69	64334	9.15	PPB	91
68) 1,1,2-Trichloroethane	10.55	83	60835	10.13	PPB	92
69) Tetrachloroethene	10.54	164	120496	10.84	PPB	86
70) 2-Hexanone	11.05	57	104736	197.15	PPB	95
71) 1,3-Dichloropropane	10.85	76	125193	9.53	PPB	99
72) Dibromochloromethane	11.16	129	97114	10.14	PPB	99
73) 1,2-Dibromoethane (EDB)	11.31	107	70524	10.25	PPB	97

(#) = qualifier out of range (m) = manual integration

1218F002.D 101714MS13_8260W.M

Thu Dec 18 08:18:41 2014

Page 2

Data File : J:\MS13\DATA\121814\1218F002.D
 Acq On : 18 Dec 2014 7:53 am
 Sample : 8260 CCV
 Misc :

Vial: 2
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

MS Integration Params: rteint.p
 Quant Time: Dec 18 08:17:57 2014

Quant Results File: 101714MS13_8260

Quant Method : J:\MS13\M...\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74) 1-Chlorohexane	12.10	91	133342	10.44	PPB	95
75) Chlorobenzene	12.07	112	344340	10.41	PPB	96
76) Ethylbenzene	12.23	106	192911	10.78	PPB	97
77) 1,1,1,2-Tetrachloroethane	12.24	131	112171	10.43	PPB	99
78) m,p-Xylenes	12.42	106	479098	22.04	PPB	98
79) o-Xylene	12.95	106	221809	10.86	PPB	97
80) Styrene	13.00	103	172827	11.06	PPB	96
81) Bromoform	13.24	173	56460	10.35	PPB	96
82) Isopropylbenzene	13.45	105	591876	10.95	PPB	98
83) cis-1,4-Dichloro-2-butene	13.66	89	33471	44.49	PPB #	80
86) 1,1,2,2-Tetrachloroethane	13.95	83	75495	9.91	PPB	99
87) trans-1,4-Dichloro-2-buten	14.03	53	23527	10.78	PPB	93
88) Bromobenzene	13.82	156	150579	10.25	PPB	94
89) n-Propylbenzene	13.96	91	682817	10.50	PPB	99
90) 1,2,3-Trichloropropane	13.98	110	22884	9.34	PPB #	77
91) 2-Chlorotoluene	14.06	91	404629	10.26	PPB	96
92) 1,3,5-Trimethylbenzene	14.20	105	489356	10.83	PPB	98
93) 4-Chlorotoluene	14.21	91	472057	10.18	PPB	95
94) tert-Butylbenzene	14.56	119	435303	10.69	PPB	97
95) 1,2,4-Trimethylbenzene	14.64	105	475687	10.94	PPB	99
96) sec-Butylbenzene	14.82	105	596938	10.59	PPB	99
97) p-Isopropyltoluene	15.00	119	512905	11.05	PPB	99
98) 1,3-Dichlorobenzene	14.95	146	299198	10.33	PPB	98
99) 1,4-Dichlorobenzene	15.07	146	300595	10.14	PPB	98
100) n-Butylbenzene	15.46	91	402358	10.32	PPB	98
101) 1,2-Dichlorobenzene	15.49	146	267099	10.39	PPB	98
102) 1,2-Dibromo-3-chloropropan	16.38	155	9945	8.77	PPB	85
103) 1,3,5-Trichlorobenzene	16.54	180	204150	10.74	PPB	100
104) 1,2,4-Trichlorobenzene	17.21	180	159856	9.88	PPB	97
105) Hexachlorobutadiene	17.35	225	87502	9.90	PPB	98
106) Naphthalene	17.47	128	169085	7.13	PPB	97
107) 1,2,3-Trichlorobenzene	17.73	180	135580	9.88	PPB	94

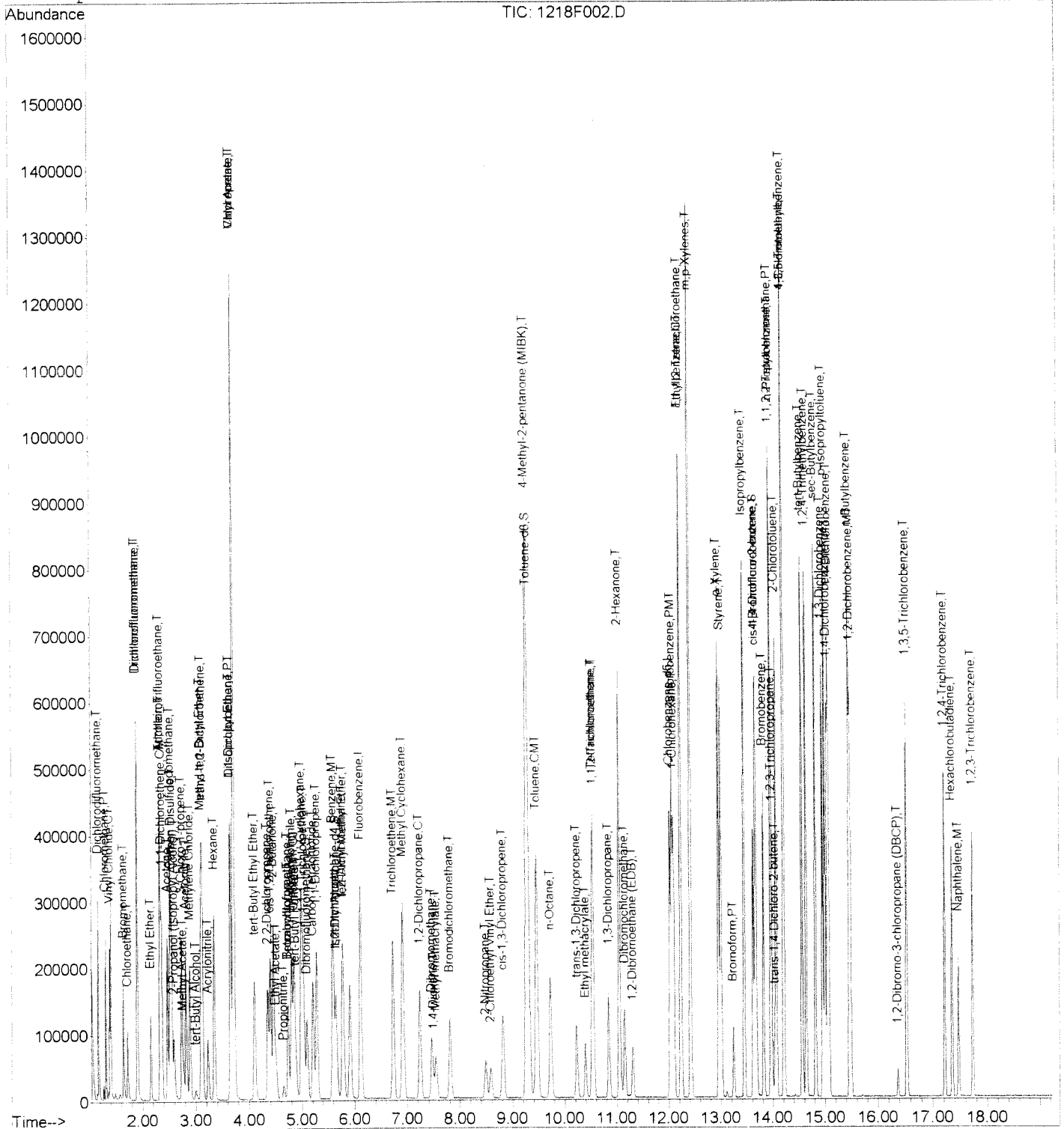
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\121814\1218F002.D
 Acq On : 18 Dec 2014 7:53 am
 Sample : 8260 CCV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Dec 18 8:17 2014

Vial: 2
 Operator: KR
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 101714MS13_8

Method : J:\MS13\METHODS\101714MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Oct 30 20:22:08 2014
 Response via : Initial Calibration



Date: 7-17-13

Columbia Analytical Services, Inc. Tune File: BFB1.U

By: HB/CM

Injection Log

New Tune: YES

IS/SS Std. ID: 71VOA66D (8-15-13)MS13 - Agilent 5973

Run: N/A

CCV Std ID: N/A

ICAL Date: ICAL 12625, 7-17-13

MS/DMS/LCS/ICV Std ID: see ICAL prepsheet

Second RV: 7.22.13

BFB Std. ID: 71VOA50C (8-2-13)

LIMS ID: N/A

	Sample Name	File Name	Method	Dilution	pH < 2	Comments
1	IB	0717F004	8260WS.M			
2	50ng BFB	^{HB 7-18-13} 52		4.4 μL/44 μL		
3	IB	6				
4	IB	7				
5	⁸²⁶⁰ ICAL 0.1 PPB	8		see ICAL prepsheet		
6	0.2 PPB	9				
7	0.5 PPB	10				
8	1.0 PPB	11				
9	2.0 PPB	12				
10	5.0 PPB	13				
11	10 PPB	14				
12	20 PPB	15				
13	40 PPB	16				
14	60 PPB	17				
15	80 PPB	18				
16	IB	19				
17	IB	20				
18	8260 ICV	21		see ICAL prepsheet		
19	8260 ICV	22				(N) not used
20	CLP ICV	23				
21	CLP ICV	24				
22	IB	0718F001 ²⁵ ^{HB} 7-18-13				
23	50ng BFB	0718F002		4.4 μL/44 μL		
24	Primer	3				(N) Autosampler programmed incorrectly
25	Primer	4				
26	Appendix ICV	5		7.5 μL/75 μL		71VOA65E (7-20-13)
27						

INITIAL CALIBRATION CURVE

Date 7-17-13 Analysis: 8260
 Prepared By HB/CM Instrument: MS13
 Matrix: Water

Stock Solution #1 Analytes: xP Init. Concentration:
 Stock Solution #2 71VOA66A Analytes: Low 8260 Init. Concentration: 5/10/20/100/200ppm
 Stock Solution #3 67A Analytes: 8260 Init. Concentration: 50/100/200/1000/2000ppm
 Stock Solution #4 68 Analytes: Low Ketones Init. Concentration: 200ppm
 Stock Solution #5 67D Analytes: Ketones Init. Concentration: 2000ppm

Aliquot of Stock Solution #1 (µL)	Final Conc. of #1 (µg/L)	Aliquot of Stock Solution #2 (µL)	Final Conc. of #2 (µg/L)	Aliquot of Stock Solution #3 (µL)	Final Conc. of #3 (µg/L)	Aliquot of Stock Solution #4 (µL)	Final Conc. of #4 (µg/L)	Aliquot of Stock Solution #5 (µL)	Final Conc. of #5 (µg/L)	Final Volume (mL)
		1	0.1			1	4			50
		2	0.2			2	8			50
		5.0	0.5			5	20			50
		10	1			10	40			50
				2.0	2			2	80	50
				5.0	5			2.5	100	50
				10	10			5.0	200	50
				20	20			10	400	50
				40	40			20	800	50
				60	60			40	1600	50
				80	80			50	2000	50

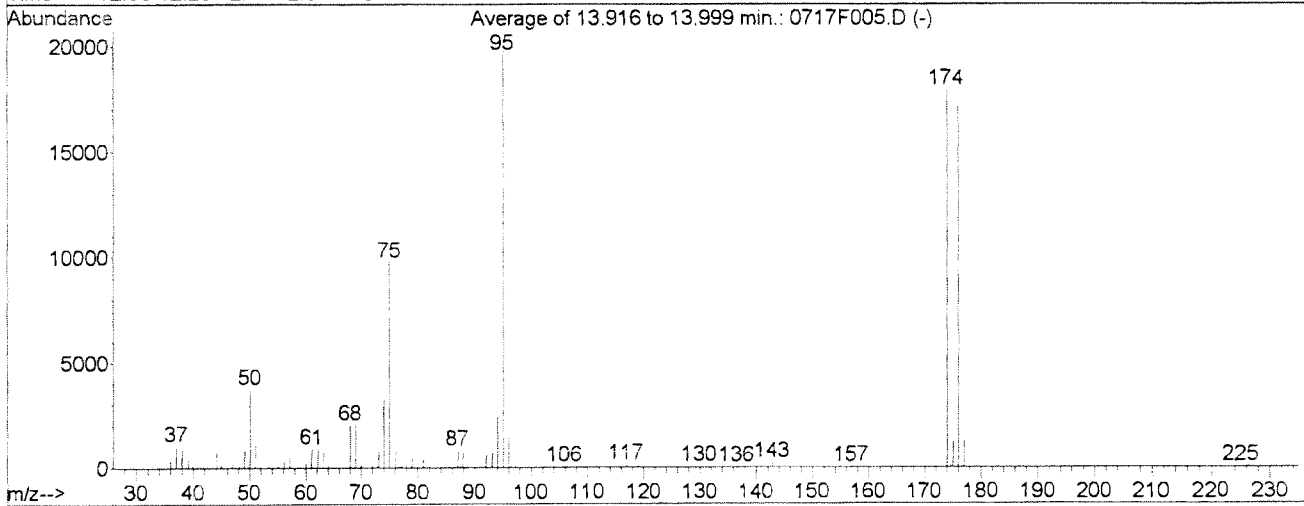
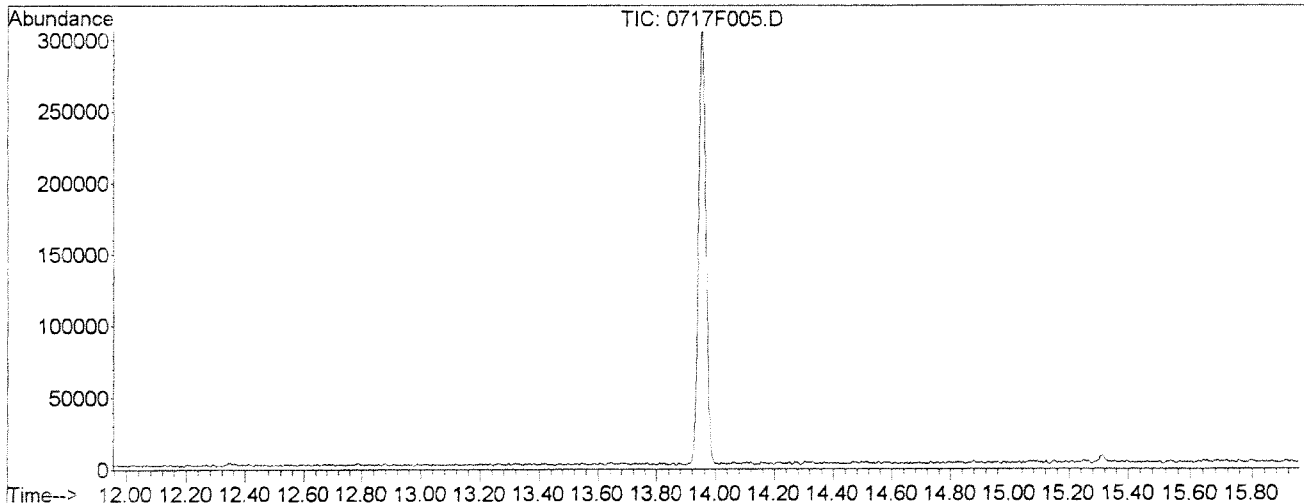
8260 ICV: 10µL of 50/250ppm Accusid ICV (71VOA67A) + 50µL of 100ppm Acrolein (71VOA66A) + 7-22-13
 5µL of 100ppm Dichlorofluoromethane (71VOA65D) + 5µL of 200ppm n-Octane/TBFF/Tetrahydrofuran (71VOA65A) + 7-17-13
 5µL of 100ppm Oxygenates (71VOA63E) + 7.5µL of Appendix ICV mix (71VOA65E) + 25µL of 1000ppm 2-Propanol (71VOA11A) to 50mL H₂O + 7-20-13
 8-4-13

CLP ICV: 5µL 100ppm CLP (71VOA67B) to 50mL H₂O + 7-23-13

BFB

Data File : J:\MS13\DATA\071713\0717F005.D
Acq On : 17 Jul 2013 10:33 am
Sample : 5ONG BFB
Misc :
MS Integration Params: rteint.p
Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B

Vial: 5
Operator: CM/HB
Inst : MS13
Multiplr: 1.00



Spectrum Information: Average of 13.916 to 13.999 min.

*Entire peak -
2432 1167-1813*

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.8	3728	PASS
75	95	30	60	49.3	9755	PASS
95	95	100	100	100.0	19790	PASS
96	95	5	9	7.3	1436	PASS
173	174	0.00	2	0.1	12	PASS
174	95	50	120	90.5	17906	PASS
175	174	5	9	6.7	1202	PASS
176	174	95	101	95.6	17111	PASS
177	176	5	9	7.1	1208	PASS

22-13

Data File : J:\MS13\DATA\071713\0717F007.D
 Acq On : 17 Jul 2013 11:38 am
 Sample : IB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:49 2013

Vial: 7
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7.22.13 HB 7.18.13

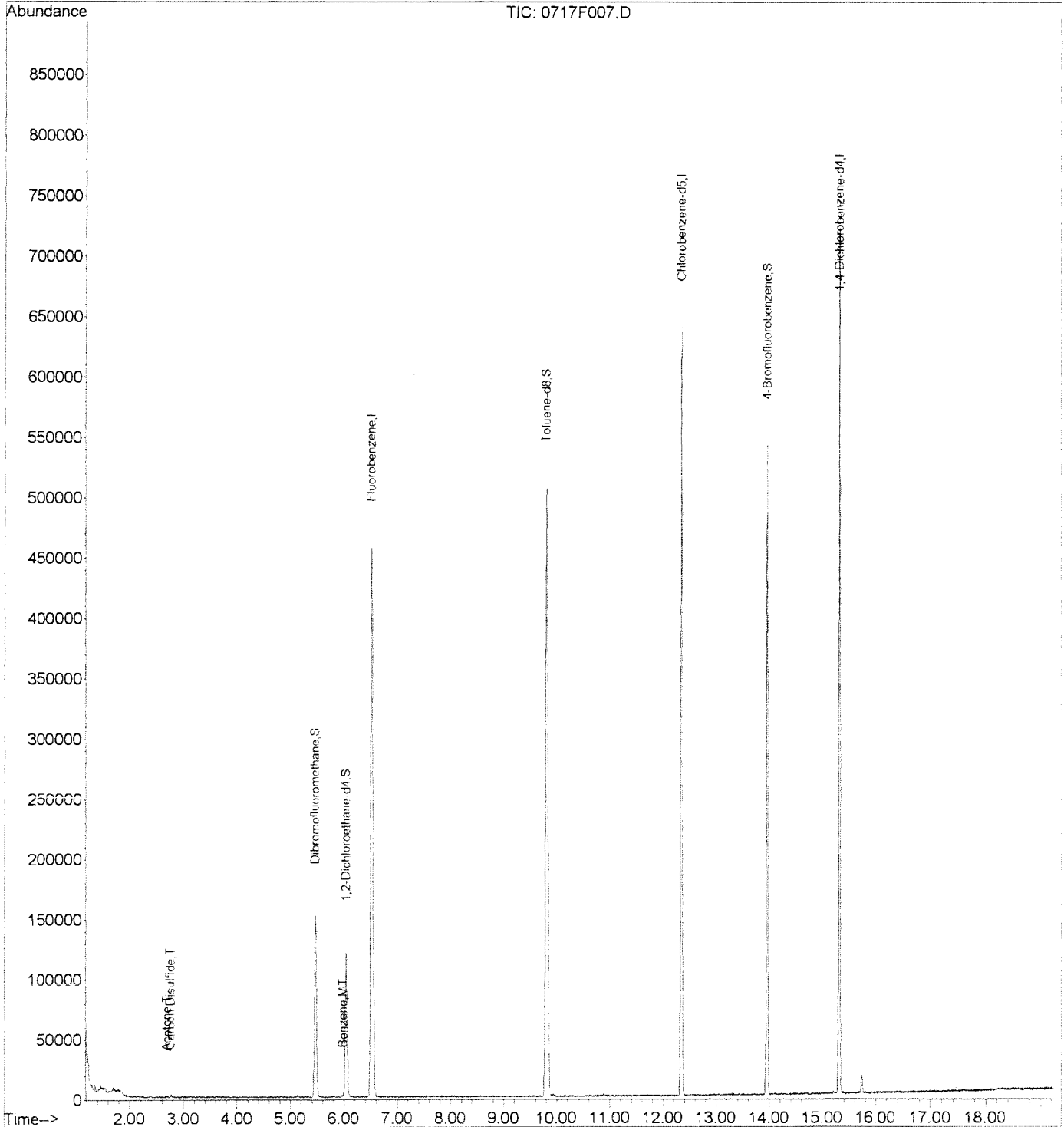
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	613774	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	229264	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	210721	10.00	PPB	0.00
System Monitoring Compounds						
42) Dibromofluoromethane	5.47	113	123261	9.69	PPB	0.00
Spiked Amount	10.000		Recovery	=	96.90%	
47) 1,2-Dichloroethane-d4	6.04	65	122629	10.40	PPB	0.00
Spiked Amount	10.000		Recovery	=	104.00%	
62) Toluene-d8	9.81	98	582771	9.76	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.60%	
84) 4-Bromofluorobenzene	13.96	95	183900	9.63	PPB	0.00
Spiked Amount	10.000		Recovery	=	96.30%	
Target Compounds						Qvalue
13) Acetone	2.70	43	1220	0.63	PPB	79
15) Carbon Disulfide	2.77	76	2682	0.07	PPB	73
48) Benzene	5.99	78	1962	0.03	PPB	# 40

Data File : J:\MS13\DATA\071713\0717F007.D
Acq On : 17 Jul 2013 11:38 am
Sample : IB
Misc :
MS Integration Params: rteint.p
Quant Time: Jul 18 8:34 2013

Vial: 7
Operator: CM/HB
Inst : MS13
Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Jul 18 08:31:13 2013
Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:50 2013

Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

QA
7/22/13 *HB 7-18-13*

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	616158	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	229755	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	210369	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	124874	9.78	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.80%	
47) 1,2-Dichloroethane-d4	6.04	65	120112	10.15	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.50%	
62) Toluene-d8	9.82	98	583431	9.74	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.40%	
84) 4-Bromofluorobenzene	13.95	95	183392	9.58	PPB	0.00
Spiked Amount	10.000		Recovery	=	95.80%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	2426	0.12	PPB	81
3) Chloromethane	1.42	50	2670	0.11	PPB	88
4) Vinyl Chloride	1.50	62	2074	0.10	PPB	92
5) Bromomethane	1.79	96	1420	0.13	PPB	# 64
6) Chloroethane	1.87	64	1262	0.10	PPB	93
7) Dichlorofluoromethane	2.06	67	3189	0.11	PPB	88
8) Trichlorofluoromethane	2.06	101	2541	0.10	PPB	93
9) Ethyl Ether	2.35	59	1061	0.11	PPB	92
10) Acrolein	2.54	56	2854	2.31	PPB	76
11) Trichlorotrifluoroethane	2.52	151	1370	0.12	PPB	# 65
12) 1,1-Dichloroethene	2.58	96	1116	0.10	PPB	# 63
13) Acetone	2.70	43	8973	4.62	PPB	98
14) Iodomethane	2.75	142	5118	0.32	PPB	73
15) Carbon Disulfide	2.78	76	6195	0.17	PPB	97
20) Methylene Chloride	3.14	84	2687	0.17	PPB	82
23) Methyl tert-Butyl Ether	3.37	73	6201	0.21	PPB	84
24) trans-1,2-Dichloroethene	3.39	96	1497	0.10	PPB	# 56
25) Hexane	3.62	57	2667	0.12	PPB	92
26) Diisopropyl Ether	3.94	45	4418	0.09	PPB	86
27) 1,1-Dichloroethane	3.96	63	2319	0.08	PPB	65
29) Chloroprene	4.01	53	7762	0.36	PPB	90
30) tert-Butyl Ethyl Ether	4.43	59	3025	0.09	PPB	91
32) cis-1,2-Dichloroethene	4.73	96	2017	0.11	PPB	95
33) 2-Butanone	4.82	72	2985	3.83	PPB	94
39) Chloroform	5.22	83	2919	0.11	PPB	93
41) 1,1,1-Trichloroethane	5.39	97	1649m	0.09	PPB	
45) 1,1-Dichloropropene	5.65	75	2032m	0.11	PPB	

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:50 2013

Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
48) Benzene	5.99	78	8444	0.12	PPB	82
49) 1,2-Dichloroethane	6.17	62	2202m	0.12	PPB	
51) Trichloroethene	7.17	95	1424	0.09	PPB #	67
61) 4-Methyl-2-pentanone (MIBK)	9.80	58	13995	5.03	PPB #	1
63) Toluene	9.95	92	5118	0.12	PPB	92
65) n-Octane	10.16	85	920	0.09	PPB #	42
66) trans-1,3-Dichloropropene	10.64	75	1180	0.09	PPB	89
68) 1,1,2-Trichloroethane	10.94	83	832	0.10	PPB #	54
69) Tetrachloroethene	10.92	164	1379	0.10	PPB #	72
70) 2-Hexanone	11.41	57	3297	3.67	PPB #	14
71) 1,3-Dichloropropane	11.22	76	2162	0.11	PPB	73
75) Chlorobenzene	12.38	112	5429	0.11	PPB	99
76) Ethylbenzene	12.53	106	2363	0.09	PPB	96
77) 1,1,1,2-Tetrachloroethane	12.54	131	1129	0.09	PPB #	78
78) m,p-Xylenes	12.72	106	5562	0.17	PPB #	60
79) o-Xylene	13.25	106	2952	0.09	PPB #	62
80) Styrene	13.29	103	2006	0.08	PPB #	68
82) Isopropylbenzene	13.71	105	6665	0.08	PPB	92
88) Bromobenzene	14.09	156	2103	0.11	PPB #	61
89) n-Propylbenzene	14.23	91	8064	0.08	PPB	92
91) 2-Chlorotoluene	14.33	91	6279	0.11	PPB	86
92) 1,3,5-Trimethylbenzene	14.46	105	5912	0.09	PPB	88
93) 4-Chlorotoluene	14.48	91	6439	0.10	PPB	94
94) tert-Butylbenzene	14.83	119	5684	0.10	PPB	86
95) 1,2,4-Trimethylbenzene	14.89	105	6036	0.08	PPB	90
96) sec-Butylbenzene	15.08	105	6913	0.08	PPB	93
97) p-Isopropyltoluene	15.25	119	6361	0.08	PPB	98
98) 1,3-Dichlorobenzene	15.22	146	4118	0.10	PPB	84
99) 1,4-Dichlorobenzene	15.33	146	4137	0.10	PPB	84
100) n-Butylbenzene	15.71	91	5295	0.08	PPB	93
101) 1,2-Dichlorobenzene	15.75	146	3343	0.09	PPB #	74
103) 1,3,5-Trichlorobenzene	16.80	180	2792	0.09	PPB	87
104) 1,2,4-Trichlorobenzene	17.47	180	1458	0.06	PPB	90
105) Hexachlorobutadiene	17.61	225	1304	0.10	PPB #	63

(#) = qualifier out of range (m) = manual integration

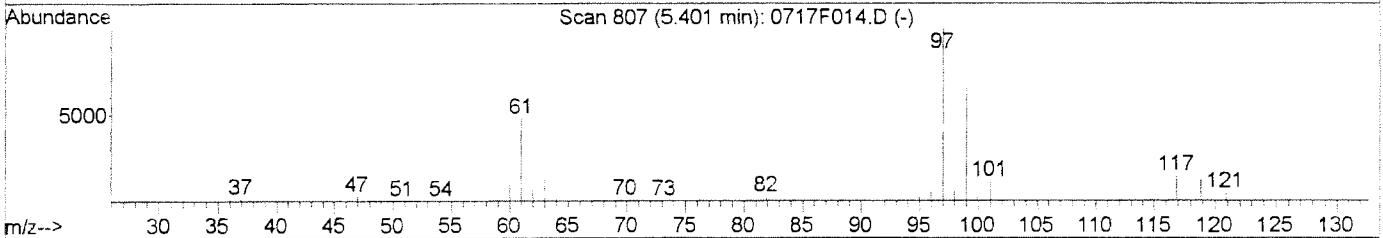
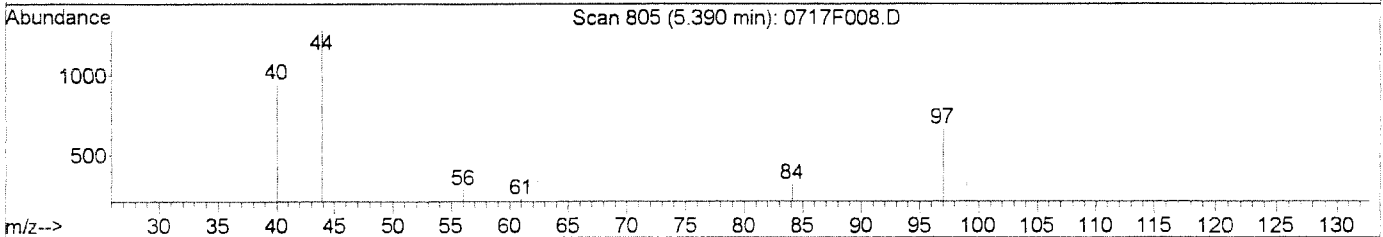
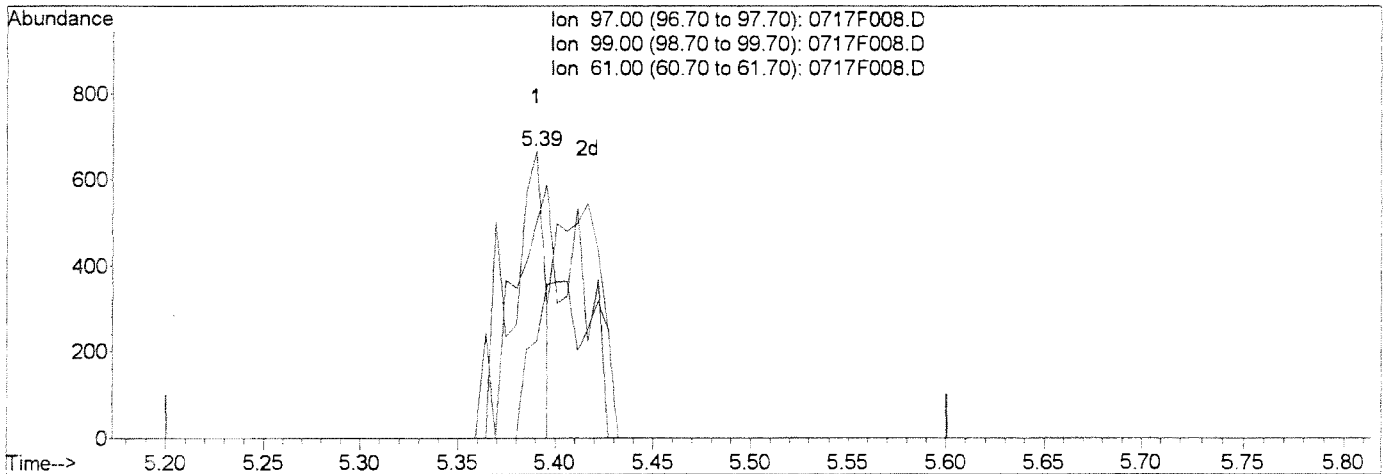
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:19 2013

Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:09:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F008.D

(41) 1,1,1-Trichloroethane (T)

Manual Integration:

5.39min 0.04PPB

Before

response 799

Ion	Exp%	Act%
97.00	100	100
99.00	66.10	74.81
61.00	47.90	33.58
0.00	0.00	0.00

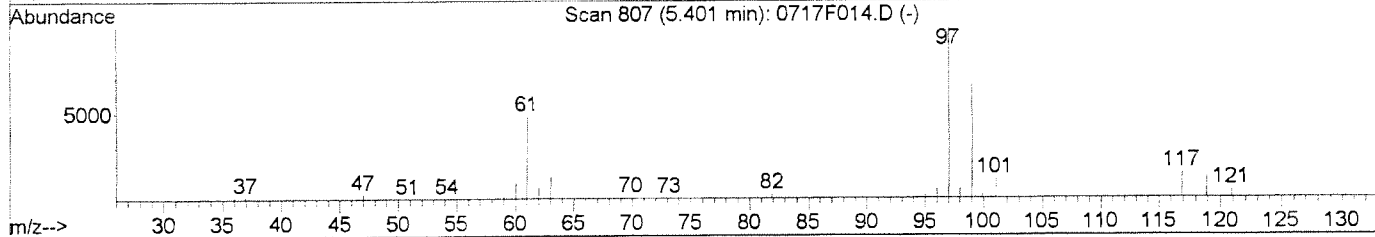
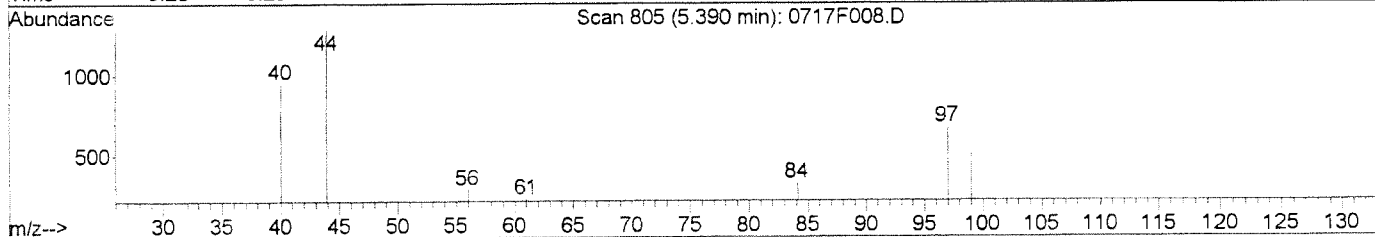
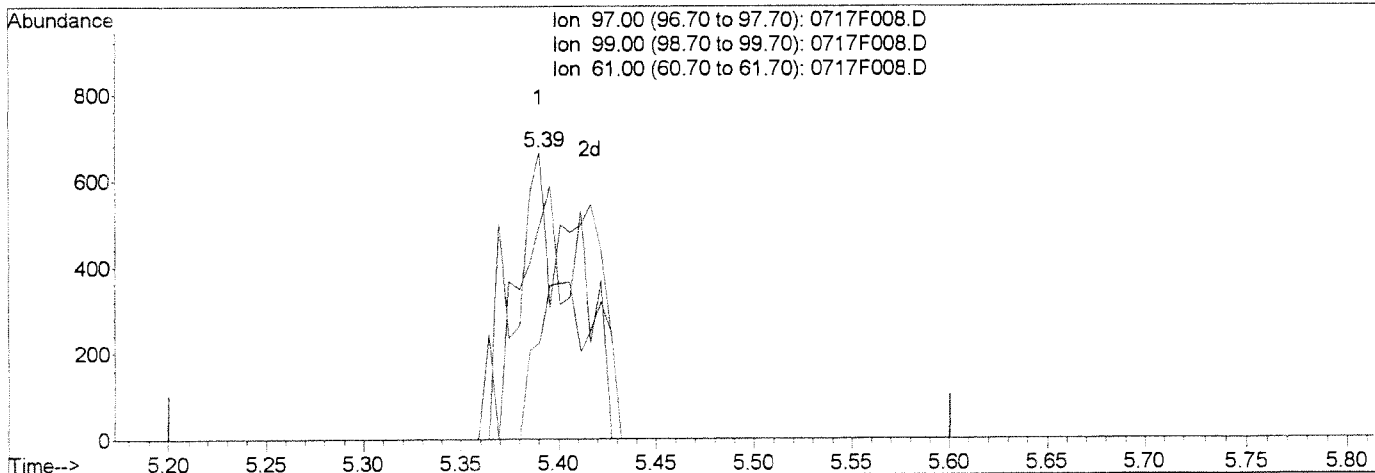
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:19 2013

Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:09:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F008.D

(41) 1,1,1-Trichloroethane (T)

5.39min 0.09PPB m

response 1649

Ion	Exp%	Act%
97.00	100	100
99.00	66.10	74.81
61.00	47.90	33.58
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signatures and date:
 HB
 7/22/13

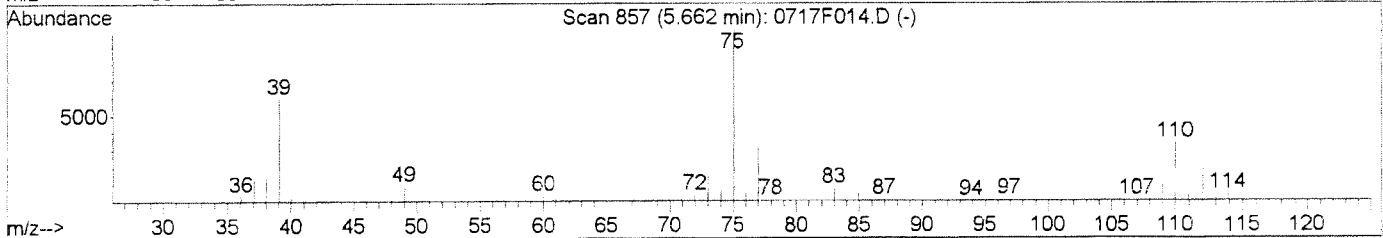
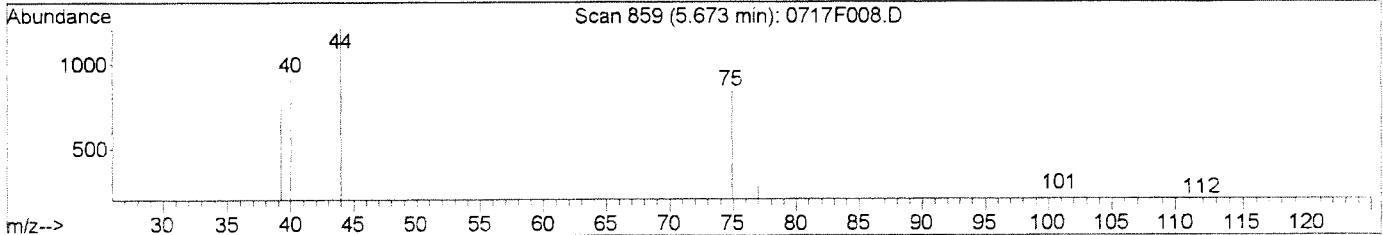
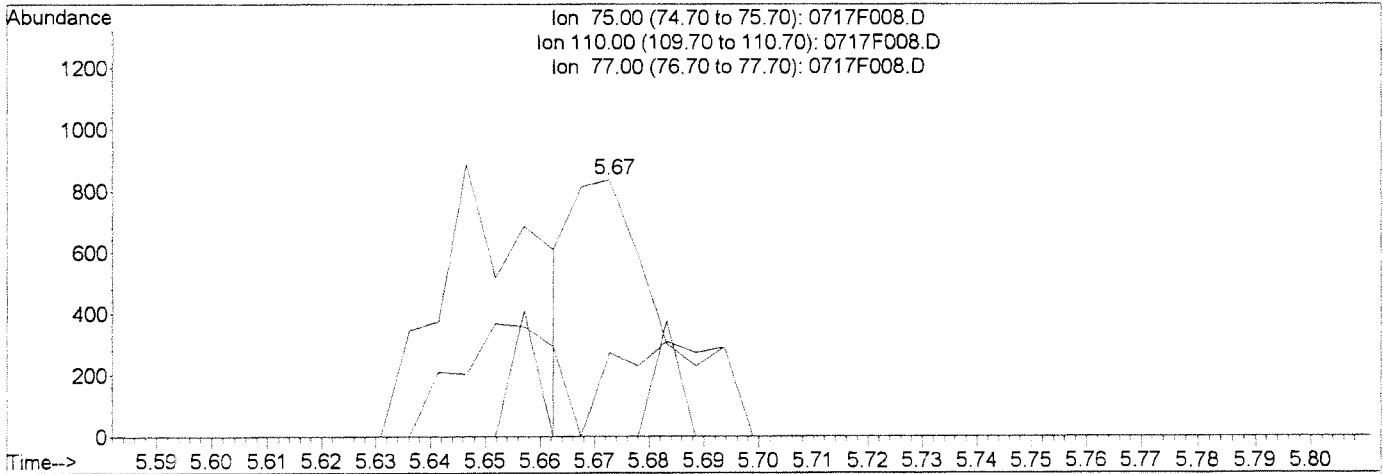
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:19 2013

Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:09:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F008.D

(45) 1,1-Dichloropropene (T)

Manual Integration:

5.67min 0.05PPB

Before

response 960

Ion	Exp%	Act%
75.00	100	100
110.00	33.60	0.00#
77.00	31.00	32.42
0.00	0.00	0.00

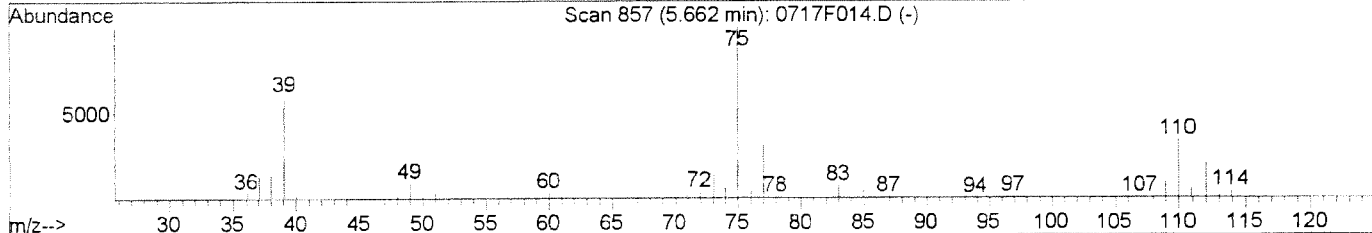
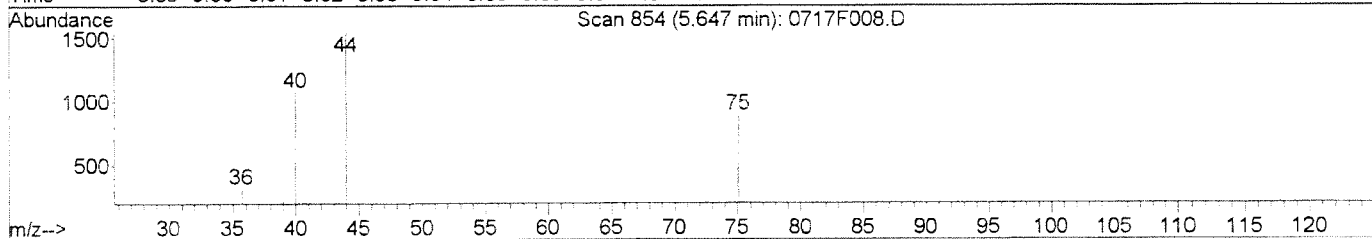
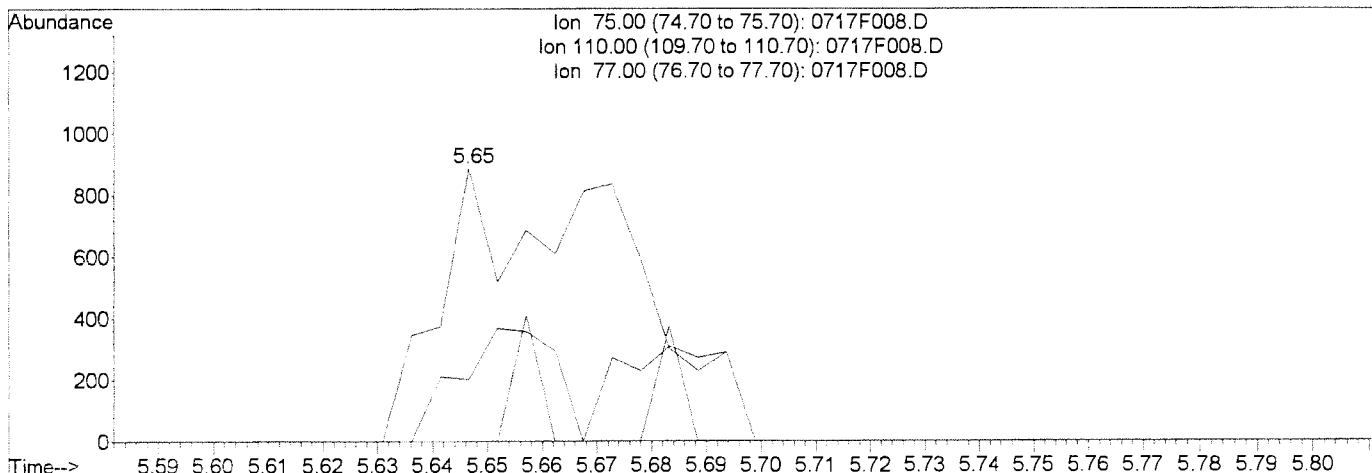
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:20 2013

Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:09:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F008.D

(45) 1,1-Dichloropropene (T)

5.65min 0.11PPB m

response 2032

Ion	Exp%	Act%
75.00	100	100
110.00	33.60	0.00#
77.00	31.00	22.64
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten: HB
 722/13

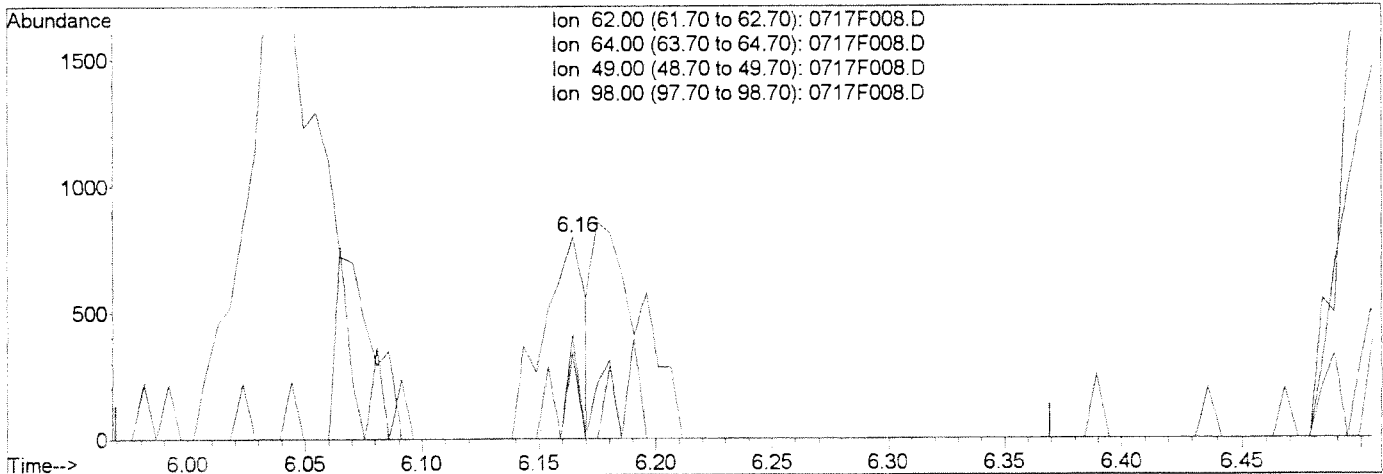
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:20 2013

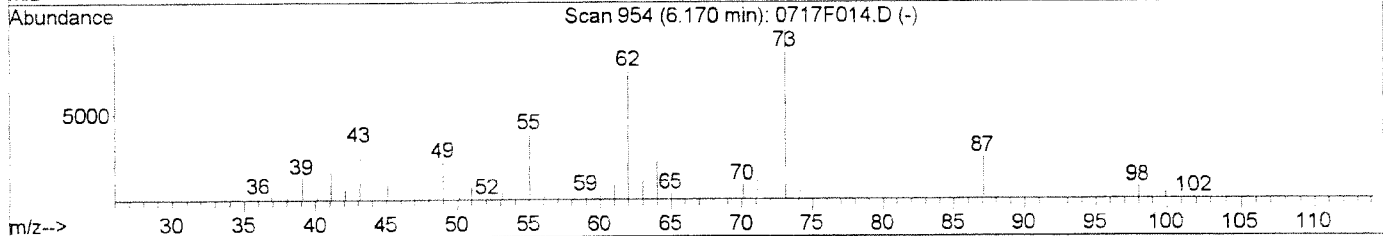
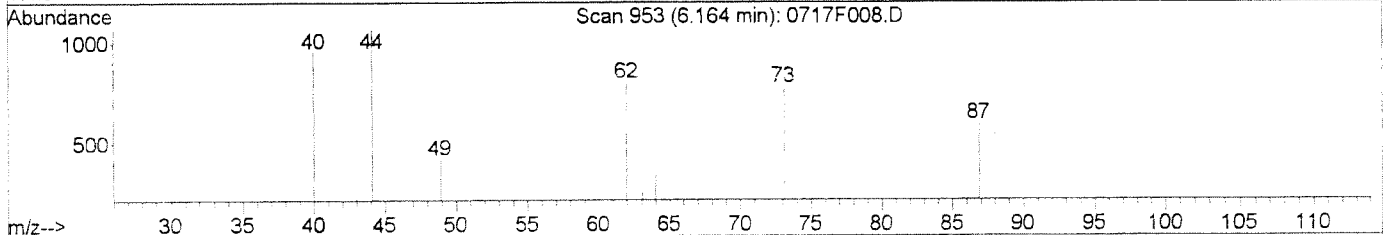
Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:09:54 2013
 Response via : Multiple Level Calibration



Ion 62.00 (61.70 to 62.70): 0717F008.D
 Ion 64.00 (63.70 to 64.70): 0717F008.D
 Ion 49.00 (48.70 to 49.70): 0717F008.D
 Ion 98.00 (97.70 to 98.70): 0717F008.D



TIC: 0717F008.D

(49) 1,2-Dichloroethane (T)

Manual Integration:

6.16min 0.05PPB

Before

response 984

Ion	Exp%	Act%
62.00	100	100
64.00	29.90	42.80
49.00	29.50	52.32
98.00	9.40	0.00

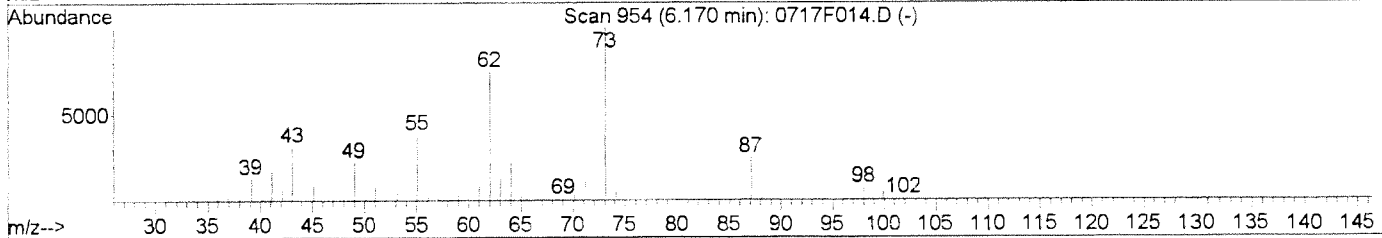
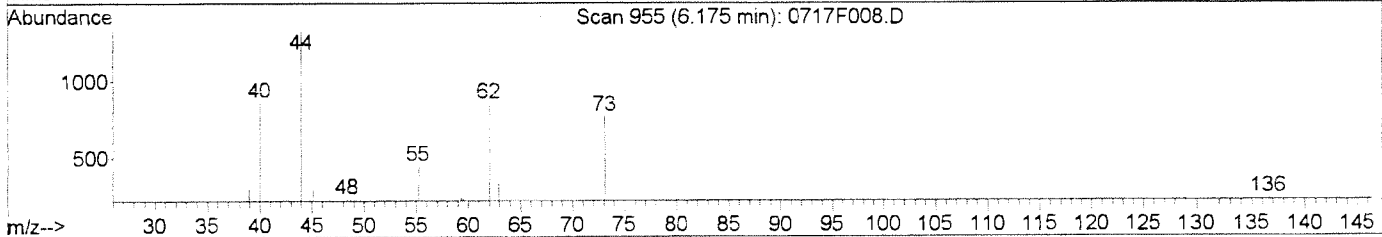
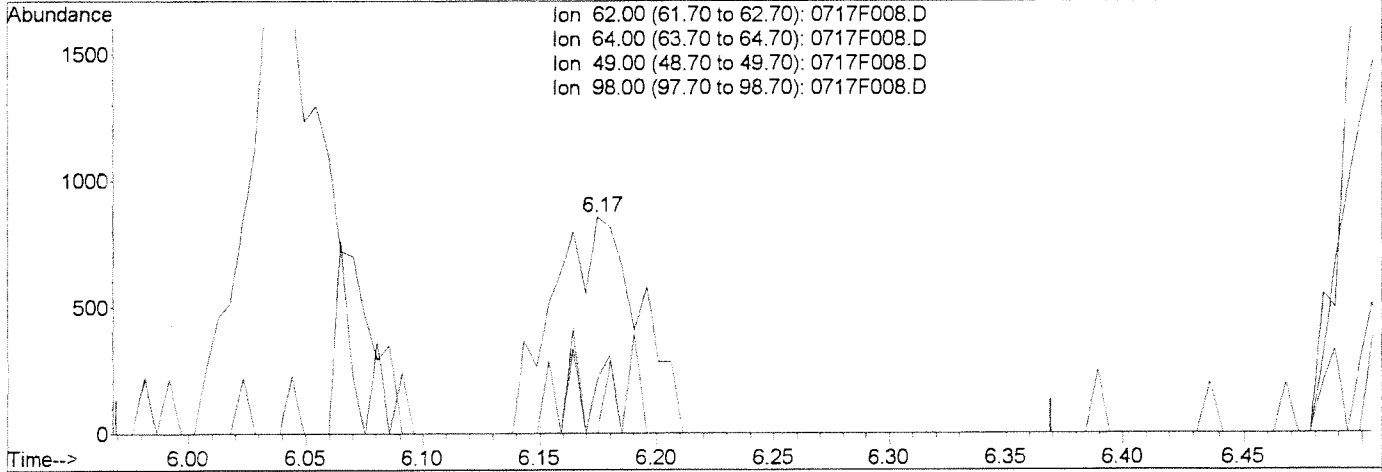
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F008.D
 Acq On : 17 Jul 2013 12:05 pm
 Sample : 8260 ICAL 0.1PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:20 2013

Vial: 8
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:09:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F008.D

(49) 1,2-Dichloroethane (T)

6.17min 0.12PPB m

response 2202

Ion	Exp%	Act%
62.00	100	100
64.00	29.90	25.73
49.00	29.50	0.00
98.00	9.40	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signatures and date:
 HB
 7/22/13

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:52 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 72213 HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	607399	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	229905	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	208552	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	121968	9.69	PPB	0.00
Spiked Amount	10.000		Recovery	=	96.90%	
47) 1,2-Dichloroethane-d4	6.04	65	121544	10.42	PPB	0.00
Spiked Amount	10.000		Recovery	=	104.20%	
62) Toluene-d8	9.81	98	574082	9.72	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.20%	
84) 4-Bromofluorobenzene	13.96	95	183722	9.59	PPB	0.00
Spiked Amount	10.000		Recovery	=	95.90%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	4050	0.20	PPB	95
3) Chloromethane	1.41	50	4744	0.21	PPB	92
4) Vinyl Chloride	1.50	62	4434	0.21	PPB	91
5) Bromomethane	1.79	96	2575	0.24	PPB	96
6) Chloroethane	1.88	64	2404	0.20	PPB	94
7) Dichlorofluoromethane	2.06	67	6365	0.22	PPB	98
8) Trichlorofluoromethane	2.07	101	5242	0.21	PPB	97
9) Ethyl Ether	2.35	59	2018	0.20	PPB	91
10) Acrolein	2.54	56	4768	3.91	PPB	89
11) Trichlorotrifluoroethane	2.54	151	2166m	0.19	PPB	
12) 1,1-Dichloroethene	2.57	96	2266	0.21	PPB	# 73
13) Acetone	2.70	43	17413	9.09	PPB	93
14) Iodomethane	2.74	142	10189	0.65	PPB	95
15) Carbon Disulfide	2.77	76	9670	0.26	PPB	98
17) 3-Chloro-1-propene	2.97	76	1063	0.15	PPB	# 74
18) Acetonitrile	3.06	40	6224	12.42	PPB	# 58
20) Methylene Chloride	3.14	84	3735	0.24	PPB	89
22) Acrylonitrile	3.49	53	2567	0.90	PPB	# 61
23) Methyl tert-Butyl Ether	3.37	73	11274	0.39	PPB	89
24) trans-1,2-Dichloroethene	3.39	96	2963m	0.20	PPB	
25) Hexane	3.61	57	4392	0.20	PPB	94
26) Diisopropyl Ether	3.94	45	9137	0.19	PPB	89
27) 1,1-Dichloroethane	3.94	63	5346	0.19	PPB	93
29) Chloroprene	4.01	53	15337	0.72	PPB	98
30) tert-Butyl Ethyl Ether	4.43	59	6605	0.20	PPB	91
31) 2,2-Dichloropropane	4.69	77	2659m	0.18	PPB	
32) cis-1,2-Dichloroethene	4.74	96	3306	0.19	PPB	95

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:52 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
33) 2-Butanone	4.81	72	6186	8.06	PPB	# 85
36) Methacrylonitrile	5.18	67	2875	0.83	PPB	# 54
37) Bromochloromethane	5.09	128	1558	0.23	PPB	# 39
39) Chloroform	5.21	83	5338	0.20	PPB	97
41) 1,1,1-Trichloroethane	5.40	97	3296	0.17	PPB	95
43) Cyclohexane	5.35	56	5218	0.21	PPB	# 72
44) Carbon Tetrachloride	5.58	117	2623	0.19	PPB	78
45) 1,1-Dichloropropene	5.66	75	3841	0.20	PPB	90
48) Benzene	5.99	78	15293	0.23	PPB	92
49) 1,2-Dichloroethane	6.19	62	4007m	0.22	PPB	
51) Trichloroethene	7.15	95	3484m	0.23	PPB	
52) Methyl Cyclohexane	7.35	83	5292	0.20	PPB	# 50
53) 1,2-Dichloropropane	7.70	63	3086	0.20	PPB	75
57) Bromodichloromethane	8.28	83	2761	0.18	PPB	72
60) cis-1,3-Dichloropropene	9.38	75	3116m	0.16	PPB	
61) 4-Methyl-2-pentanone (MIBK)	9.80	58	23893	8.71	PPB	# 1
63) Toluene	9.97	92	9485	0.22	PPB	# 61
66) trans-1,3-Dichloropropene	10.64	75	2416	0.19	PPB	78
68) 1,1,2-Trichloroethane	10.94	83	2003	0.23	PPB	# 68
69) Tetrachloroethene	10.94	164	2627	0.19	PPB	82
70) 2-Hexanone	11.39	57	5796	6.46	PPB	# 86
71) 1,3-Dichloropropane	11.22	76	3931	0.21	PPB	77
74) 1-Chlorohexane	12.40	91	3853	0.20	PPB	98
75) Chlorobenzene	12.38	112	10823	0.23	PPB	84
76) Ethylbenzene	12.53	106	5279	0.21	PPB	91
77) 1,1,1,2-Tetrachloroethane	12.55	131	2431m	0.20	PPB	
78) m,p-Xylenes	12.71	106	11175	0.34	PPB	92
79) o-Xylene	13.25	106	5882	0.19	PPB	# 73
80) Styrene	13.28	103	4298	0.18	PPB	# 68
82) Isopropylbenzene	13.72	105	14232	0.18	PPB	96
88) Bromobenzene	14.10	156	4046	0.21	PPB	# 82
89) n-Propylbenzene	14.22	91	17221	0.18	PPB	93
91) 2-Chlorotoluene	14.33	91	11545	0.20	PPB	98
92) 1,3,5-Trimethylbenzene	14.46	105	11798	0.17	PPB	95
93) 4-Chlorotoluene	14.49	91	13200	0.20	PPB	99
94) tert-Butylbenzene	14.82	119	11088	0.19	PPB	89
95) 1,2,4-Trimethylbenzene	14.90	105	11704	0.16	PPB	90
96) sec-Butylbenzene	15.08	105	14908	0.17	PPB	99
97) p-Isopropyltoluene	15.25	119	11724	0.16	PPB	96
98) 1,3-Dichlorobenzene	15.22	146	9167	0.23	PPB	88
99) 1,4-Dichlorobenzene	15.34	146	8368	0.21	PPB	97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:52 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100) n-Butylbenzene	15.71	91	10540	0.16	PPB	84
101) 1,2-Dichlorobenzene	15.75	146	7686	0.22	PPB	94
103) 1,3,5-Trichlorobenzene	16.80	180	5944	0.20	PPB	91
104) 1,2,4-Trichlorobenzene	17.47	180	3736	0.16	PPB	74
105) Hexachlorobutadiene	17.60	225	2585	0.21	PPB	90
106) Naphthalene	17.73	128	3170	0.11	PPB	90
107) 1,2,3-Trichlorobenzene	17.99	180	2438	0.14	PPB	82

(#) = qualifier out of range (m) = manual integration

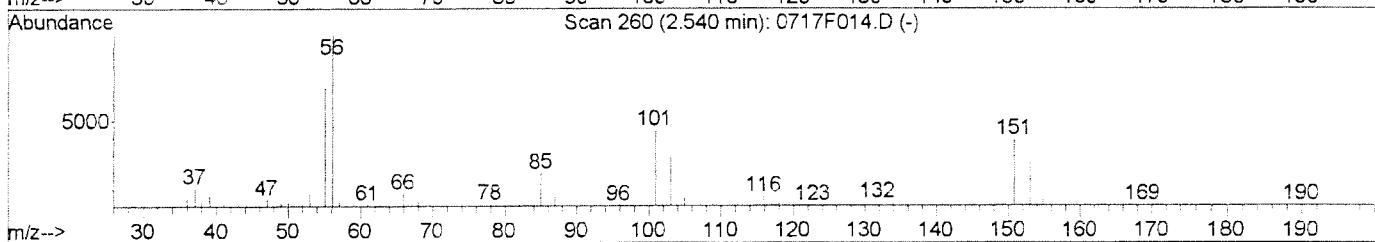
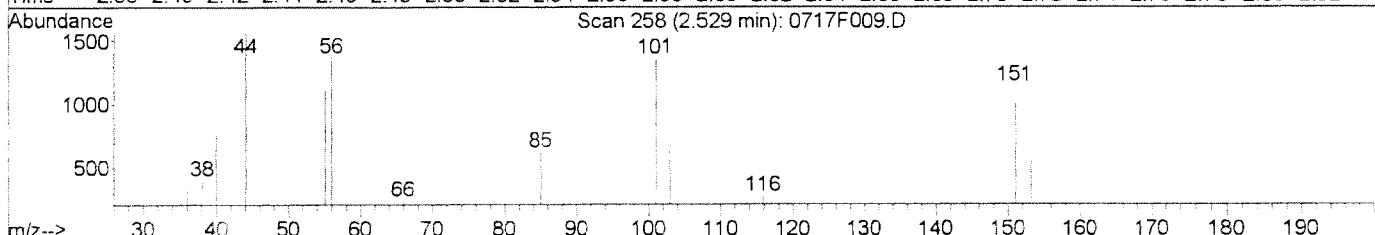
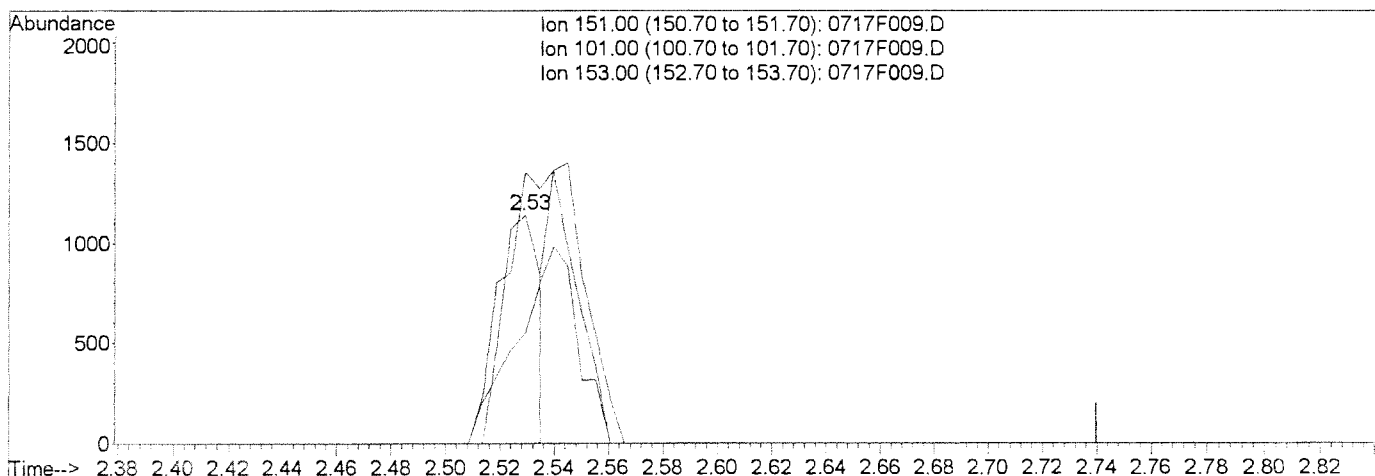
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:07 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(11) Trichlorotrifluoroethane (T)

Manual Integration:

2.53min 0.10PPB

Before

response 1107

Ion	Exp%	Act%
151.00	100	100
101.00	113.70	118.93
153.00	66.20	48.38
0.00	0.00	0.00

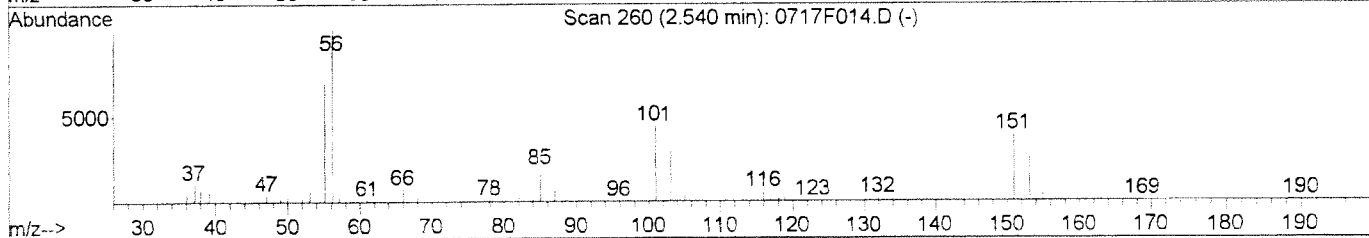
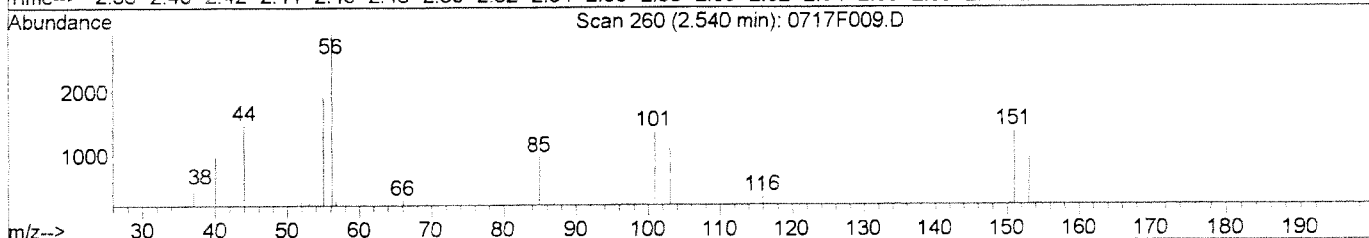
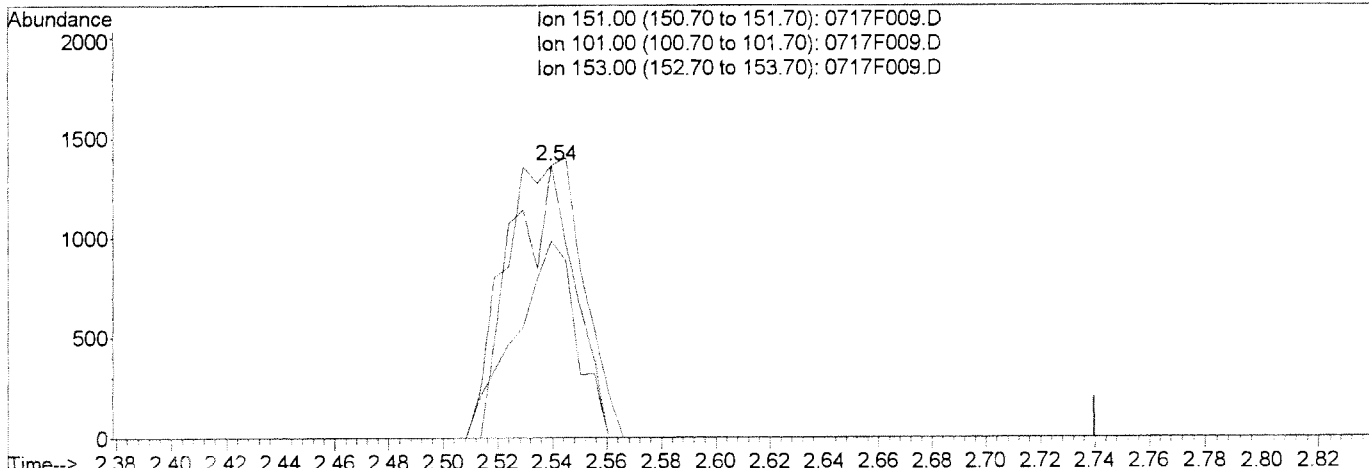
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:23 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(11) Trichlorotrifluoroethane (T)

2.54min 0.19PPB m

response 2166

Ion	Exp%	Act%
151.00	100	100
101.00	113.70	100.15
153.00	66.20	71.99
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

HTB
8/22/13

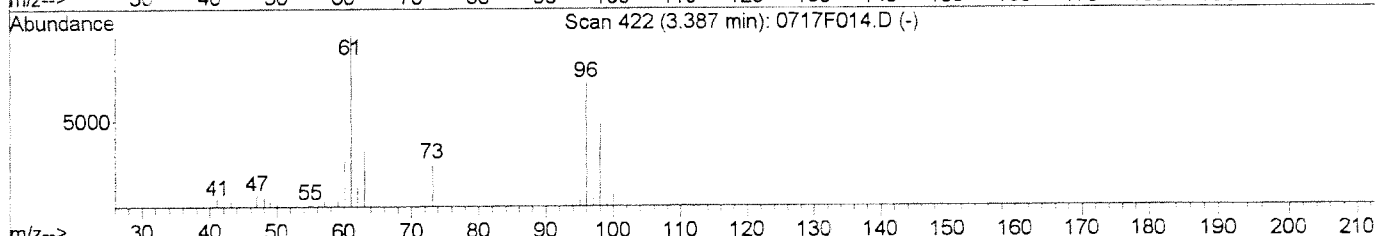
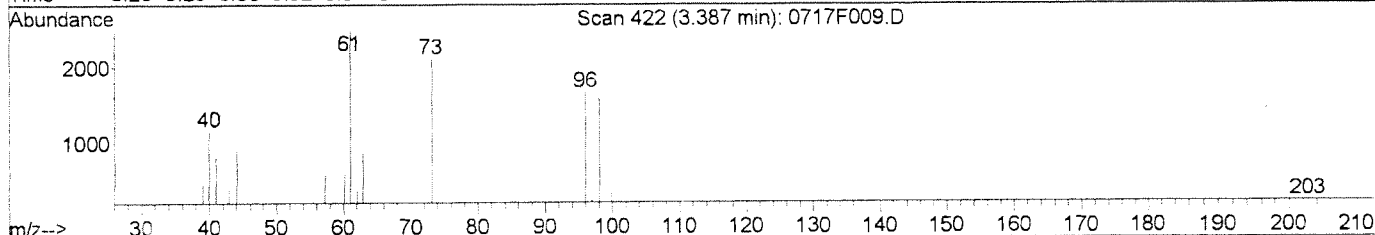
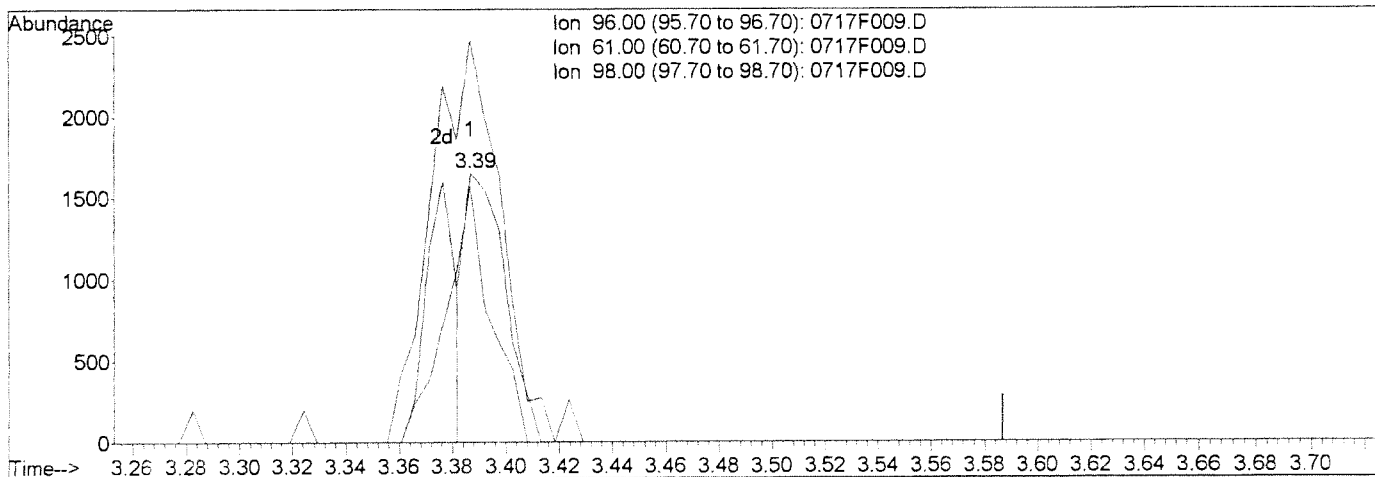
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:23 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(24) trans-1,2-Dichloroethene (T)

Manual Integration:

3.39min 0.12PPB

Before

response 1700

Ion	Exp%	Act%
96.00	100	100
61.00	138.80	149.70
98.00	66.10	95.16
0.00	0.00	0.00

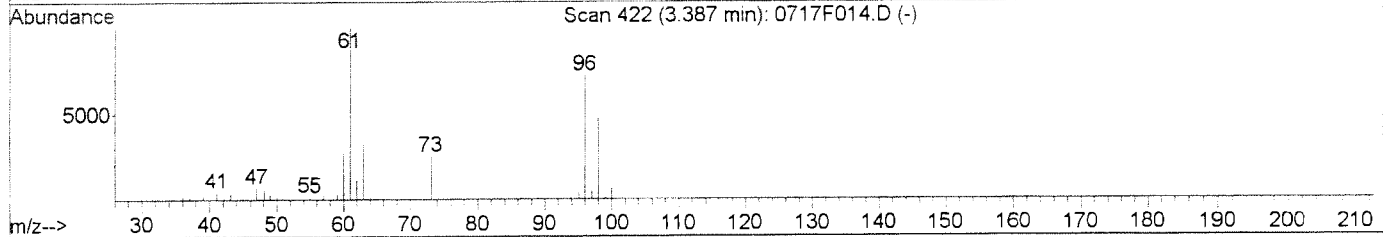
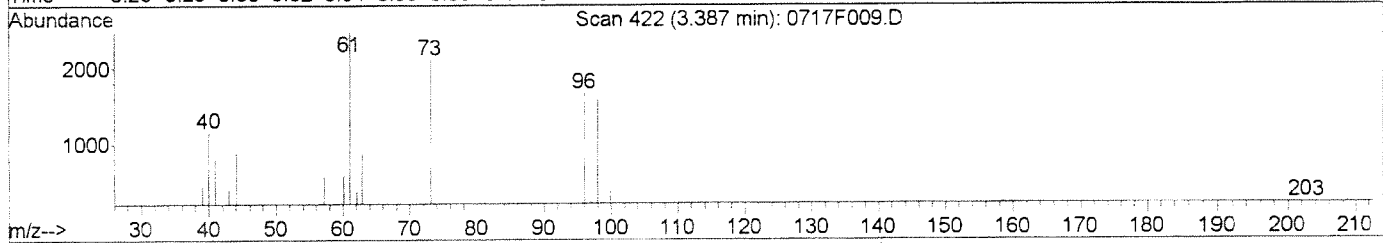
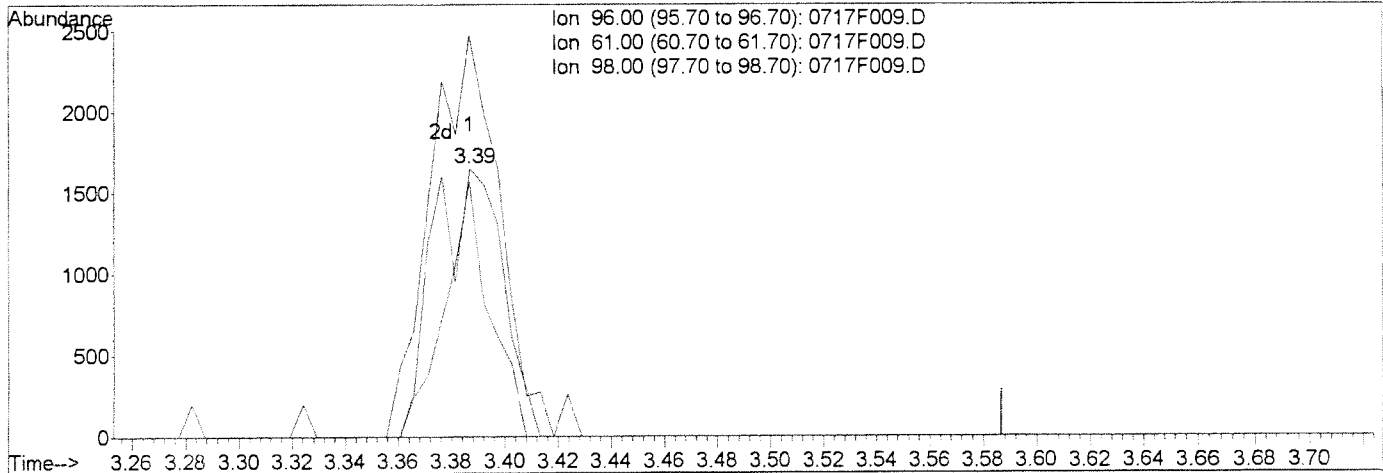
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:23 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(24) trans-1,2-Dichloroethene (T)

3.39min 0.20PPB m

response 2963

Ion	Exp%	Act%
96.00	100	100
61.00	138.80	149.70
98.00	66.10	95.16
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

HB
907 722.13

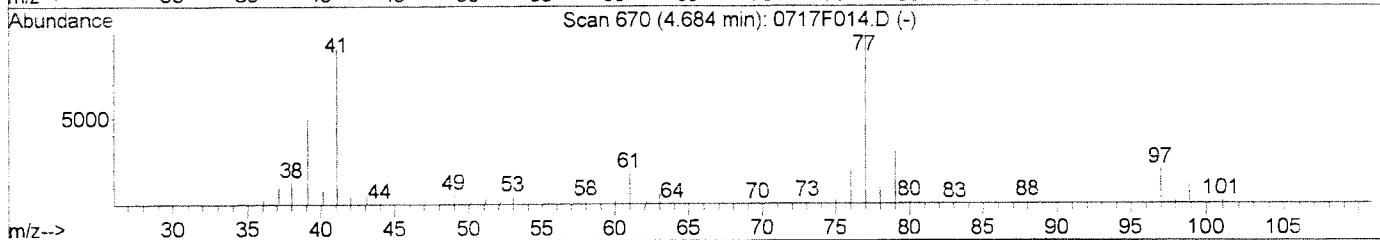
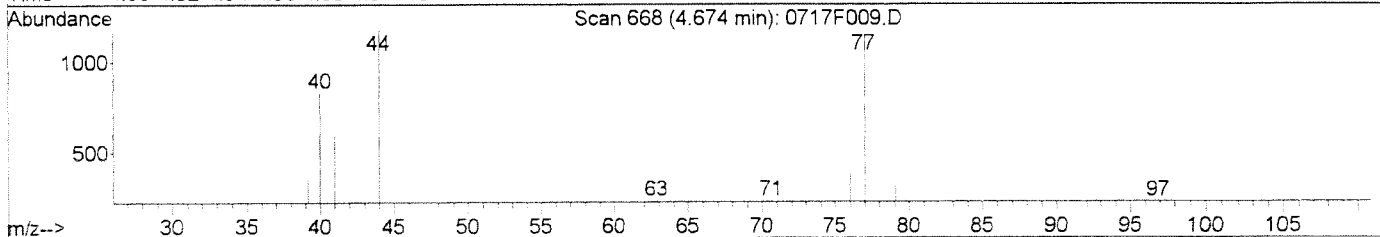
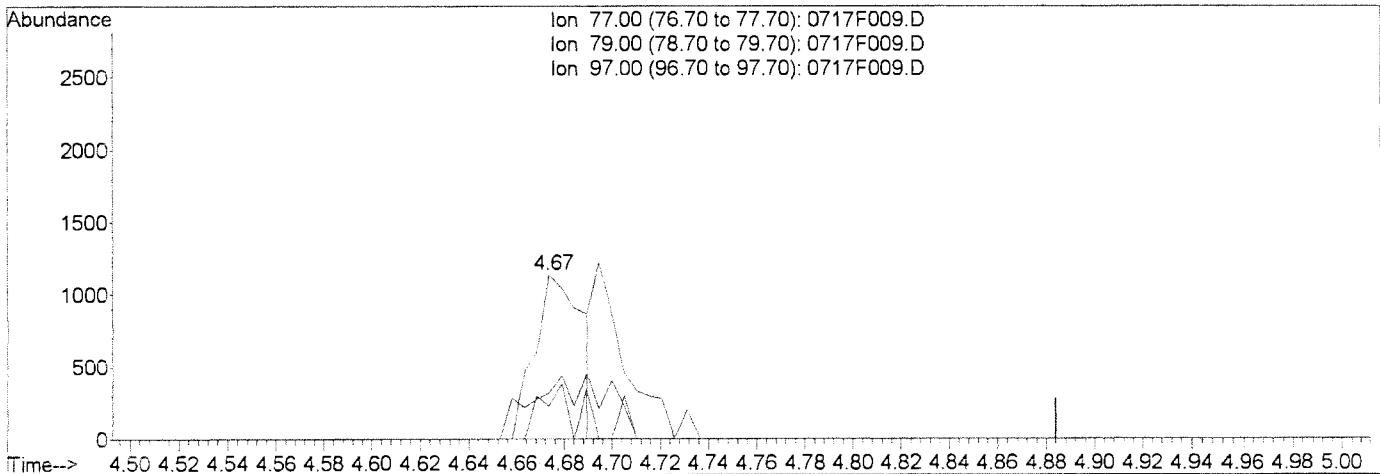
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:23 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(31) 2,2-Dichloropropane (T)

Manual Integration:

4.67min 0.11PPB

Before

response 1571

Ion	Exp%	Act%
77.00	100	100
79.00	30.50	27.75
97.00	20.00	19.91
0.00	0.00	0.00

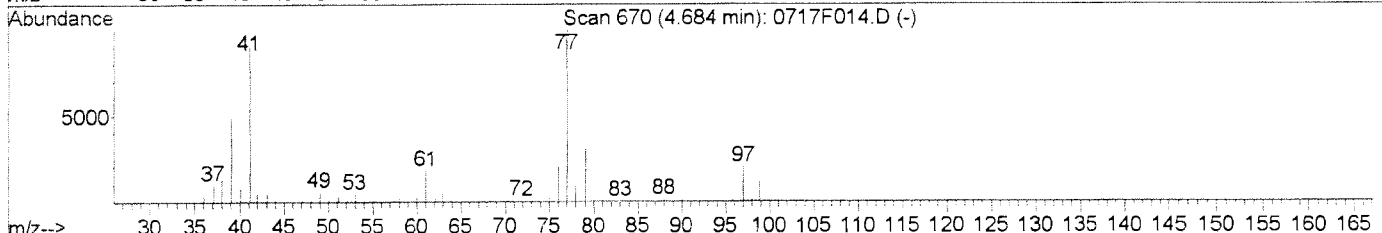
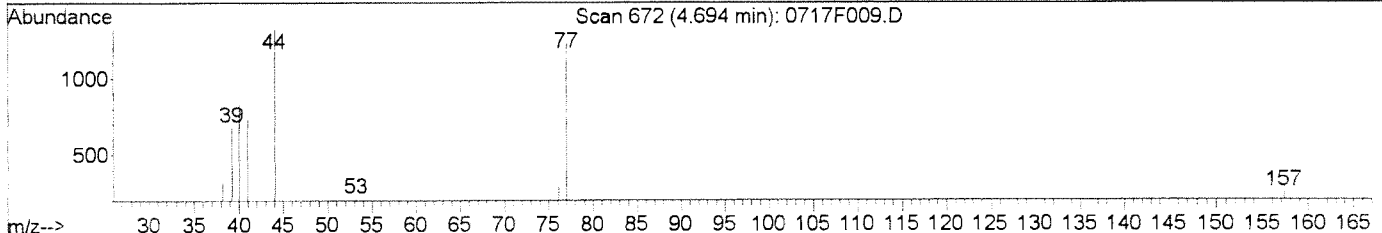
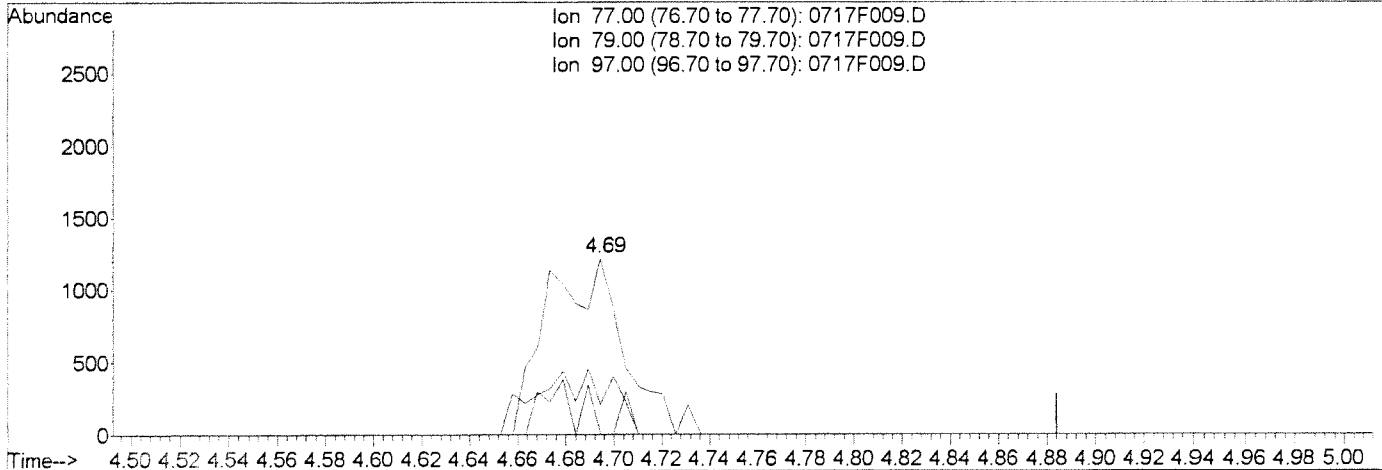
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:23 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

Ion	Exp%	Act%
77.00	100	100
79.00	30.50	17.08
97.00	20.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

HB
7/22/13

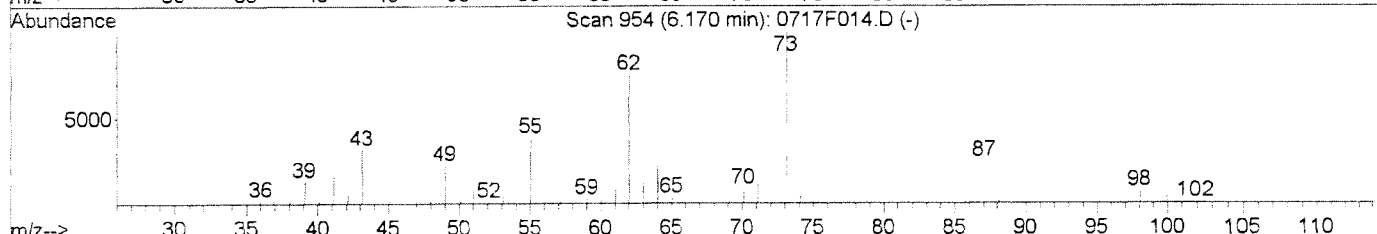
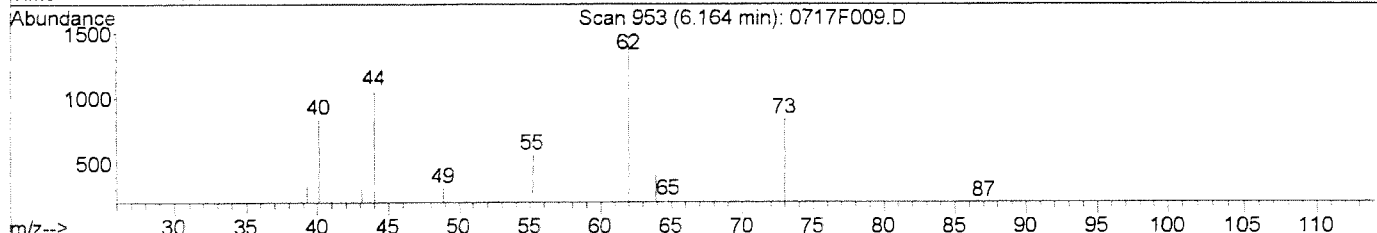
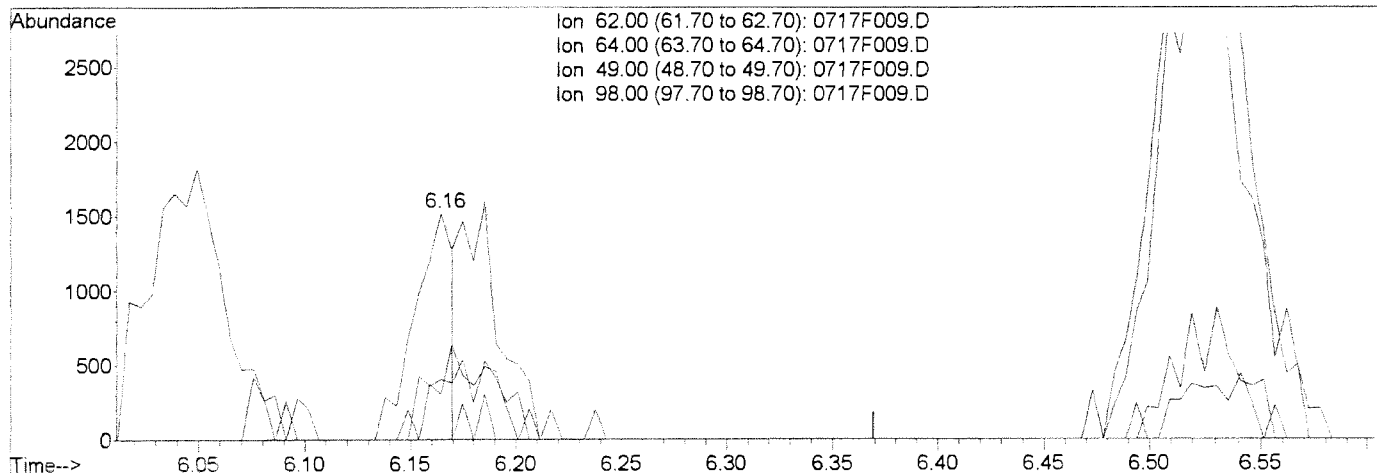
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:24 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(49) 1,2-Dichloroethane (T)

Manual Integration:

6.16min 0.11PPB

Before

response 1945

Ion	Exp%	Act%
62.00	100	100
64.00	29.90	26.72
49.00	29.50	20.22
98.00	9.40	0.00

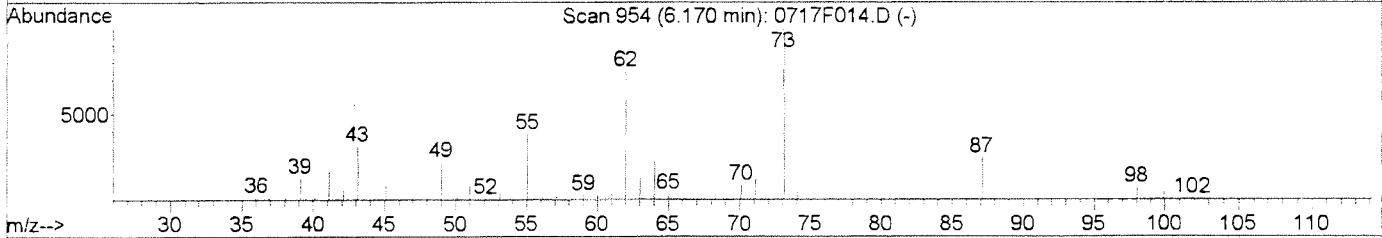
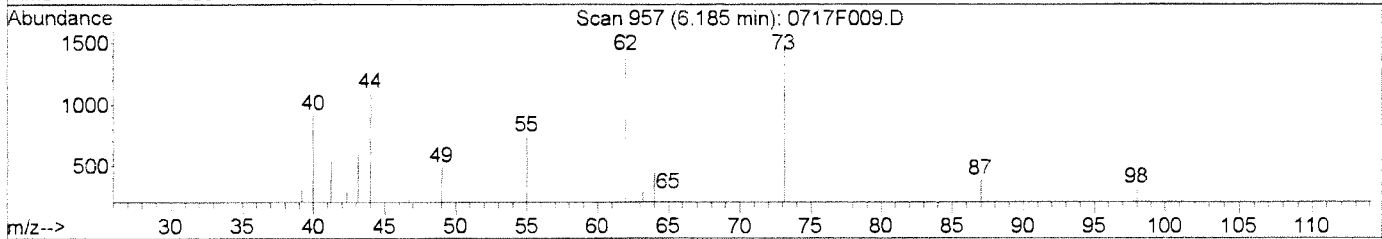
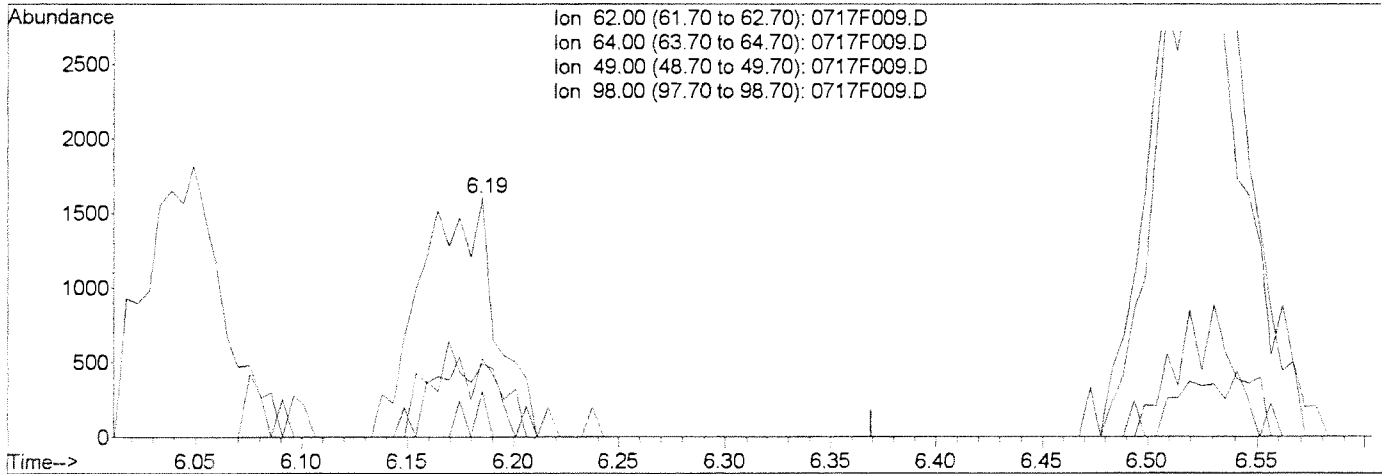
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:24 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



(49) 1,2-Dichloroethane (T)

6.19min 0.22PPB m

response 4007

Ion	Exp%	Act%
62.00	100	100
64.00	29.90	33.10
49.00	29.50	30.74
98.00	9.40	19.51

Manual Integration:

After

Split peak

07/18/13

Handwritten notes:
 1/16
 7/22/13

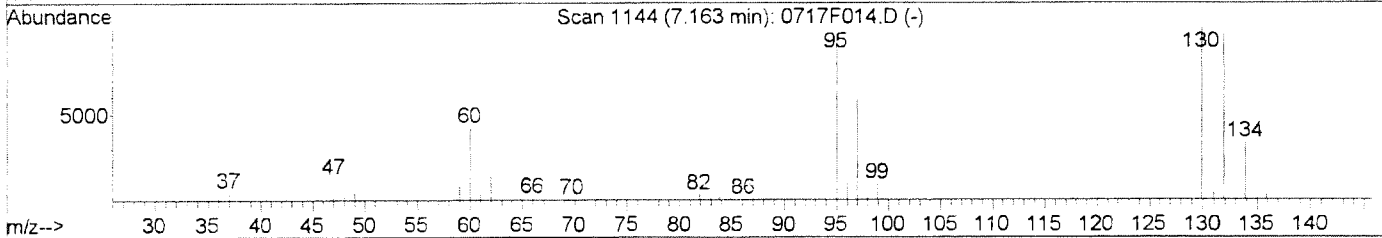
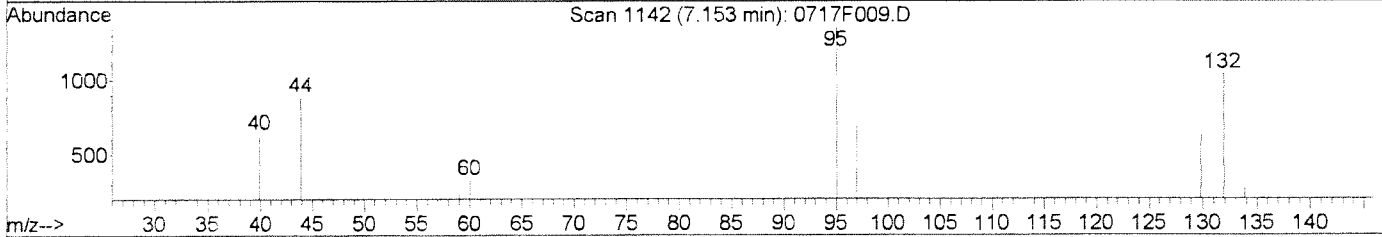
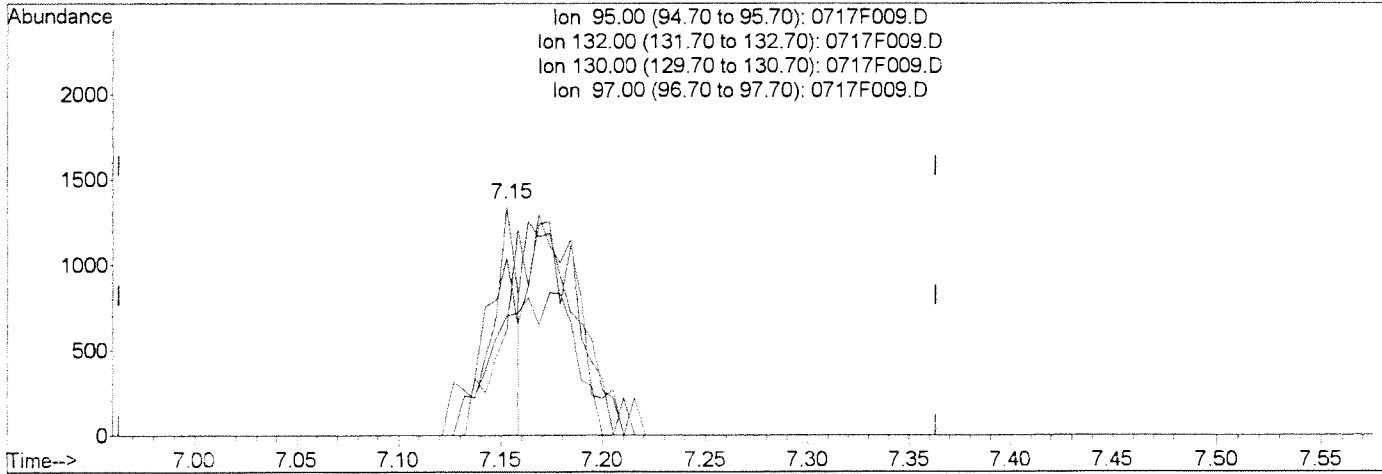
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:24 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(51) Trichloroethene (MT)

Manual Integration:

7.15min 0.08PPB

Before

response 1296

Ion	Exp%	Act%
95.00	100	100
132.00	99.60	76.73
130.00	103.40	46.32#
97.00	60.40	51.55

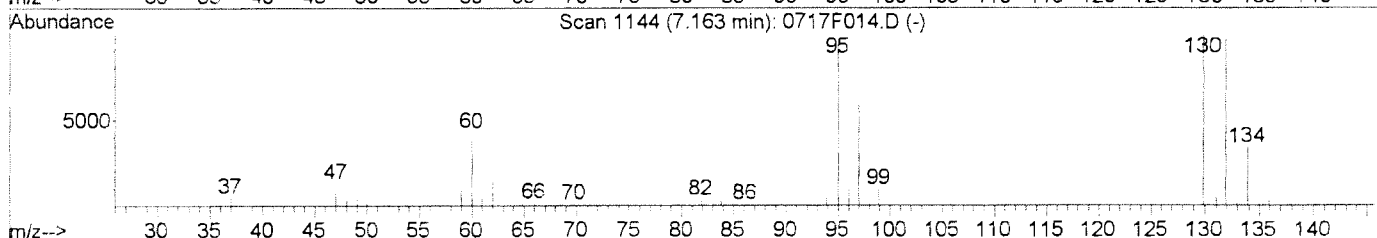
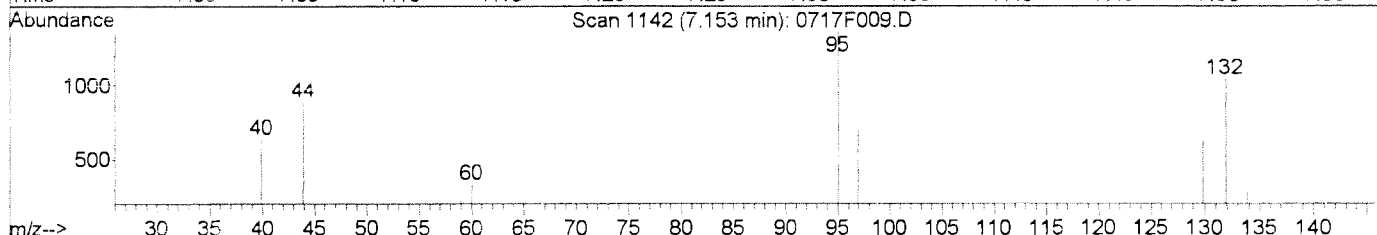
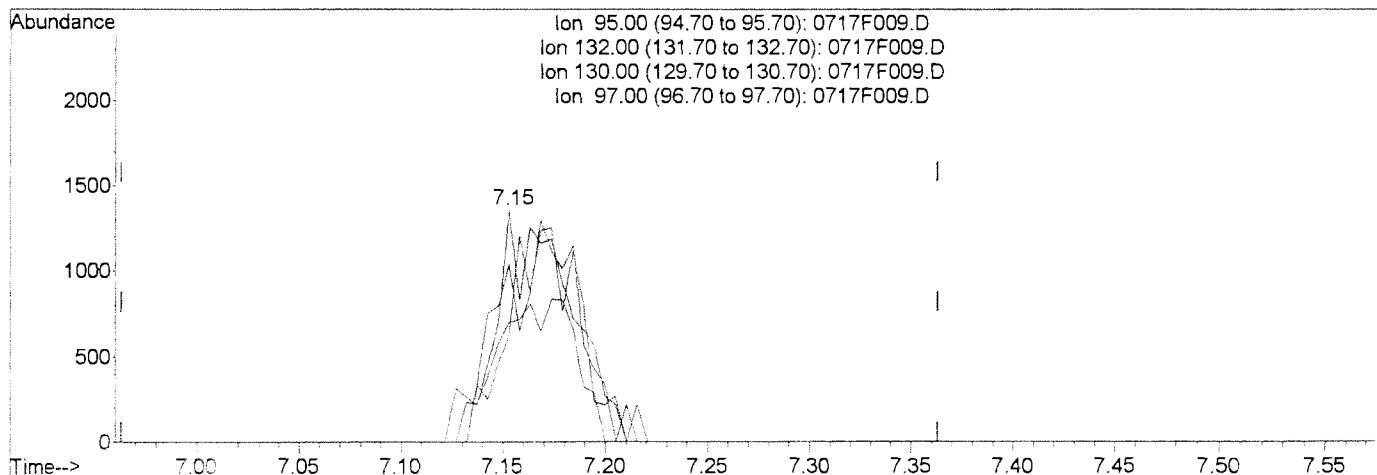
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:24 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(51) Trichloroethene (MT)

7.15min 0.23PPB m

response 3484

Ion	Exp%	Act%
95.00	100	100
132.00	99.60	76.73
130.00	103.40	46.32#
97.00	60.40	51.55

Manual Integration:

After

Split peak

07/18/13

HB
7/22/13

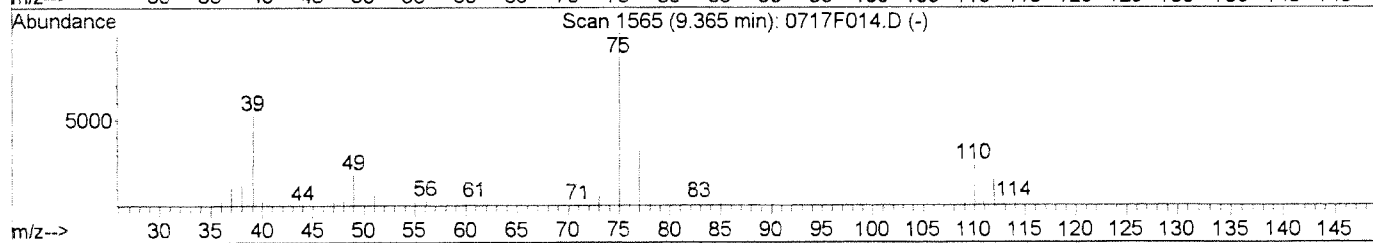
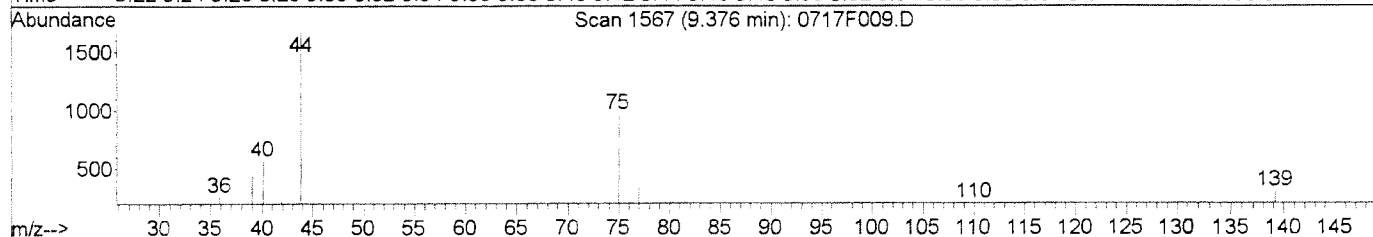
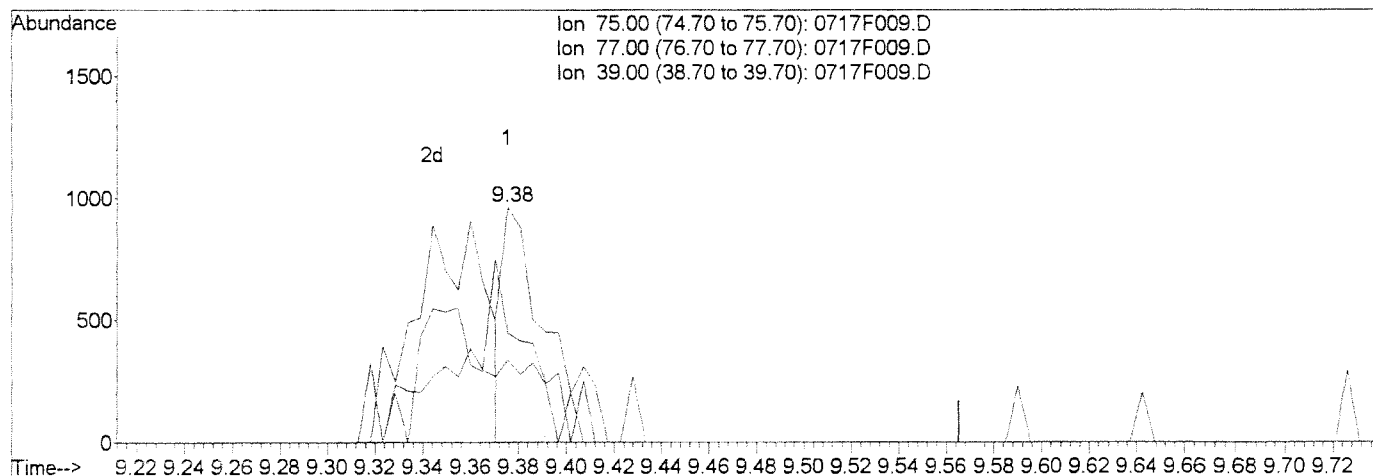
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:24 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(60) cis-1,3-Dichloropropene (T)

Manual Integration:

9.38min 0.07PPB

Before

response 1253

Ion	Exp%	Act%
75.00	100	100
77.00	31.90	34.75
39.00	52.50	46.16
0.00	0.00	0.00

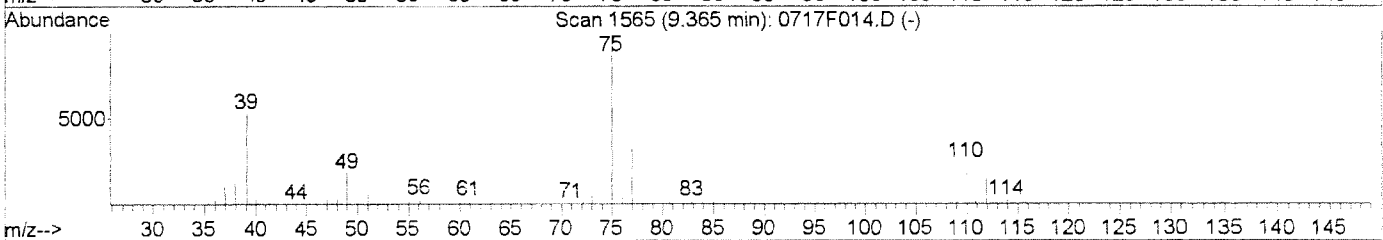
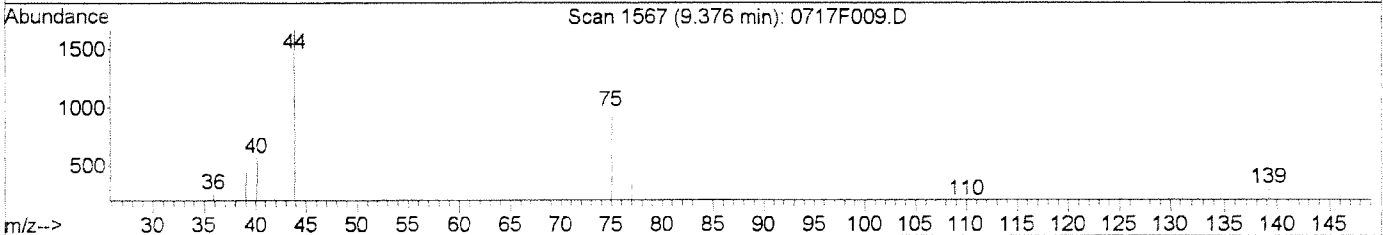
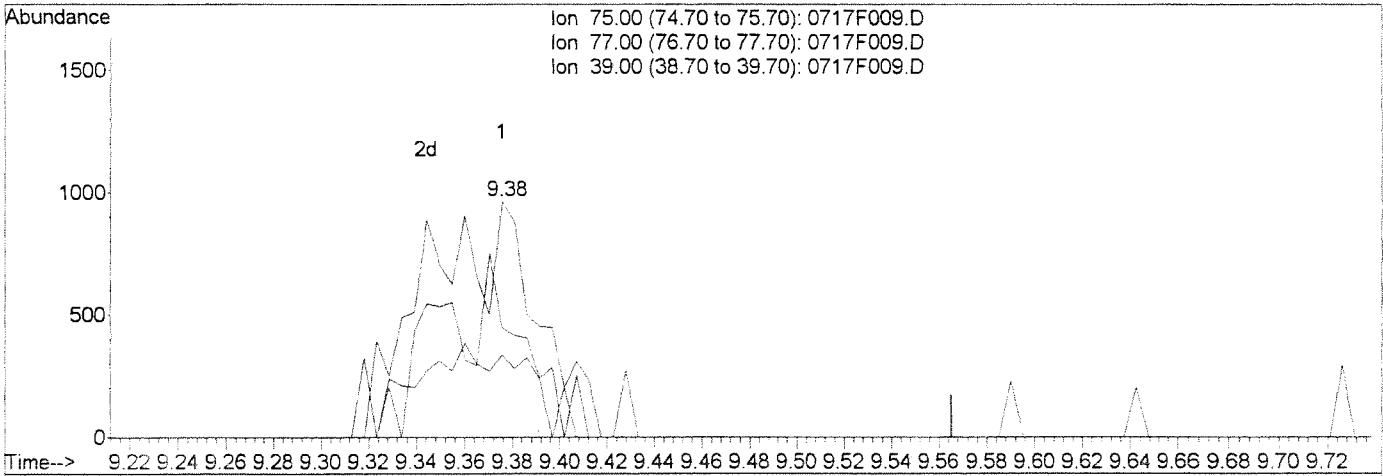
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:24 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

Retention Time (min)	Response	Exp%	Act%
9.38	3116	100	100
77.00		31.90	34.75
39.00		52.50	46.16
0.00		0.00	0.00

(60) cis-1,3-Dichloropropene (T)
 Manual integration:
 After
 Split peak
 07/18/13

Handwritten signatures and date: 7/22/13

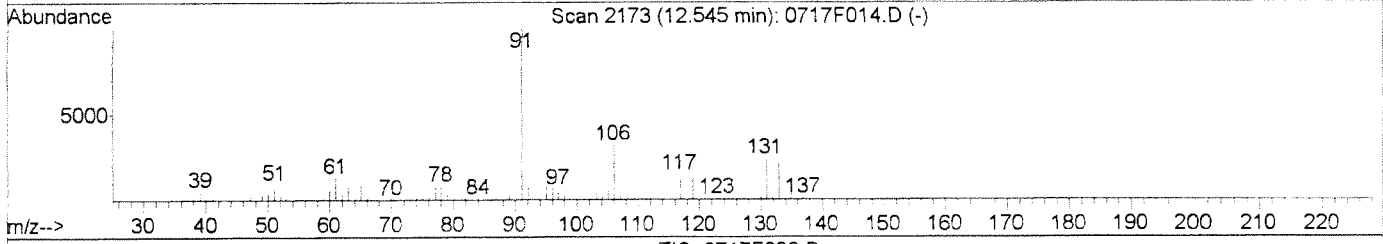
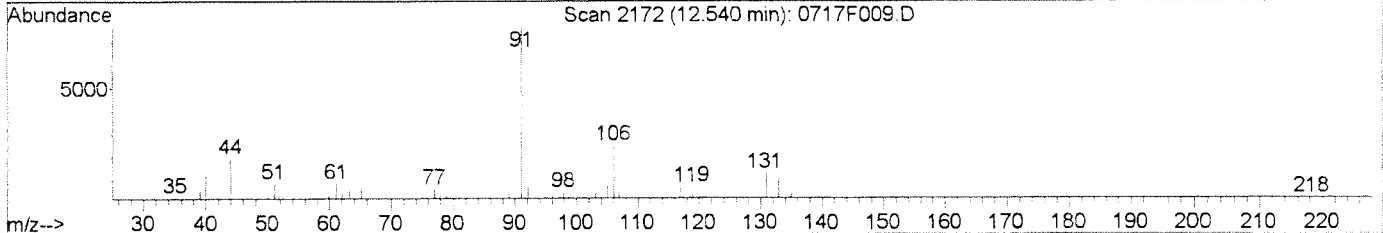
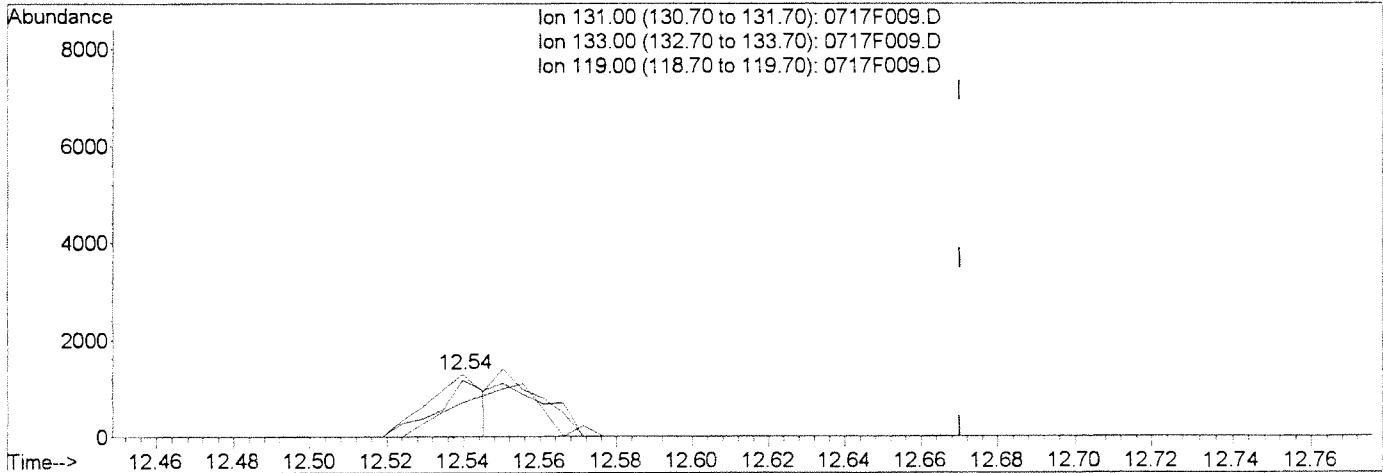
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:25 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(77) 1,1,1,2-Tetrachloroethane (T)

Manual integration:

12.54min 0.11PPB

Before

response 1291

Ion	Exp%	Act%
131.00	100	100
133.00	88.90	90.98
119.00	56.30	54.12
0.00	0.00	0.00

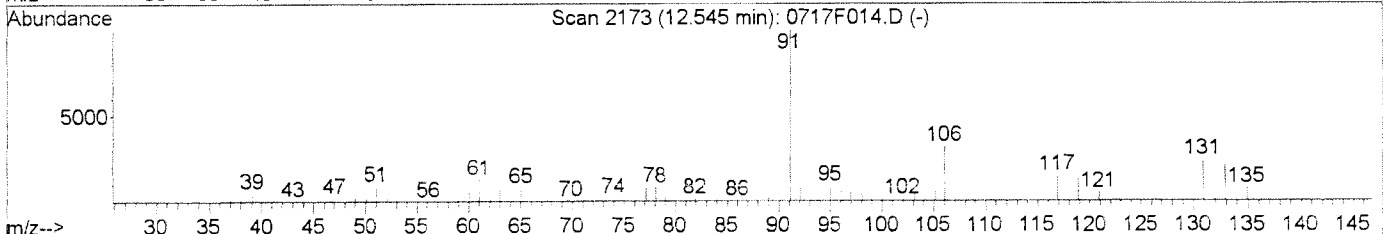
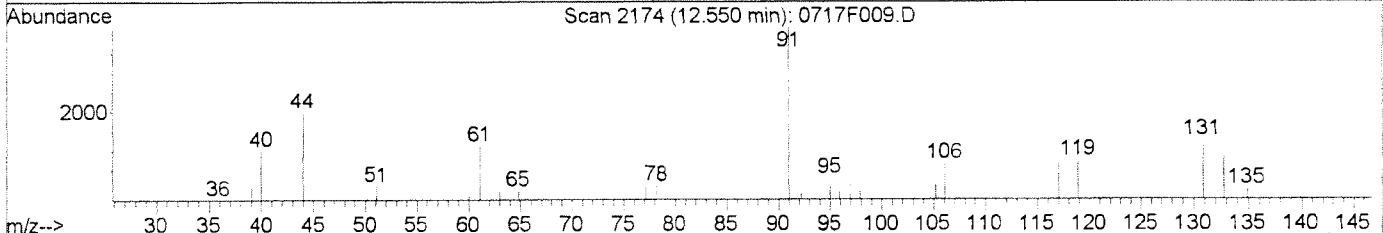
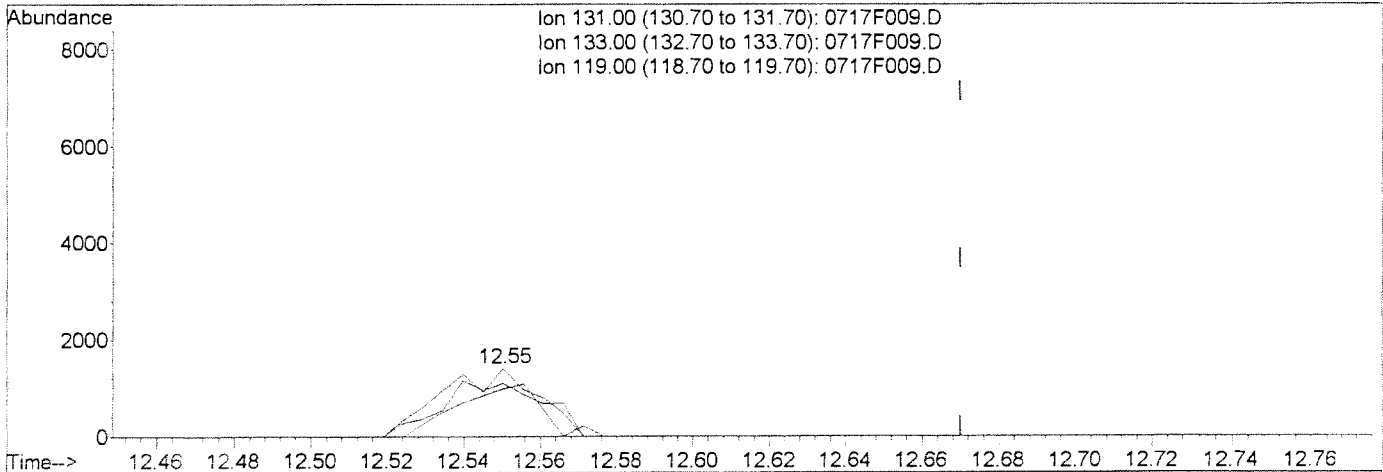
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F009.D
 Acq On : 17 Jul 2013 12:32 pm
 Sample : 8260 ICAL 0.2PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:25 2013

Vial: 9
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:19:23 2013
 Response via : Multiple Level Calibration



TIC: 0717F009.D

(77) 1,1,1,2-Tetrachloroethane (T)

12.55min 0.20PPB m

response 2431

Ion	Exp%	Act%
131.00	100	100
133.00	88.90	78.50
119.00	56.30	70.14
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signatures and date:
 XTH
 7/22/13

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:53 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7/22/13 HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.52	96	590276	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	227780	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	206859	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	119089	9.73	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.30%	
47) 1,2-Dichloroethane-d4	6.04	65	117015	10.32	PPB	0.00
Spiked Amount	10.000		Recovery	=	103.20%	
62) Toluene-d8	9.82	98	570011	9.93	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.30%	
84) 4-Bromofluorobenzene	13.96	95	181966	9.59	PPB	0.00
Spiked Amount	10.000		Recovery	=	95.90%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	12216	0.62	PPB	89
3) Chloromethane	1.42	50	12287	0.55	PPB	96
4) Vinyl Chloride	1.50	62	11773	0.57	PPB	93
5) Bromomethane	1.79	96	6612	0.63	PPB	89
6) Chloroethane	1.88	64	6719	0.57	PPB	94
7) Dichlorofluoromethane	2.06	67	15532	0.55	PPB	91
8) Trichlorofluoromethane	2.07	101	14035	0.57	PPB	92
9) Ethyl Ether	2.35	59	5243	0.55	PPB	93
10) Acrolein	2.54	56	12624	10.66	PPB	99
11) Trichlorotrifluoroethane	2.54	151	6617	0.60	PPB	86
12) 1,1-Dichloroethene	2.57	96	5835	0.55	PPB	95
13) Acetone	2.69	43	40751	21.90	PPB	93
14) Iodomethane	2.74	142	28149	1.86	PPB	93
15) Carbon Disulfide	2.77	76	21352	0.60	PPB	98
17) 3-Chloro-1-propene	2.97	76	3457	0.49	PPB	# 76
18) Acetonitrile	3.06	40	13938	28.61	PPB	# 78
19) Methyl Acetate	3.01	43	4026	0.64	PPB	78
20) Methylene Chloride	3.14	84	8935	0.60	PPB	89
22) Acrylonitrile	3.50	53	6407	2.31	PPB	90
23) Methyl tert-Butyl Ether	3.36	73	30536	1.10	PPB	98
24) trans-1,2-Dichloroethene	3.39	96	7966	0.56	PPB	85
25) Hexane	3.62	57	11724	0.56	PPB	84
26) Diisopropyl Ether	3.95	45	25696	0.55	PPB	96
27) 1,1-Dichloroethane	3.95	63	14249	0.53	PPB	95
28) Vinyl Acetate	4.00	86	1789	1.11	PPB	# 1
29) Chloroprene	4.01	53	40997	1.97	PPB	92
30) tert-Butyl Ethyl Ether	4.43	59	16338	0.51	PPB	85

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:53 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
31) 2,2-Dichloropropane	4.69	77	7271	0.52	PPB	90
32) cis-1,2-Dichloroethene	4.73	96	9600	0.57	PPB	86
33) 2-Butanone	4.80	72	15677	21.02	PPB	99
36) Methacrylonitrile	5.16	67	7230	2.16	PPB	90
37) Bromochloromethane	5.09	128	4163	0.62	PPB	# 72
39) Chloroform	5.21	83	14946	0.58	PPB	96
40) tert-Butyl Formate	5.24	59	1468	0.51	PPB	90
41) 1,1,1-Trichloroethane	5.39	97	8697m	0.47	PPB	
43) Cyclohexane	5.36	56	12842	0.52	PPB	85
44) Carbon Tetrachloride	5.59	117	6345	0.48	PPB	81
45) 1,1-Dichloropropene	5.66	75	9909	0.54	PPB	96
48) Benzene	5.98	78	36372	0.56	PPB	95
49) 1,2-Dichloroethane	6.17	62	9862	0.56	PPB	93
50) tert-Amyl Methyl Ether	6.17	55	6093m	0.57	PPB	
51) Trichloroethene	7.17	95	8836	0.59	PPB	# 79
52) Methyl Cyclohexane	7.35	83	13603	0.53	PPB	92
53) 1,2-Dichloropropane	7.71	63	8517	0.56	PPB	92
54) Dibromomethane	7.93	93	3646	0.56	PPB	81
55) Methyl methacrylate	8.00	69	2409m	0.45	PPB	
57) Bromodichloromethane	8.29	83	8167	0.54	PPB	81
59) 2-Chloroethyl Vinyl Ether	9.12	63	2922m	0.54	PPB	
60) cis-1,3-Dichloropropene	9.37	75	8787	0.48	PPB	85
61) 4-Methyl-2-pentanone (MIBK)	9.79	58	52304	19.62	PPB	# 1
63) Toluene	9.95	92	25397	0.60	PPB	# 80
65) n-Octane	10.18	85	4730	0.47	PPB	# 67
66) trans-1,3-Dichloropropene	10.64	75	5975	0.48	PPB	84
67) Ethyl methacrylate	10.78	69	4436	0.43	PPB	88
68) 1,1,2-Trichloroethane	10.94	83	4793	0.56	PPB	96
69) Tetrachloroethene	10.92	164	7830	0.56	PPB	88
70) 2-Hexanone	11.39	57	14553	16.36	PPB	90
71) 1,3-Dichloropropane	11.22	76	11001	0.58	PPB	94
72) Dibromochloromethane	11.51	129	4864	0.56	PPB	83
73) 1,2-Dibromoethane (EDB)	11.67	107	4603	0.52	PPB	92
74) 1-Chlorohexane	12.40	91	9260	0.49	PPB	92
75) Chlorobenzene	12.39	112	27381	0.58	PPB	89
76) Ethylbenzene	12.53	106	14051	0.55	PPB	94
77) 1,1,1,2-Tetrachloroethane	12.54	131	5759	0.48	PPB	91
78) m,p-Xylenes	12.71	106	32968	1.02	PPB	98
79) o-Xylene	13.24	106	16447	0.53	PPB	98
80) Styrene	13.28	103	12335	0.51	PPB	83
81) Bromoform	13.53	173	2058	0.52	PPB	80

(#) = qualifier out of range (m) = manual integration

0717F010.D 071713MS13_8260W.M

Thu Jul 18 08:32:28 2013

Page 2

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:53 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
82) Isopropylbenzene	13.72	105	40489	0.50	PPB	94
83) cis-1,4-Dichloro-2-butene	13.94	89	1605	2.26	PPB #	1
86) 1,1,2,2-Tetrachloroethane	14.22	83	5787	0.58	PPB	96
87) trans-1,4-Dichloro-2-buten	14.30	53	1447	0.58	PPB	70
88) Bromobenzene	14.10	156	10782	0.56	PPB	92
89) n-Propylbenzene	14.23	91	48159	0.51	PPB	99
90) 1,2,3-Trichloropropane	14.25	110	1933	0.62	PPB #	32
91) 2-Chlorotoluene	14.34	91	31539	0.56	PPB	98
92) 1,3,5-Trimethylbenzene	14.46	105	33384	0.50	PPB	95
93) 4-Chlorotoluene	14.49	91	35901	0.55	PPB	95
94) tert-Butylbenzene	14.82	119	31283	0.54	PPB	94
95) 1,2,4-Trimethylbenzene	14.90	105	35180	0.50	PPB	97
96) sec-Butylbenzene	15.08	105	44194	0.52	PPB	98
97) p-Isopropyltoluene	15.25	119	34274	0.46	PPB	97
98) 1,3-Dichlorobenzene	15.22	146	22932	0.58	PPB	98
99) 1,4-Dichlorobenzene	15.33	146	23893	0.60	PPB	96
100) n-Butylbenzene	15.71	91	28952	0.44	PPB	100
101) 1,2-Dichlorobenzene	15.76	146	21258	0.60	PPB	93
103) 1,3,5-Trichlorobenzene	16.80	180	15895	0.53	PPB	89
104) 1,2,4-Trichlorobenzene	17.48	180	10677	0.47	PPB	85
105) Hexachlorobutadiene	17.61	225	6200	0.51	PPB	84
106) Naphthalene	17.73	128	9566	0.32	PPB	94
107) 1,2,3-Trichlorobenzene	17.99	180	6683	0.38	PPB	83

(#) = qualifier out of range (m) = manual integration

0717F010.D 071713MS13_8260W.M

Thu Jul 18 08:32:28 2013

Page 3

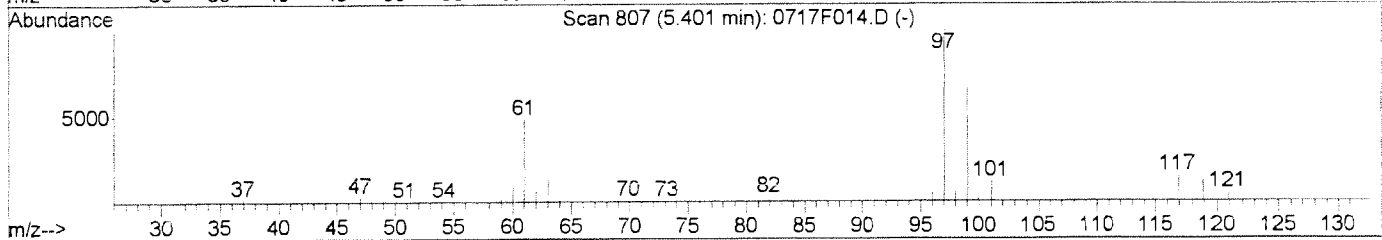
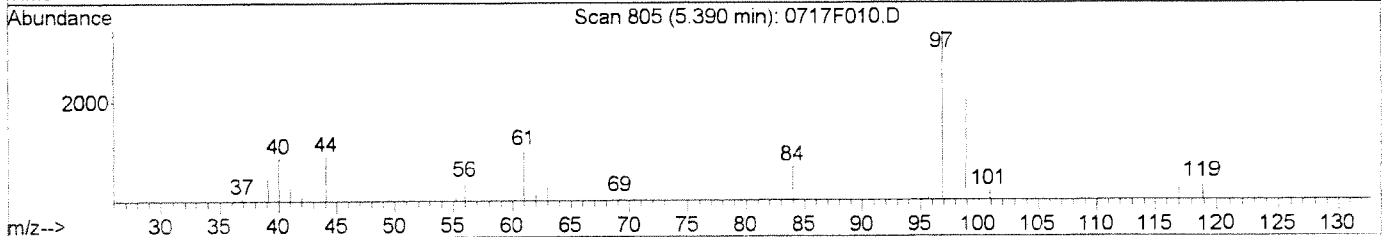
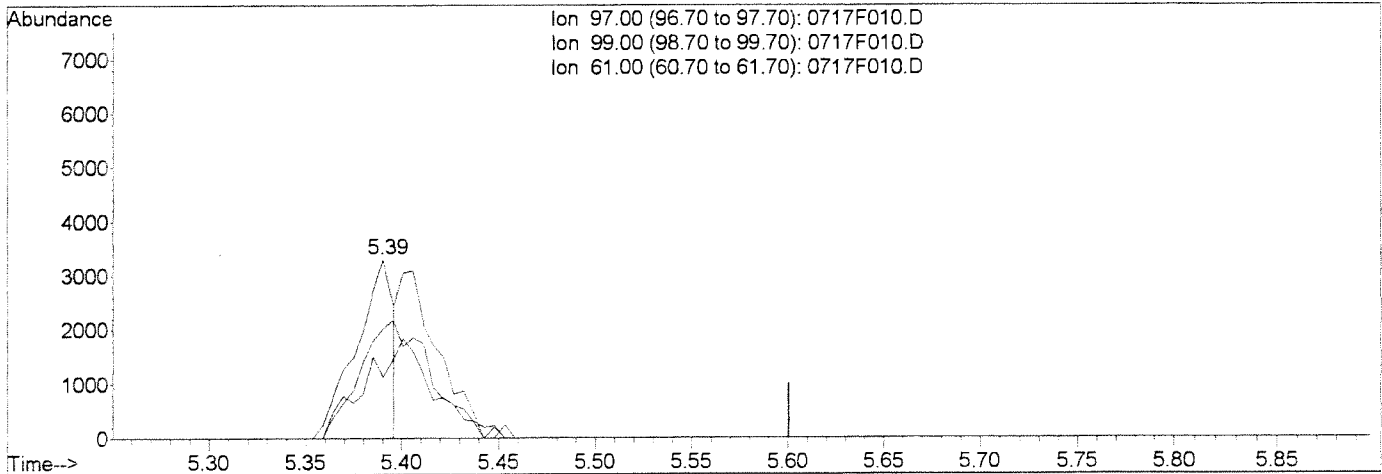
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:26 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:22:43 2013
 Response via : Multiple Level Calibration



TIC: 0717F010.D

(41) 1,1,1-Trichloroethane (T)

Manual Integration:

5.39min 0.24PPB

Before

response 4451

Ion	Exp%	Act%
97.00	100	100
99.00	66.10	61.00
61.00	47.90	33.86
0.00	0.00	0.00

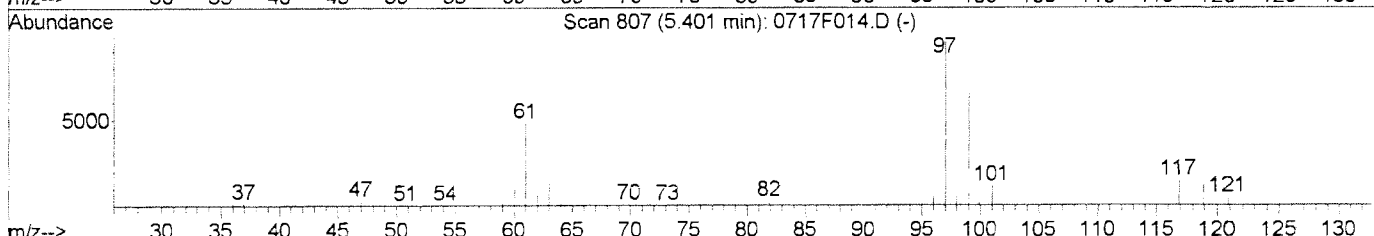
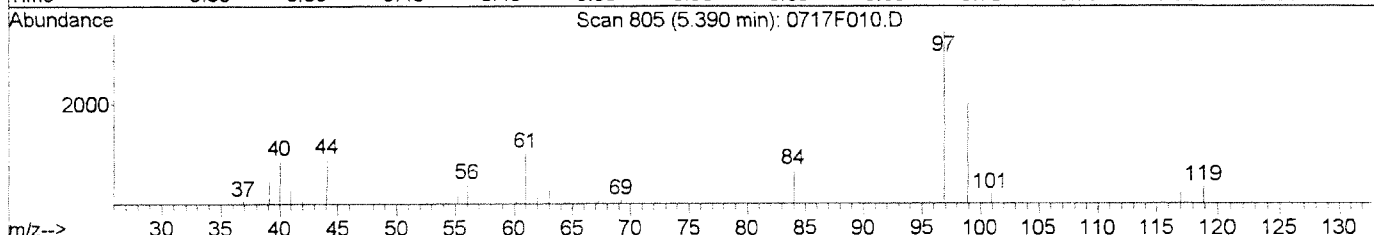
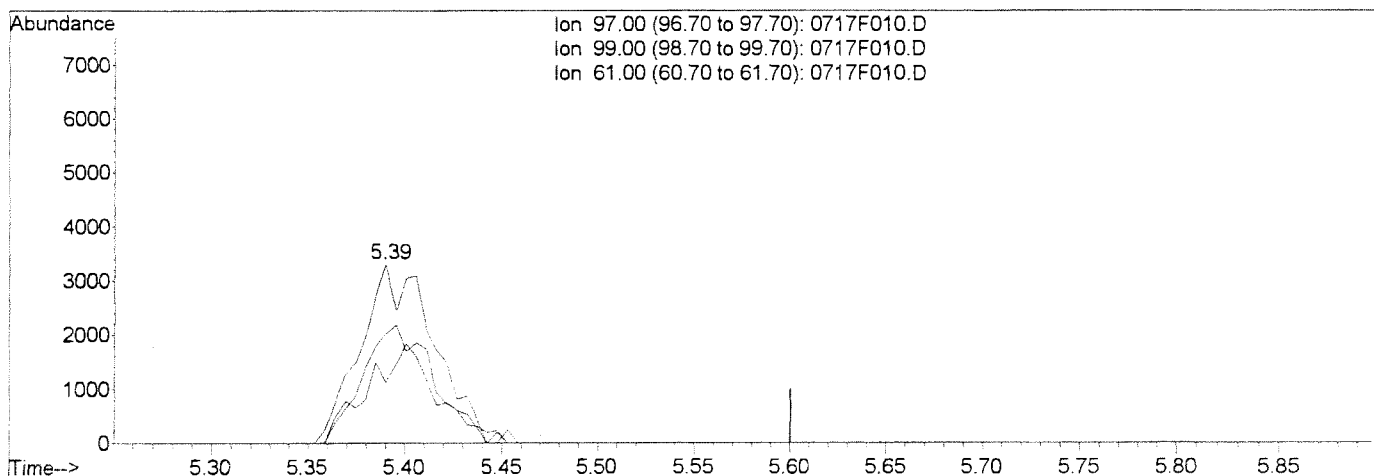
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:26 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:22:43 2013
 Response via : Multiple Level Calibration



TIC: 0717F010.D

(41) 1,1,1-Trichloroethane (T)

5.39min 0.47PPB m

response 8697

Ion	Exp%	Act%
97.00	100	100
99.00	66.10	61.00
61.00	47.90	33.86
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

HB
908
722 13

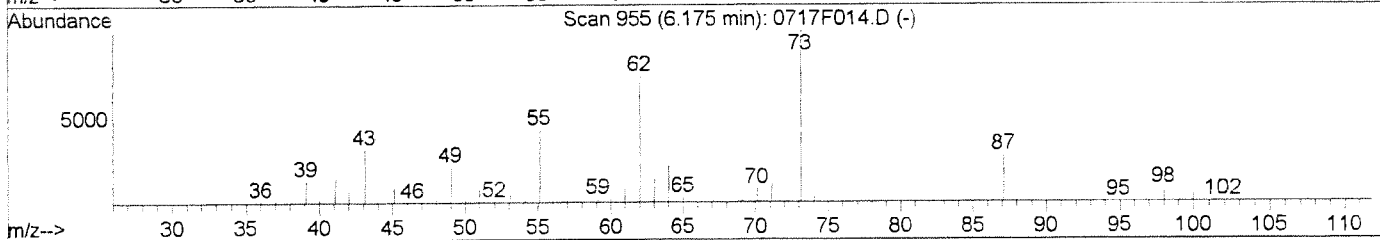
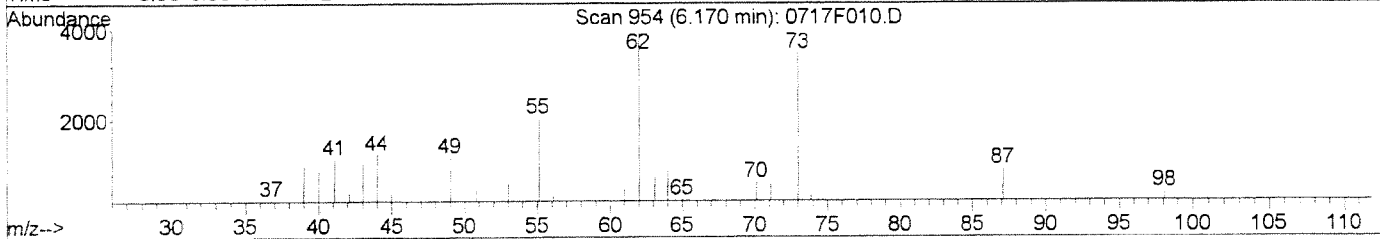
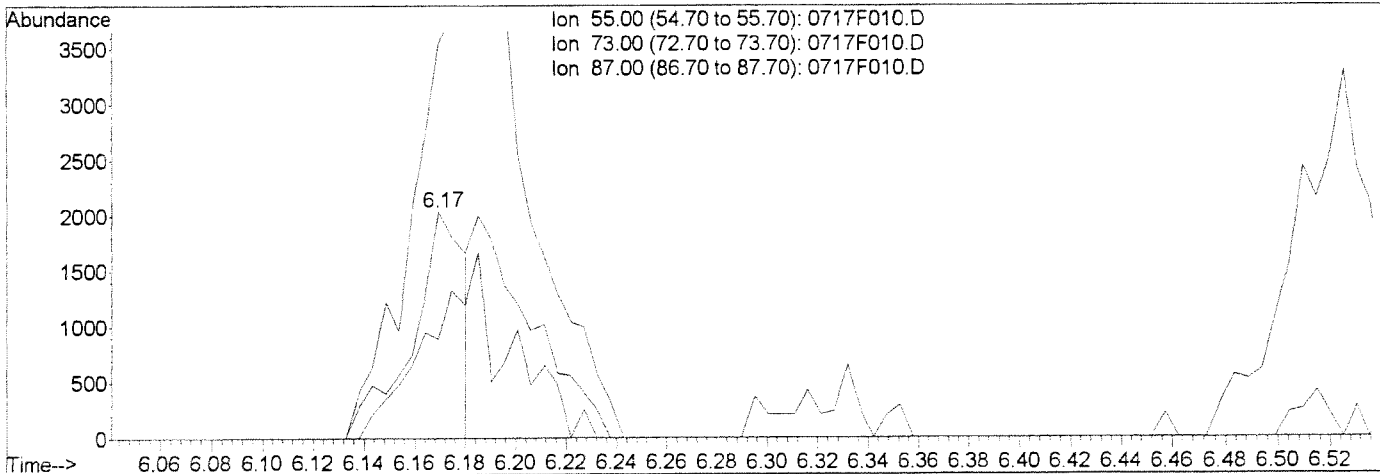
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:26 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:22:43 2013
 Response via : Multiple Level Calibration



TIC: 0717F010.D

(50) tert-Amyl Methyl Ether (T)

Manual Integration:

6.17min 0.27PPB

Before

response 2914

ion	Exp%	Act%
55.00	100	100
73.00	234.30	173.71#
87.00	63.40	29.98#
0.00	0.00	0.00

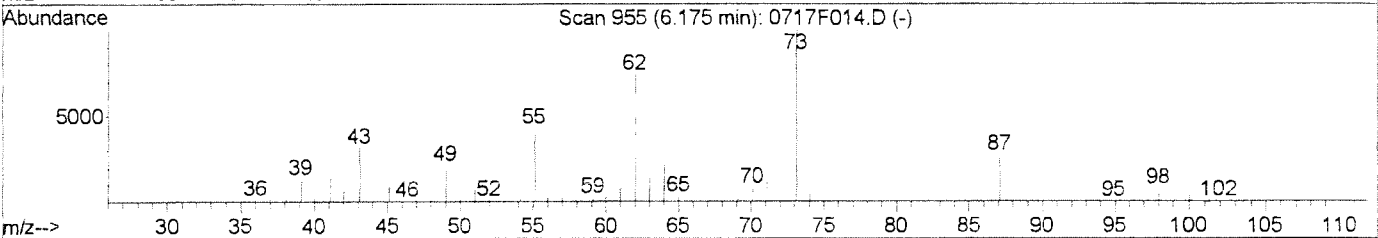
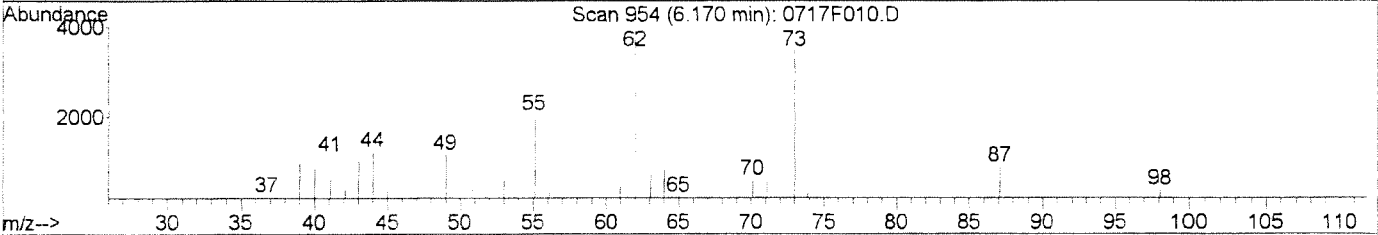
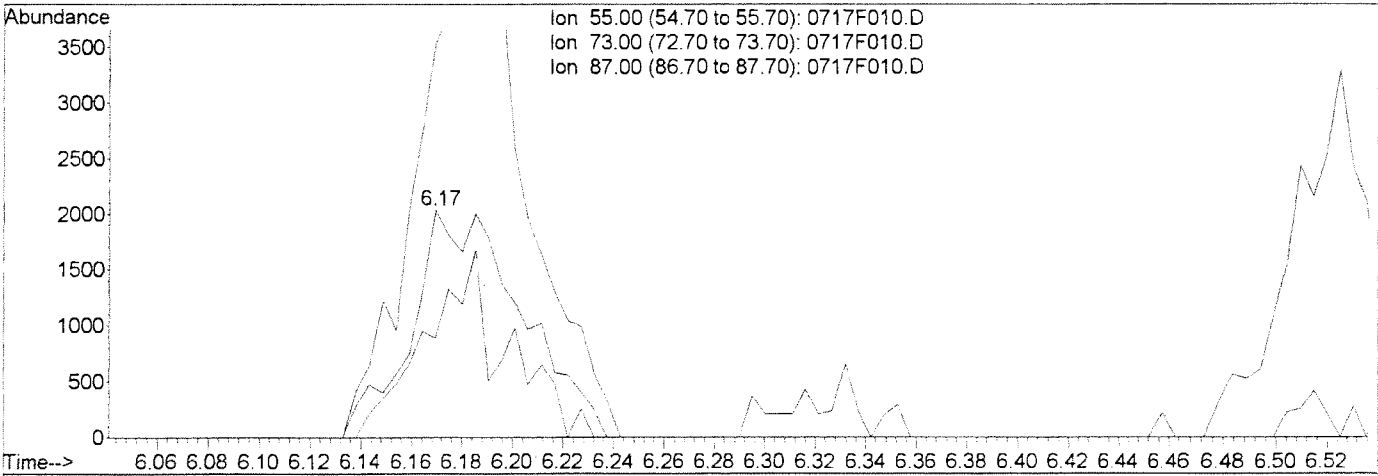
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
Acq On : 17 Jul 2013 12:59 pm
Sample : 8260 ICAL 0.5PPB
Misc :
MS Integration Params: rteint.p
Quant Time: Jul 18 8:27 2013

Vial: 10
Operator: CM/HB
Inst : MS13
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Jul 18 08:22:43 2013
Response via : Multiple Level Calibration



TIC: 0717F010.D

(50) tert-Amyl Methyl Ether (T)

6.17min 0.57PPB m

response 6093

Ion	Exp%	Act%
55.00	100	100
73.00	234.30	173.71#
87.00	63.40	43.78
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signatures and date:
7/22/13

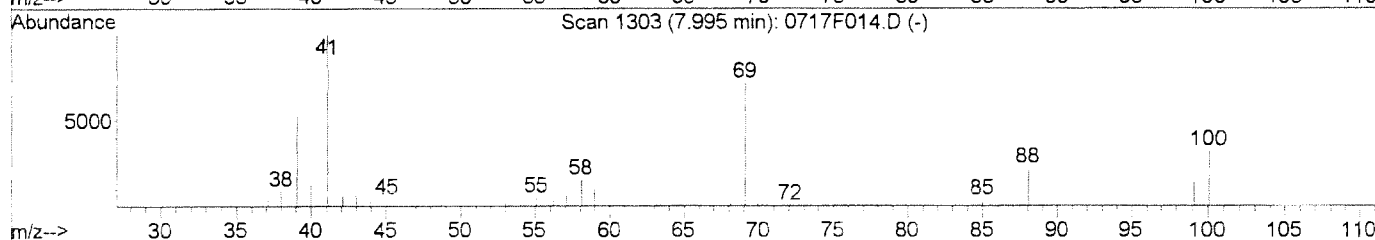
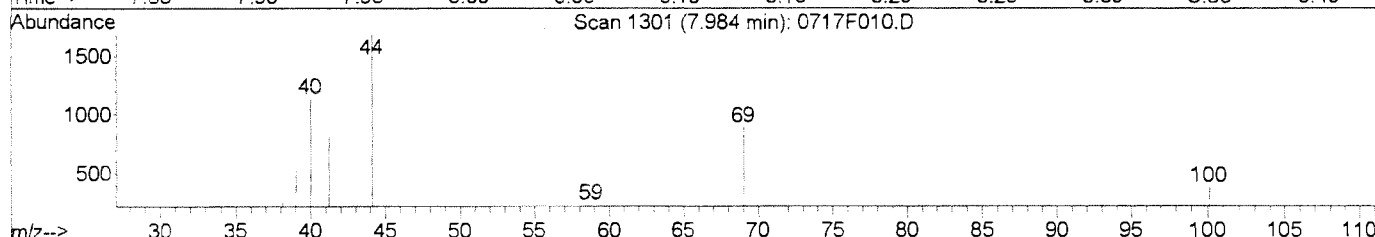
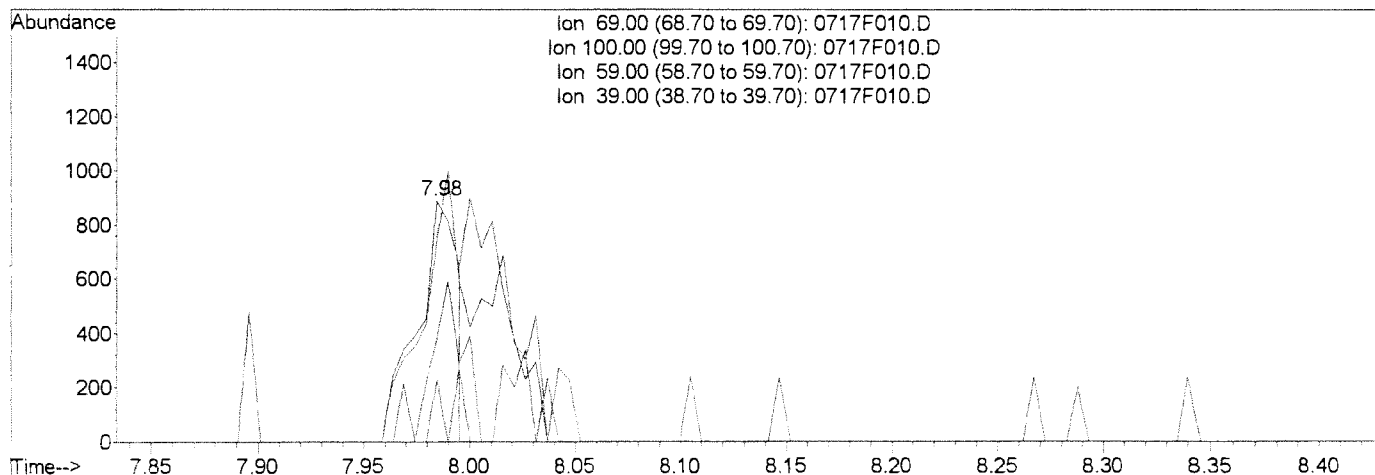
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:27 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:22:43 2013
 Response via : Multiple Level Calibration



TIC: 0717F010.D

(55) Methyl methacrylate (T)

Manual Integration:

7.98min 0.22PPB

Before

response 1186

Ion	Exp%	Act%
69.00	100	100
100.00	45.30	42.58
59.00	14.30	25.62
39.00	73.90	83.03

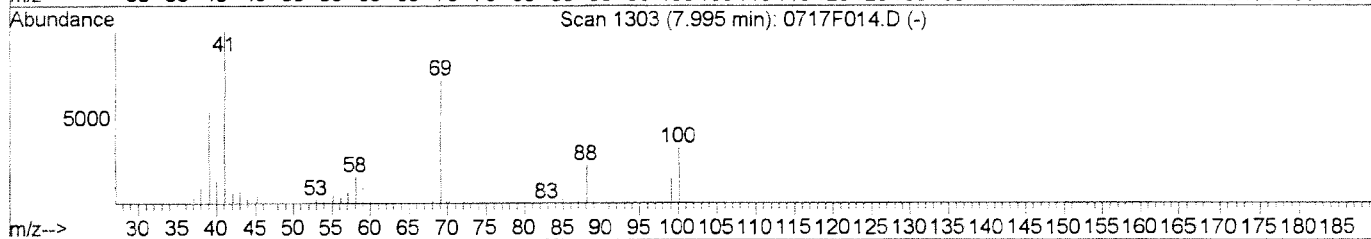
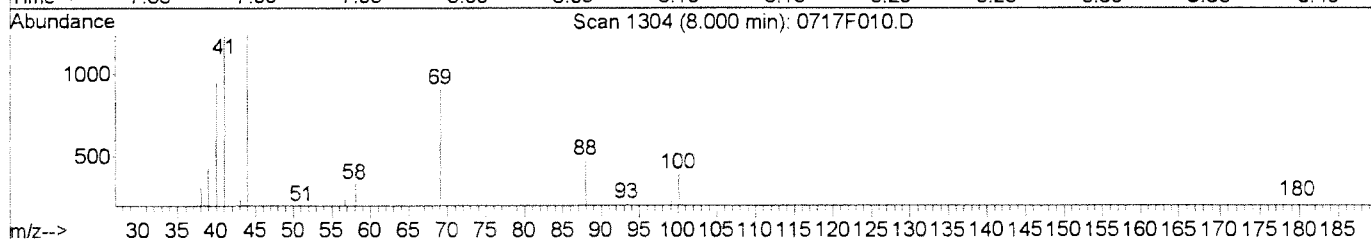
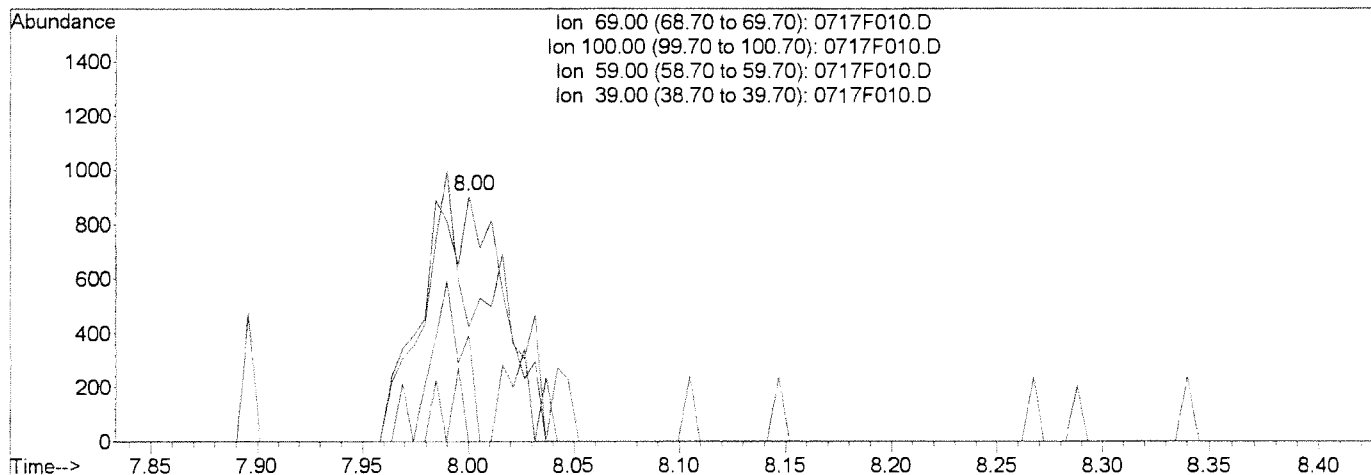
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:27 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:22:43 2013
 Response via : Multiple Level Calibration



(55) Methyl methacrylate (T)

8.00min 0.45PPB m

response 2409

Ion	Exp%	Act%
69.00	100	100
100.00	45.30	43.27
59.00	14.30	0.00
39.00	73.90	46.69

Manual Integration:

After

Split peak

07/18/13

Handwritten signature and date:
 YH
 7/22/13

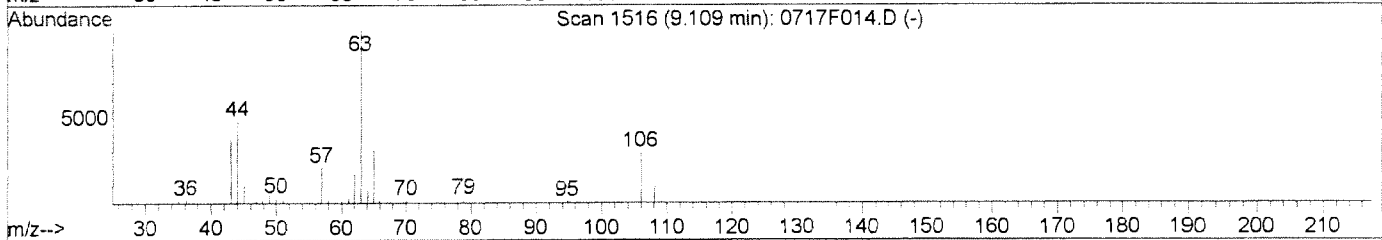
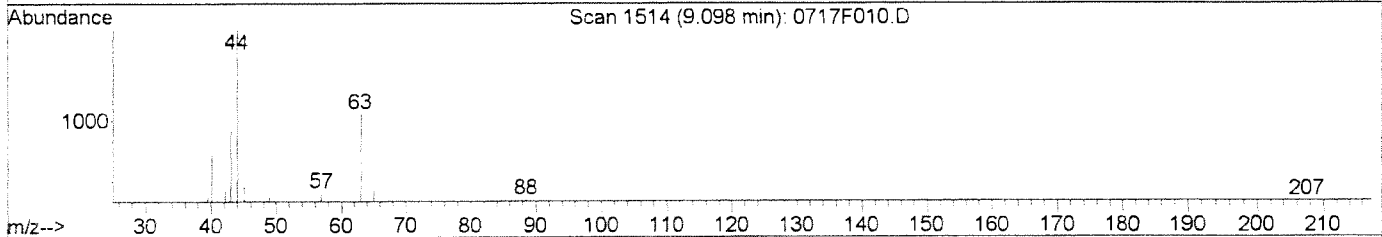
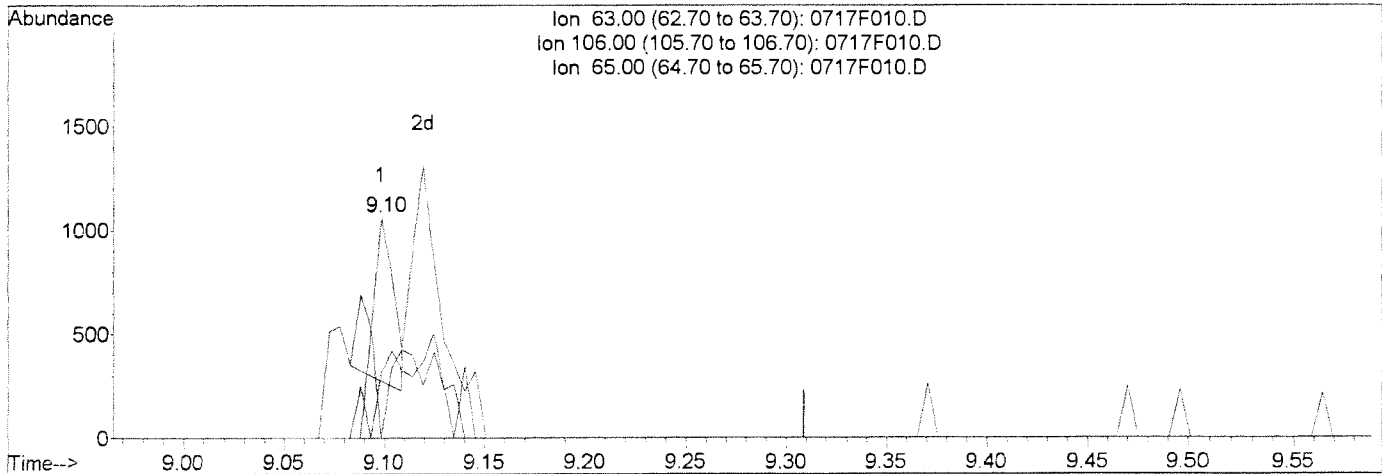
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:27 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:22:43 2013
 Response via : Multiple Level Calibration



TIC: 0717F010.D

(59) 2-Chloroethyl Vinyl Ether (T)

Manual Integration:

9.10min 0.12PPB

Before

response 644

Ion	Exp%	Act%
63.00	100	100
106.00	29.50	0.00
65.00	30.90	44.52
0.00	0.00	0.00

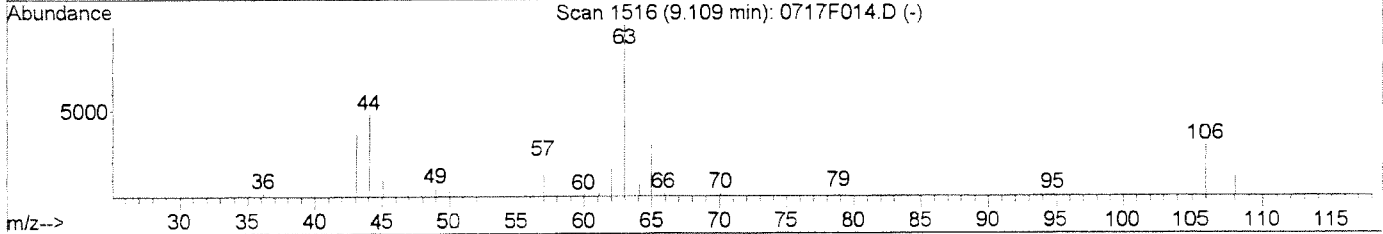
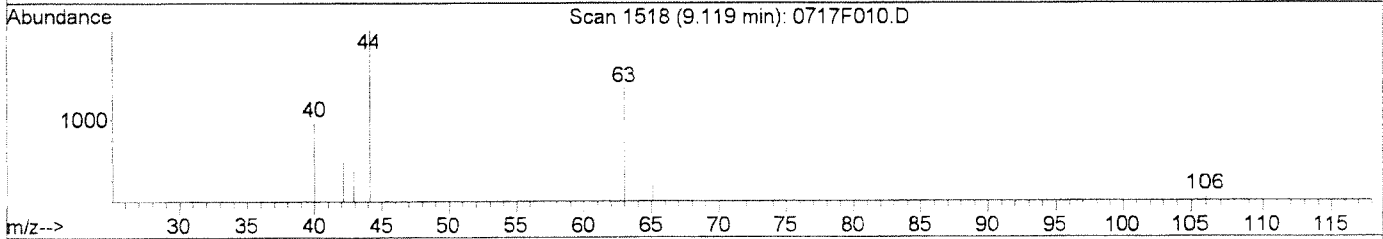
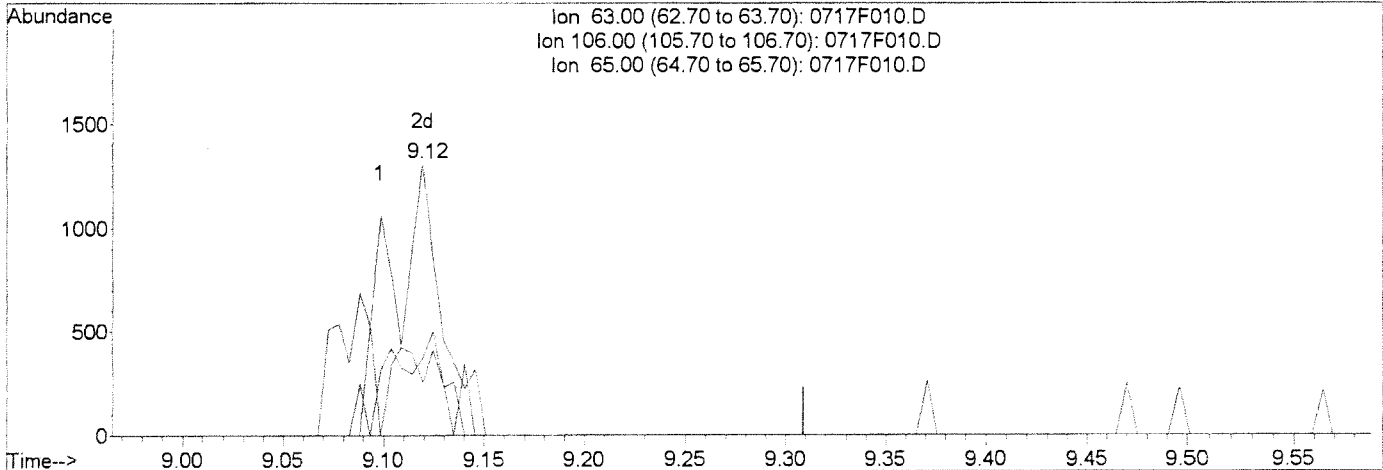
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F010.D
 Acq On : 17 Jul 2013 12:59 pm
 Sample : 8260 ICAL 0.5PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:27 2013

Vial: 10
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:22:43 2013
 Response via : Multiple Level Calibration



TIC: 0717F010.D

(59) 2-Chloroethyl Vinyl Ether (T)

9.12min 0.54PPB m

response 2922

Ion	Exp%	Act%
63.00	100	100
106.00	29.50	19.18
65.00	30.90	28.23
0.00	0.00	0.00

Manual Integration:

After

Baseline correction

07/18/13

Handwritten signatures and date: 7/22/13

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:54 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 722.13 HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.52	96	565386	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	215508	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	194460	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	114818	9.80	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.00%	
47) 1,2-Dichloroethane-d4	6.04	65	112587	10.37	PPB	0.00
Spiked Amount	10.000		Recovery	=	103.70%	
62) Toluene-d8	9.81	98	543882	9.89	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.90%	
84) 4-Bromofluorobenzene	13.95	95	174452	9.71	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.10%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	20550	1.08	PPB	96
3) Chloromethane	1.41	50	24302	1.13	PPB	99
4) Vinyl Chloride	1.50	62	21730	1.10	PPB	98
5) Bromomethane	1.79	96	11728	1.17	PPB	96
6) Chloroethane	1.87	64	11846	1.05	PPB	92
7) Dichlorofluoromethane	2.06	67	29963	1.11	PPB	98
8) Trichlorofluoromethane	2.07	101	25095	1.06	PPB	93
9) Ethyl Ether	2.35	59	9926	1.08	PPB	90
10) Acrolein	2.54	56	24445	21.55	PPB	96
11) Trichlorotrifluoroethane	2.53	151	12471	1.18	PPB	87
12) 1,1-Dichloroethene	2.57	96	11040	1.08	PPB	94
13) Acetone	2.69	43	80932	45.40	PPB	97
14) Iodomethane	2.74	142	55277	3.81	PPB	98
15) Carbon Disulfide	2.77	76	38600	1.14	PPB	99
16) 2-Propanol (Isopropyl Alco	2.83	45	9196	52.51	PPB	94
17) 3-Chloro-1-propene	2.97	76	6797	1.00	PPB	87
18) Acetonitrile	3.06	40	22328	47.86	PPB	87
19) Methyl Acetate	3.02	43	7352	1.22	PPB	94
20) Methylene Chloride	3.14	84	17133	1.19	PPB	93
22) Acrylonitrile	3.50	53	11980	4.51	PPB	80
23) Methyl tert-Butyl Ether	3.37	73	56927	2.14	PPB	98
24) trans-1,2-Dichloroethene	3.38	96	15287	1.12	PPB	92
25) Hexane	3.61	57	20564	1.02	PPB	97
26) Diisopropyl Ether	3.94	45	46720	1.04	PPB	99
27) 1,1-Dichloroethane	3.95	63	27617	1.07	PPB	92
28) Vinyl Acetate	4.01	86	2862	1.85	PPB #	72
29) Chloroprene	4.01	53	81170	4.07	PPB	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:54 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30) tert-Butyl Ethyl Ether	4.42	59	32658	1.05	PPB	93
31) 2,2-Dichloropropane	4.68	77	13366	1.00	PPB	89
32) cis-1,2-Dichloroethene	4.75	96	17442	1.07	PPB	87
33) 2-Butanone	4.80	72	31483	44.08	PPB	88
34) Propionitrile	5.02	54	4095	4.52	PPB	87
35) Ethyl Acetate	4.85	61	1871	2.19	PPB	82
36) Methacrylonitrile	5.17	67	13450	4.19	PPB	86
37) Bromochloromethane	5.09	128	7346	1.14	PPB	79
39) Chloroform	5.22	83	26044	1.05	PPB	96
40) tert-Butyl Formate	5.24	59	2308m	0.84	PPB	
41) 1,1,1-Trichloroethane	5.40	97	17853	1.01	PPB	88
43) Cyclohexane	5.35	56	24905	1.06	PPB	84
44) Carbon Tetrachloride	5.58	117	12070	0.94	PPB	88
45) 1,1-Dichloropropene	5.67	75	18983	1.08	PPB	96
46) Isobutyl Alcohol	6.05	43	5125m	42.16	PPB	
48) Benzene	5.99	78	69739	1.12	PPB	97
49) 1,2-Dichloroethane	6.18	62	18283	1.09	PPB	94
50) tert-Amyl Methyl Ether	6.18	55	11892	1.15	PPB	# 65
51) Trichloroethene	7.16	95	15651	1.09	PPB	95
52) Methyl Cyclohexane	7.35	83	24918	1.02	PPB	94
53) 1,2-Dichloropropane	7.71	63	15305	1.04	PPB	86
54) Dibromomethane	7.93	93	6912	1.12	PPB	89
55) Methyl methacrylate	8.00	69	4923	0.97	PPB	# 66
56) 1,4-Dioxane	7.98	88	2368m	44.94	PPB	
57) Bromodichloromethane	8.29	83	14104	0.97	PPB	82
58) 2-Nitropropane	9.00	43	2628	4.39	PPB	# 35
59) 2-Chloroethyl Vinyl Ether	9.10	63	5443m	1.05	PPB	
60) cis-1,3-Dichloropropene	9.37	75	16830	0.96	PPB	82
61) 4-Methyl-2-pentanone (MIBK)	9.79	58	107982	42.28	PPB	# 66
63) Toluene	9.95	92	44542	1.10	PPB	96
65) n-Octane	10.17	85	8734	0.92	PPB	93
66) trans-1,3-Dichloropropene	10.64	75	10921	0.92	PPB	94
67) Ethyl methacrylate	10.78	69	8550	0.88	PPB	92
68) 1,1,2-Trichloroethane	10.94	83	8650	1.06	PPB	90
69) Tetrachloroethene	10.92	164	13182	1.00	PPB	86
70) 2-Hexanone	11.40	57	32278	38.35	PPB	95
71) 1,3-Dichloropropane	11.22	76	19408	1.09	PPB	95
72) Dibromochloromethane	11.51	129	7515	0.91	PPB	83
73) 1,2-Dibromoethane (EDB)	11.67	107	7829	0.94	PPB	97
74) 1-Chlorohexane	12.40	91	16479	0.91	PPB	98
75) Chlorobenzene	12.39	112	49752	1.11	PPB	96

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:54 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
76) Ethylbenzene	12.53	106	25198	1.05	PPB	98
77) 1,1,1,2-Tetrachloroethane	12.55	131	9786	0.87	PPB	92
78) m,p-Xylenes	12.71	106	60745	1.98	PPB	94
79) o-Xylene	13.24	106	29899	1.02	PPB	86
80) Styrene	13.29	103	21434	0.94	PPB	94
81) Bromoform	13.53	173	3558	0.95	PPB	84
82) Isopropylbenzene	13.72	105	75840	1.00	PPB	99
83) cis-1,4-Dichloro-2-butene	13.93	89	2035m	3.03	PPB	
86) 1,1,2,2-Tetrachloroethane	14.22	83	10290	1.10	PPB	95
87) trans-1,4-Dichloro-2-buten	14.30	53	2245	0.96	PPB	90
88) Bromobenzene	14.10	156	20310	1.13	PPB	96
89) n-Propylbenzene	14.23	91	88805	1.01	PPB	97
90) 1,2,3-Trichloropropane	14.26	110	3266	1.12	PPB	# 53
91) 2-Chlorotoluene	14.33	91	54818	1.04	PPB	95
92) 1,3,5-Trimethylbenzene	14.46	105	60314	0.96	PPB	99
93) 4-Chlorotoluene	14.49	91	63933	1.04	PPB	97
94) tert-Butylbenzene	14.82	119	56685	1.03	PPB	96
95) 1,2,4-Trimethylbenzene	14.89	105	65563	0.99	PPB	98
96) sec-Butylbenzene	15.08	105	78131	0.97	PPB	97
97) p-Isopropyltoluene	15.25	119	65686	0.94	PPB	98
98) 1,3-Dichlorobenzene	15.22	146	40457	1.08	PPB	88
99) 1,4-Dichlorobenzene	15.34	146	41959	1.12	PPB	97
100) n-Butylbenzene	15.71	91	55896	0.90	PPB	95
101) 1,2-Dichlorobenzene	15.75	146	36578	1.10	PPB	100
102) 1,2-Dibromo-3-chloropropan	16.65	155	732	0.81	PPB	# 27
103) 1,3,5-Trichlorobenzene	16.80	180	28713	1.02	PPB	97
104) 1,2,4-Trichlorobenzene	17.47	180	18612	0.86	PPB	92
105) Hexachlorobutadiene	17.60	225	11096	0.96	PPB	82
106) Naphthalene	17.73	128	19196	0.68	PPB	97
107) 1,2,3-Trichlorobenzene	17.99	180	13869	0.85	PPB	86

(#) = qualifier out of range (m) = manual integration

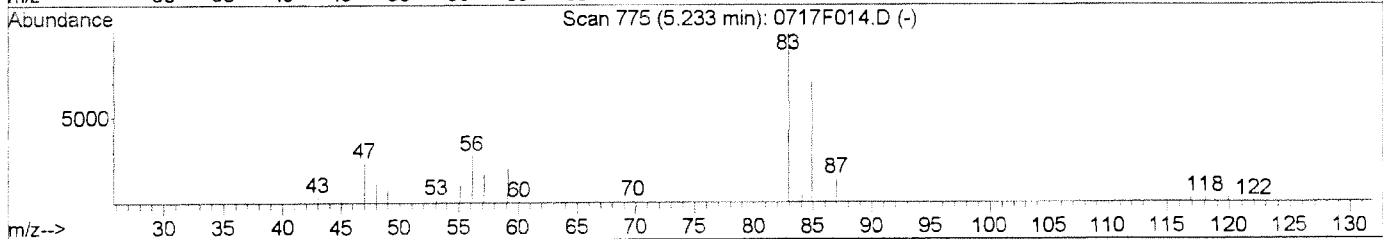
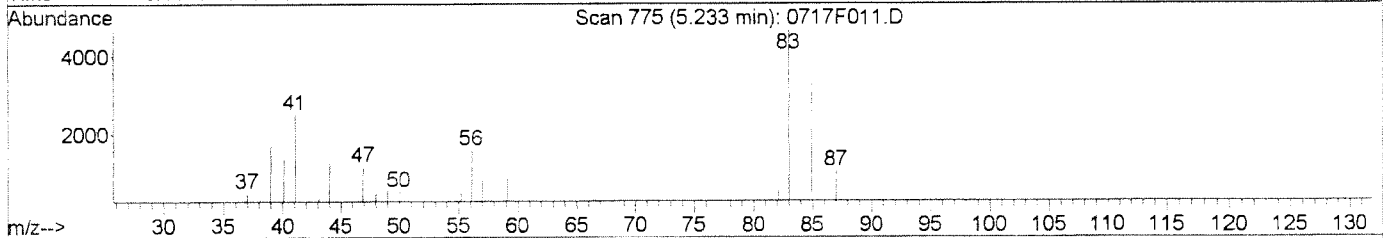
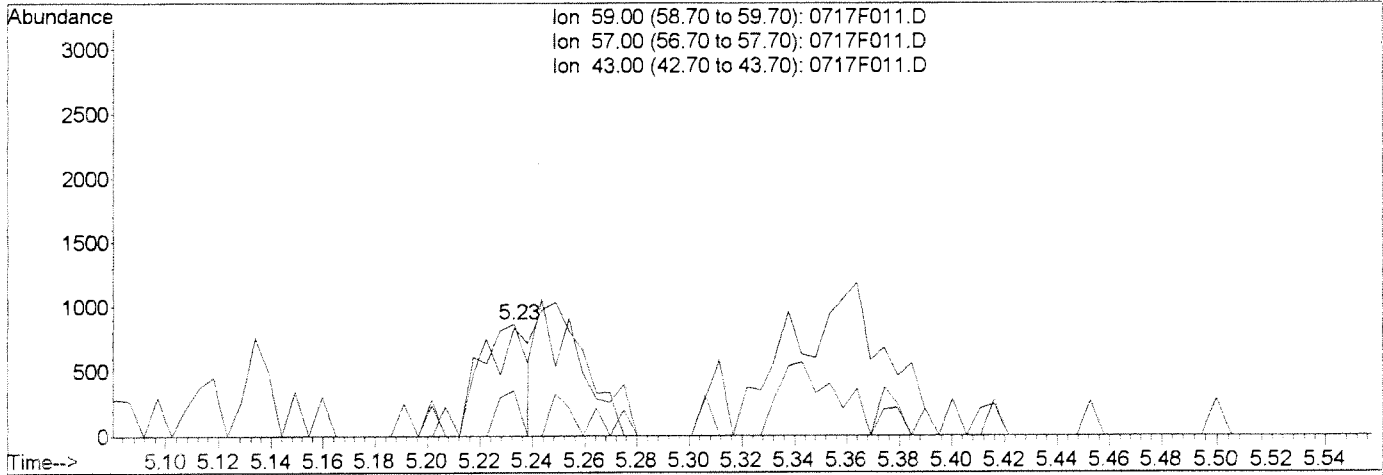
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:30 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

(40) tert-Butyl Formate (T)	Manual Integration:	
5.23min 0.39PPB	Before	
response 1073		
Ion	Exp%	Act%
59.00	100	100
57.00	84.00	96.88
43.00	17.00	40.58
0.00	0.00	0.00

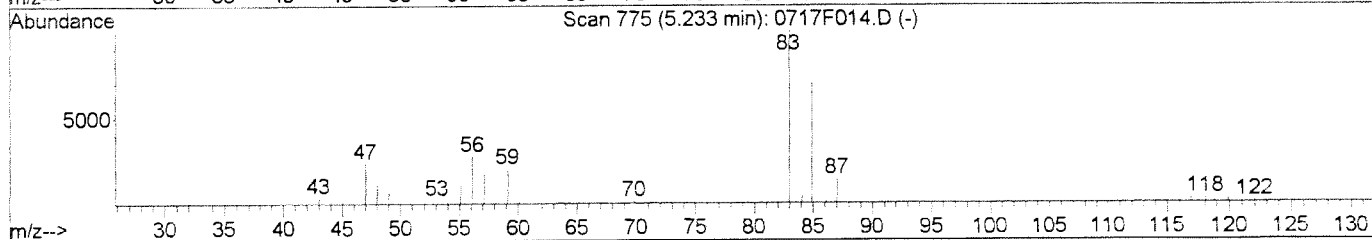
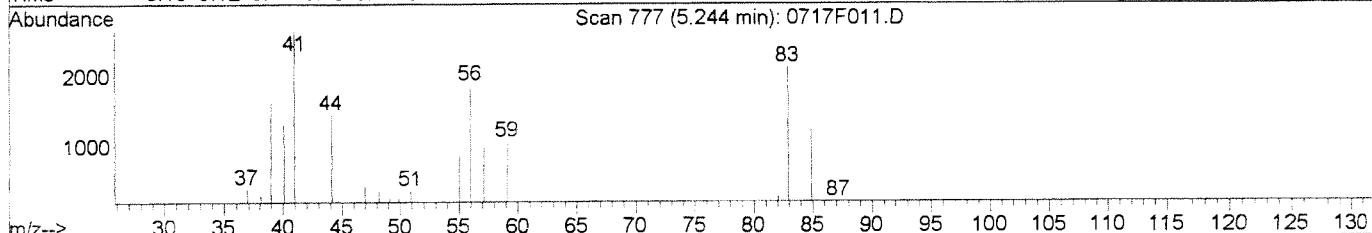
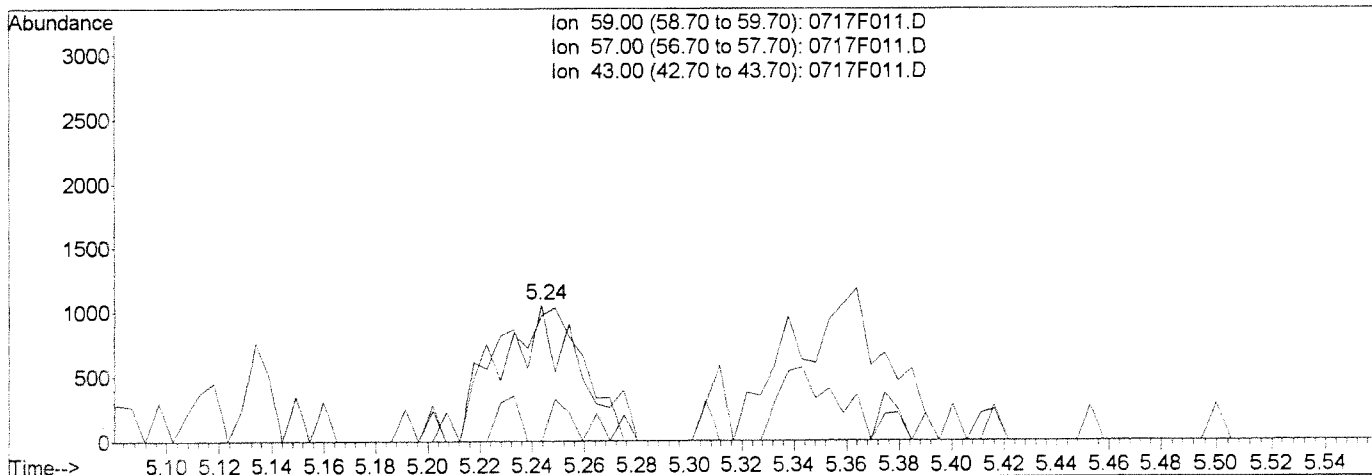
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:30 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

(40) tert-Butyl Formate (T)

5.24min 0.84PPB m

response 2308

Ion	Exp%	Act%
59.00	100	100
57.00	84.00	91.61
43.00	17.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signature and date:
 HB
 7/22/13

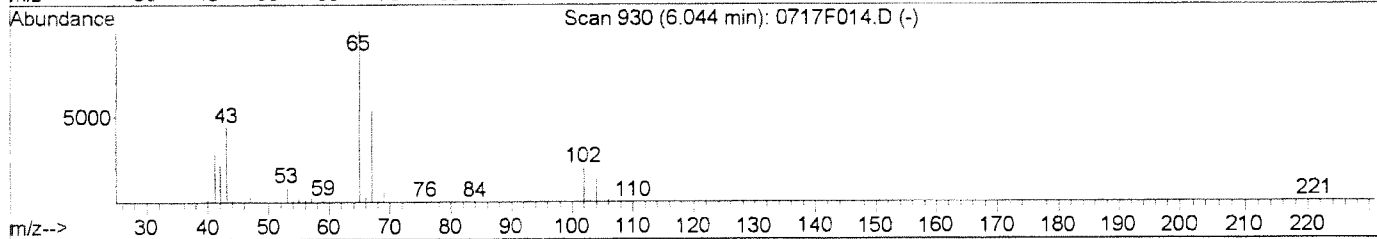
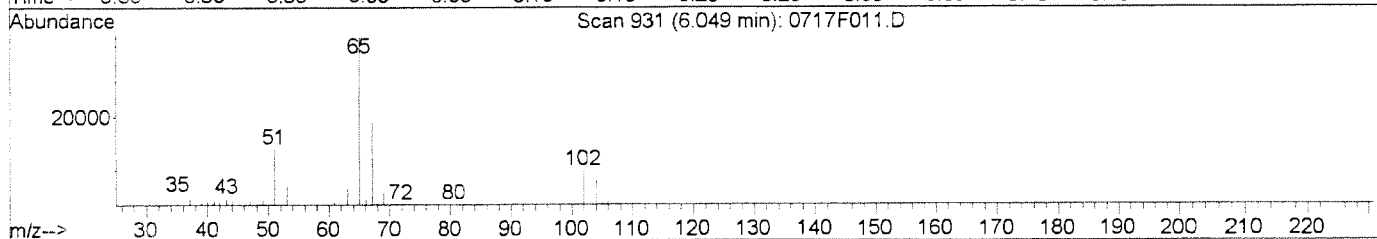
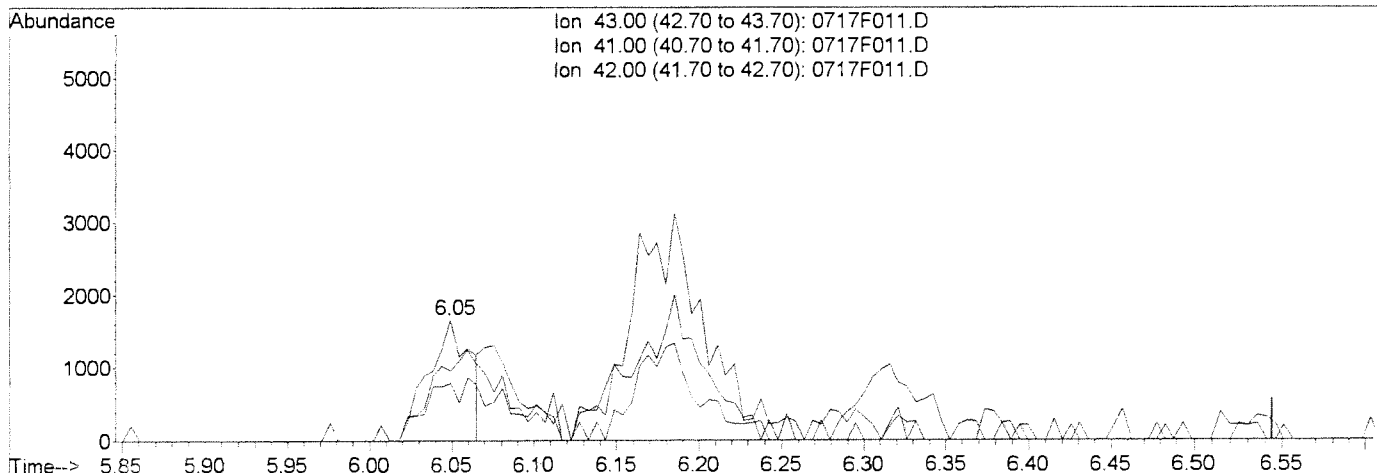
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:30 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

(46) isobutyl Alcohol (T)

Manual Integration:

6.05min 24.03PPB

Before

response 2921

Ion	Exp%	Act%
43.00	100	100
41.00	64.40	58.01
42.00	49.00	47.65
0.00	0.00	0.00

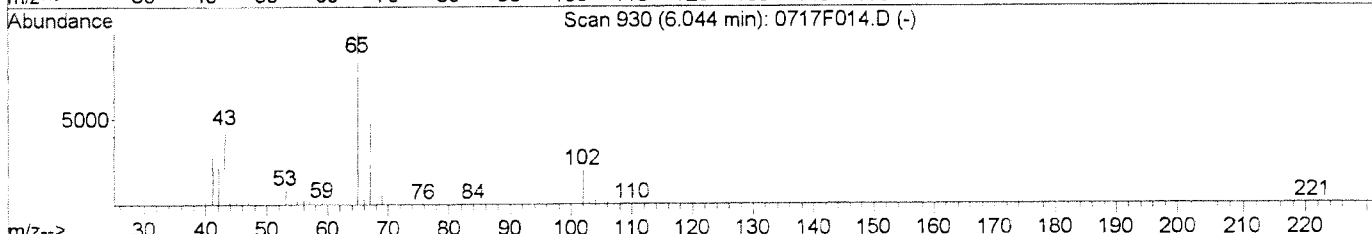
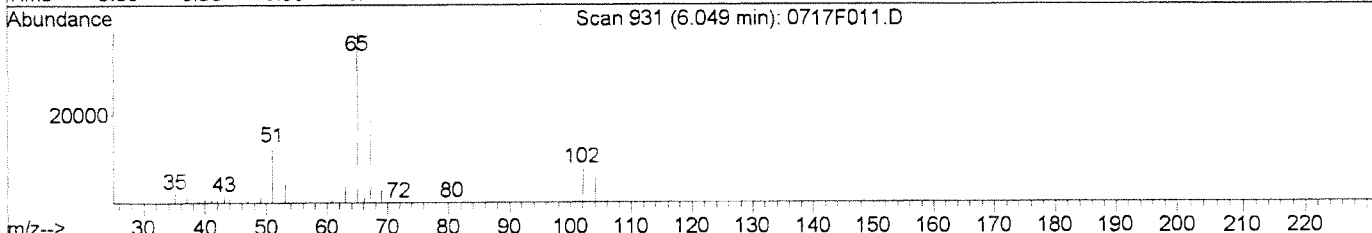
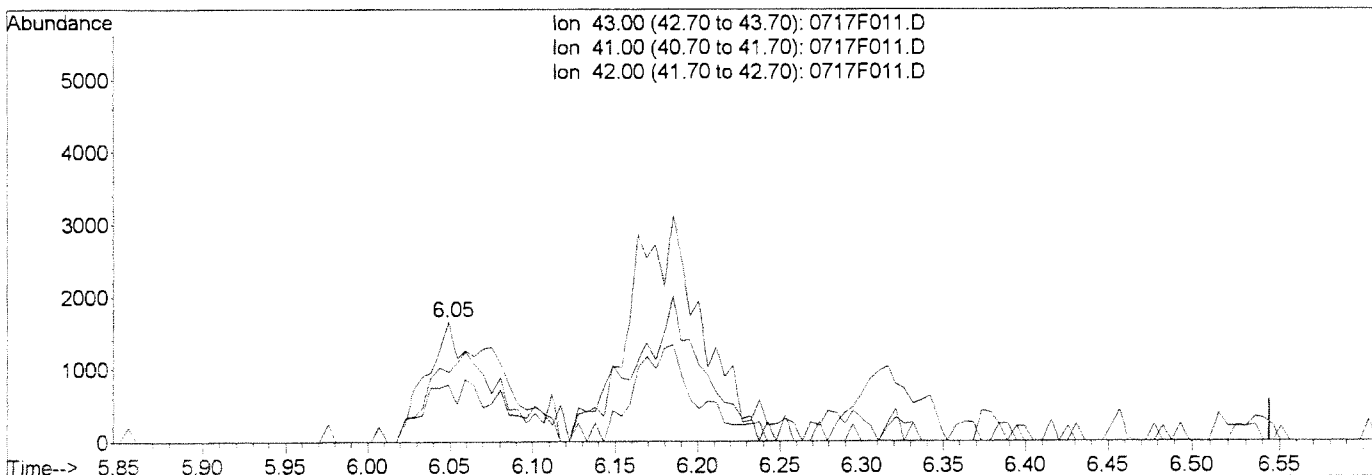
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:30 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



(46) isobutyl Alcohol (T)

Time (min)	Response	Exp%	Act%
6.05min	5125	100	100
41.00		64.40	58.01
42.00		49.00	47.65
0.00		0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signatures and date:
 [Signature]
 7/22/13

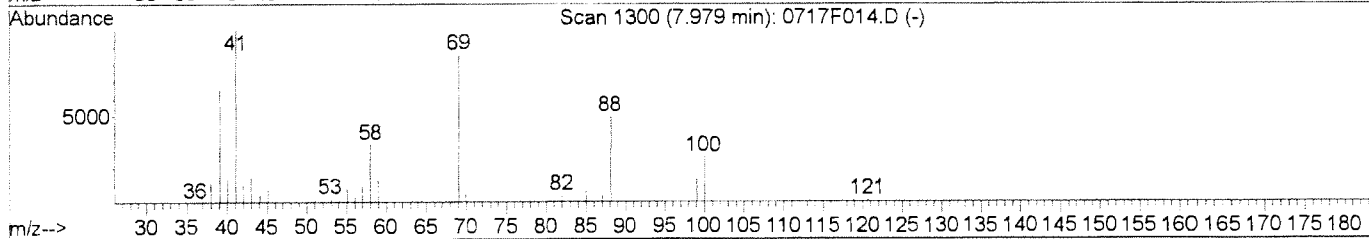
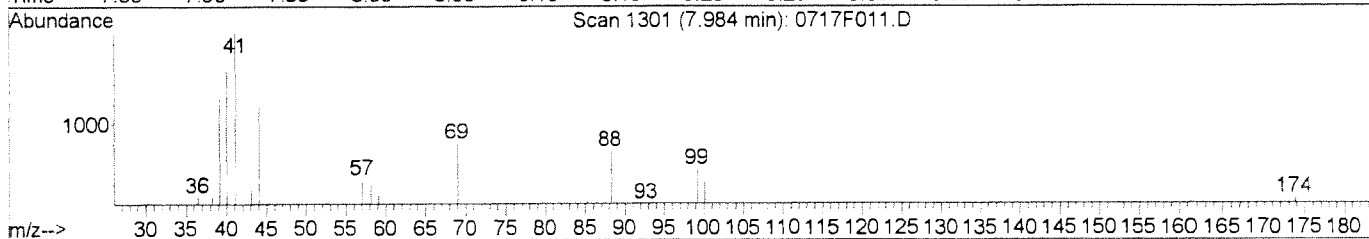
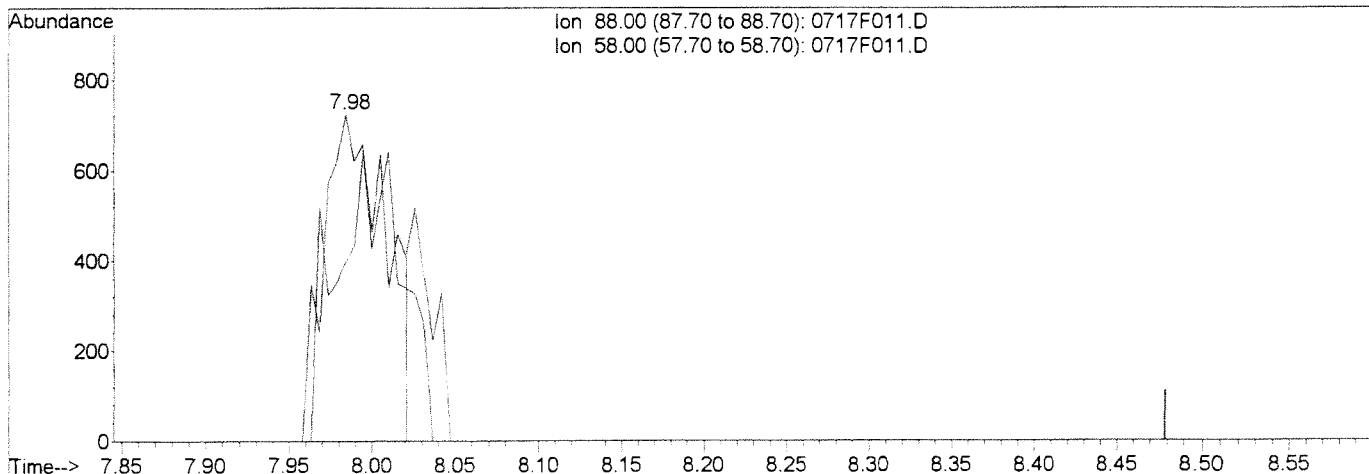
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:30 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

(56) 1,4-Dioxane (T)

Manual Integration:

7.98min 36.33PPB

Before

response 1914

Ion	Exp%	Act%
88.00	100	100
58.00	68.20	54.90
0.00	0.00	0.00
0.00	0.00	0.00

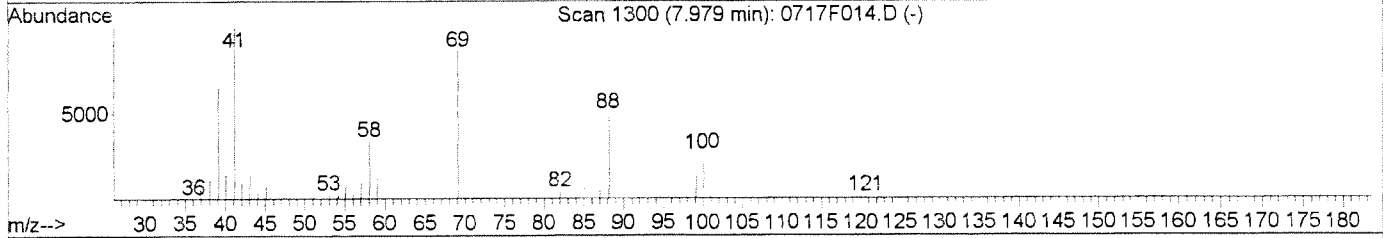
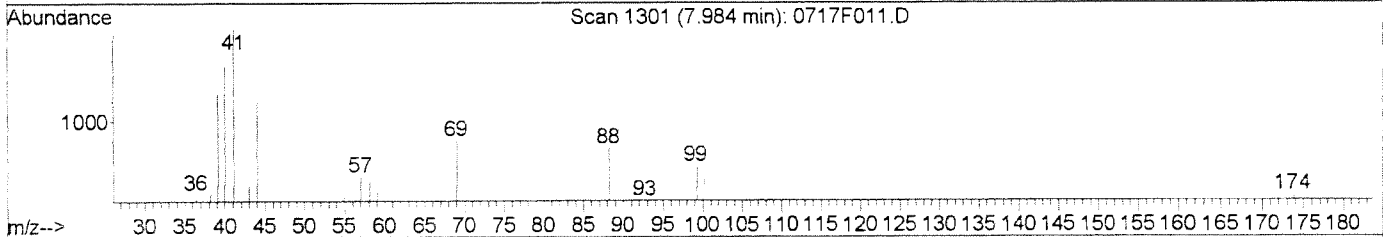
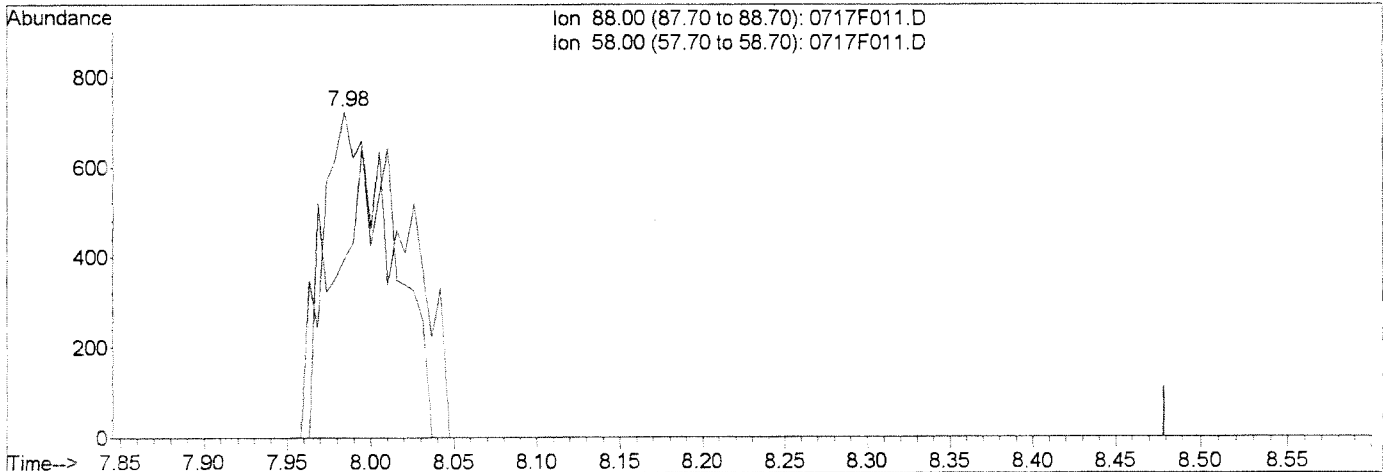
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:30 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

Ion	Exp%	Act%
88.00	100	100
58.00	68.20	54.90
0.00	0.00	0.00
0.00	0.00	0.00

(56) 1,4-Dioxane (T)
 7.98min 44.94PPB m
 response 2368

Manual Integration:
 After
 Split peak
 07/18/13

Handwritten signature and date: 7/22/13

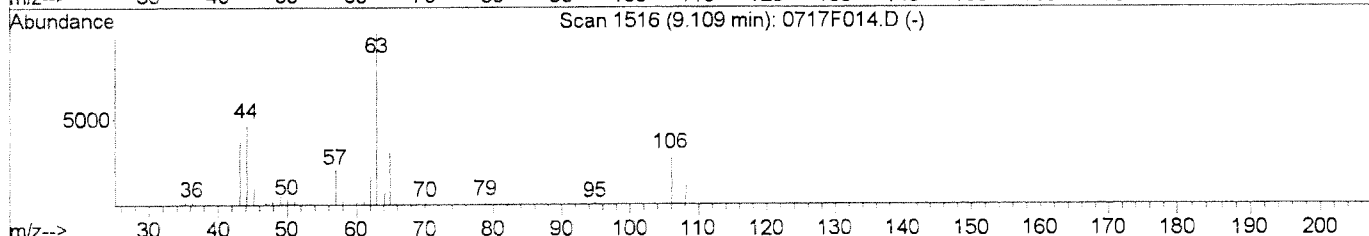
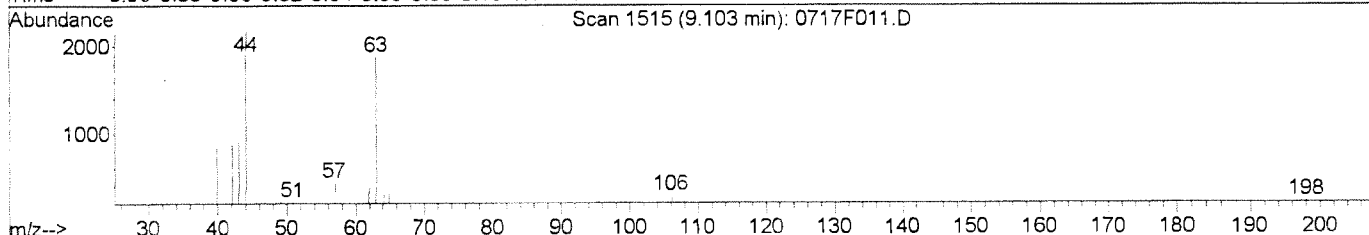
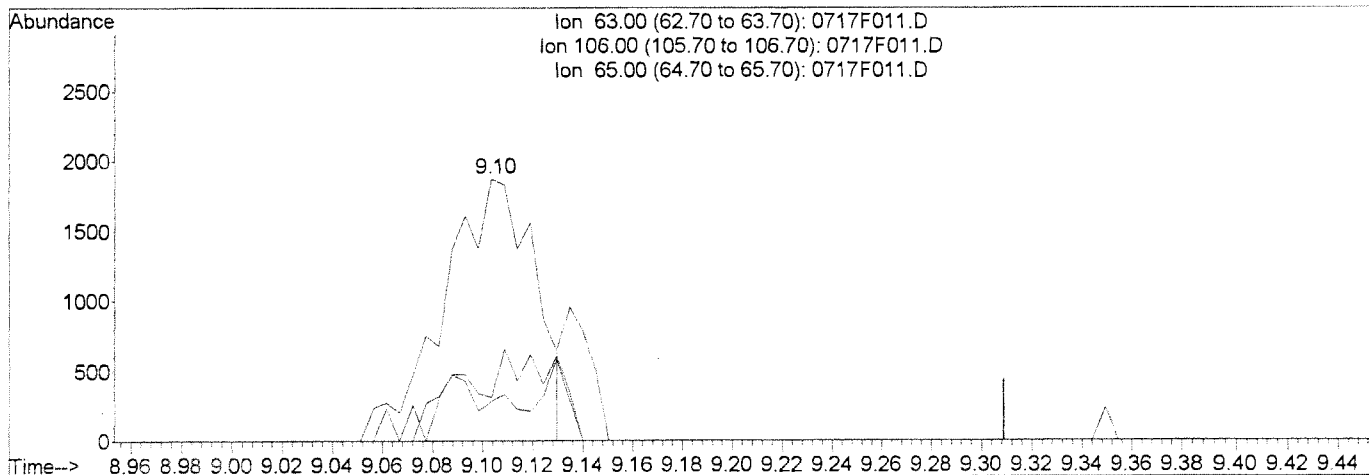
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:30 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

(59) 2-Chloroethyl Vinyl Ether (T)

Manual Integration:

9.10min 0.92PPB

Before

response 4743

Ion	Exp%	Act%
63.00	100	100
106.00	29.50	15.09
65.00	30.90	16.47
0.00	0.00	0.00

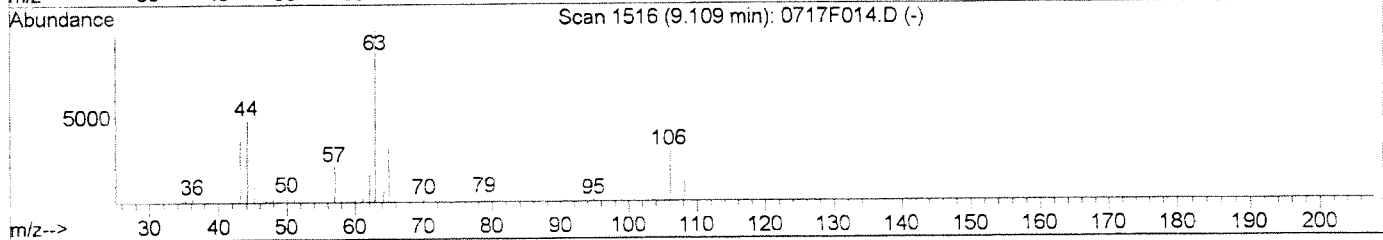
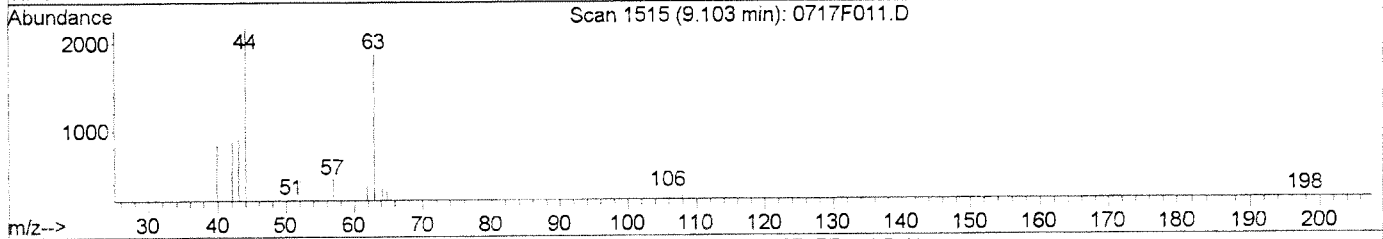
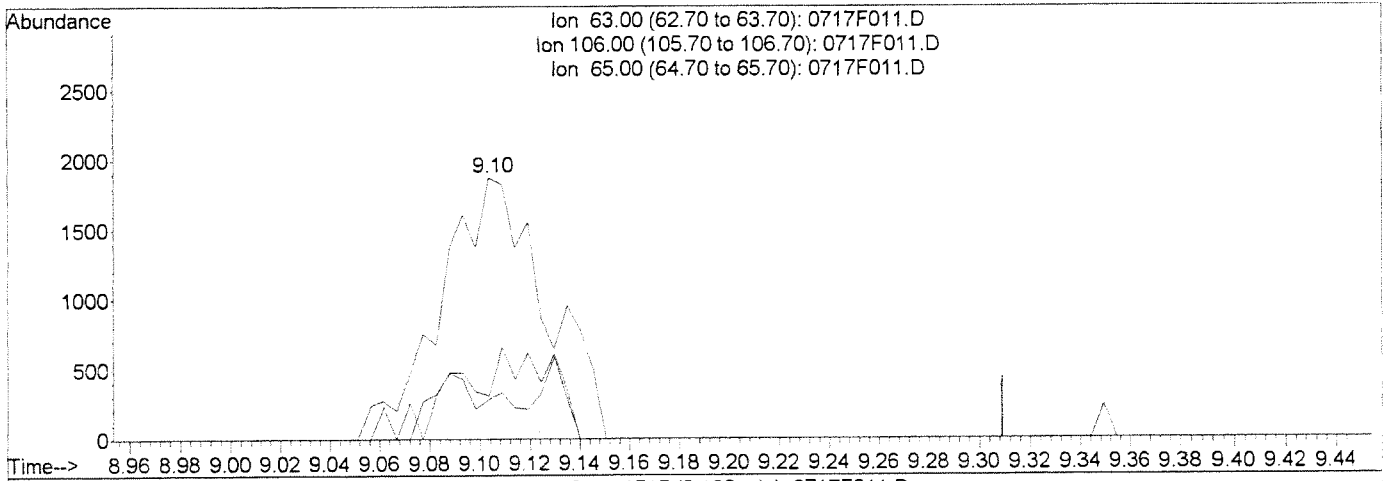
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:31 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



(59) 2-Chloroethyl Vinyl Ether (T)

9.10min 1.05PPB m

response 5443

Ion	Exp%	Act%
63.00	100	100
106.00	29.50	15.09
65.00	30.90	16.47
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signature and date:
 CM
 7/22/13

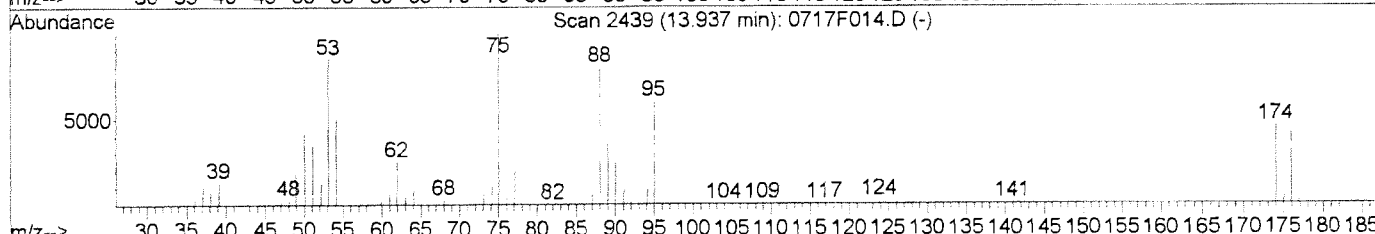
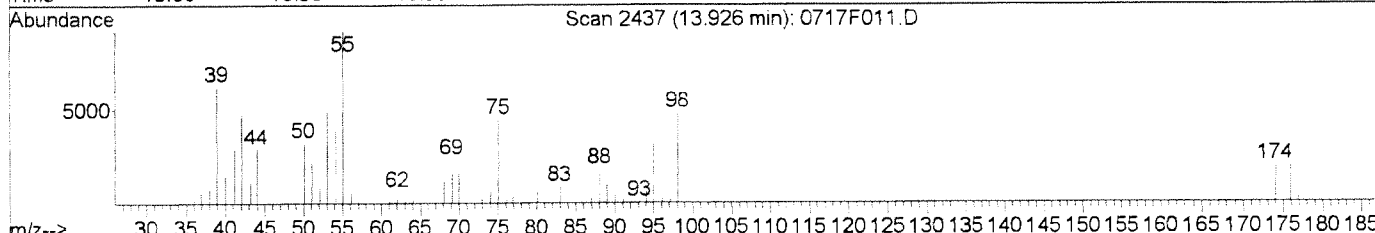
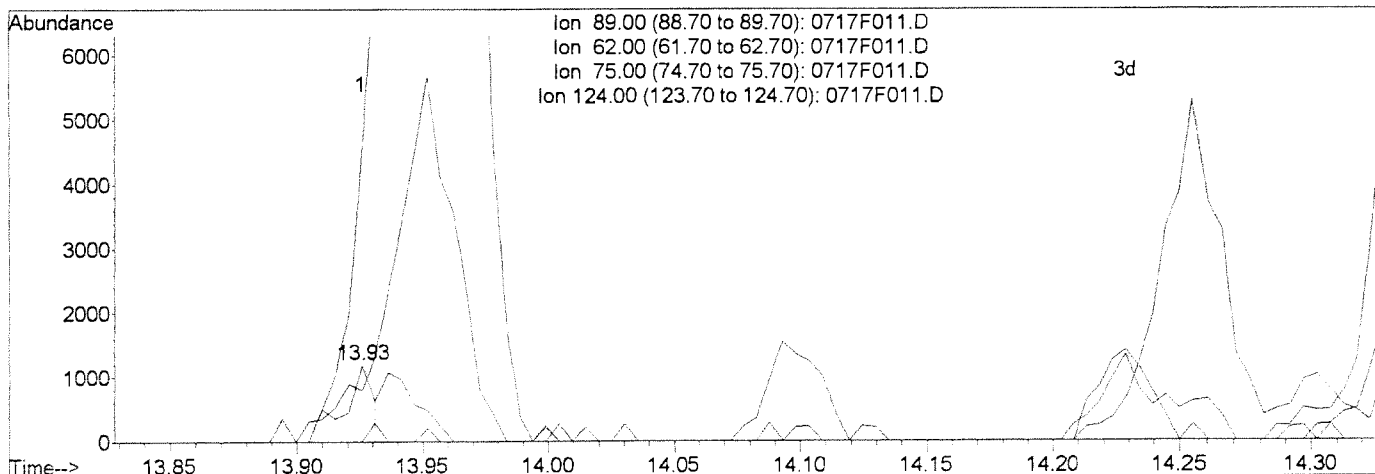
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:31 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

(83) cis-1,4-Dichloro-2-butene (T)

Manual Integration:

13.93min 1.46PPB

Before

response 983

Ion	Exp%	Act%
89.00	100	100
62.00	75.30	66.44
75.00	287.40	374.44#
124.00	6.60	0.00

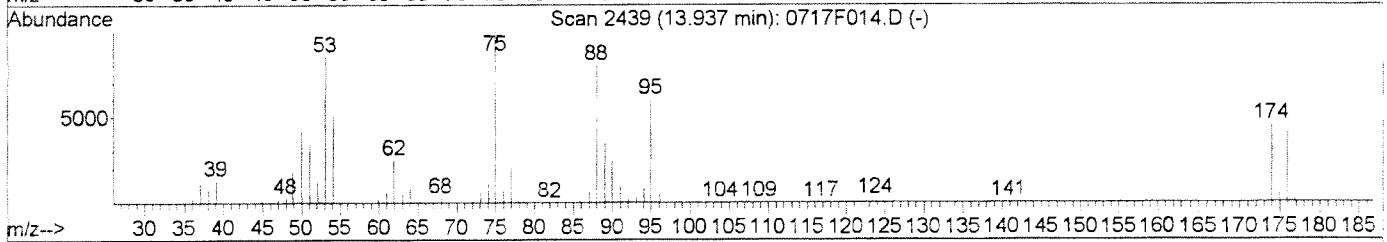
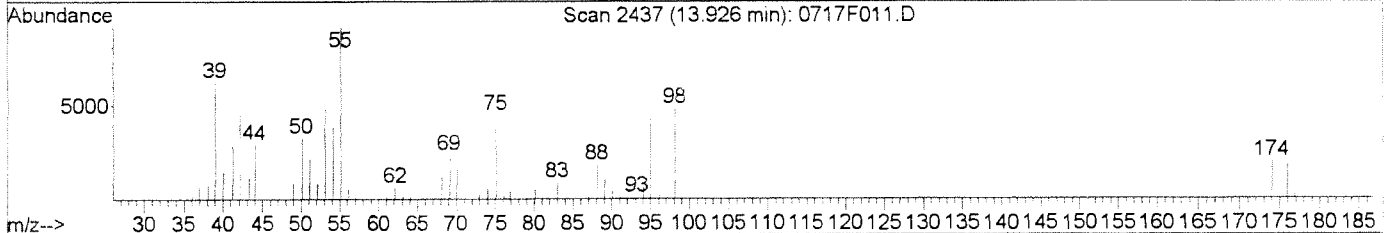
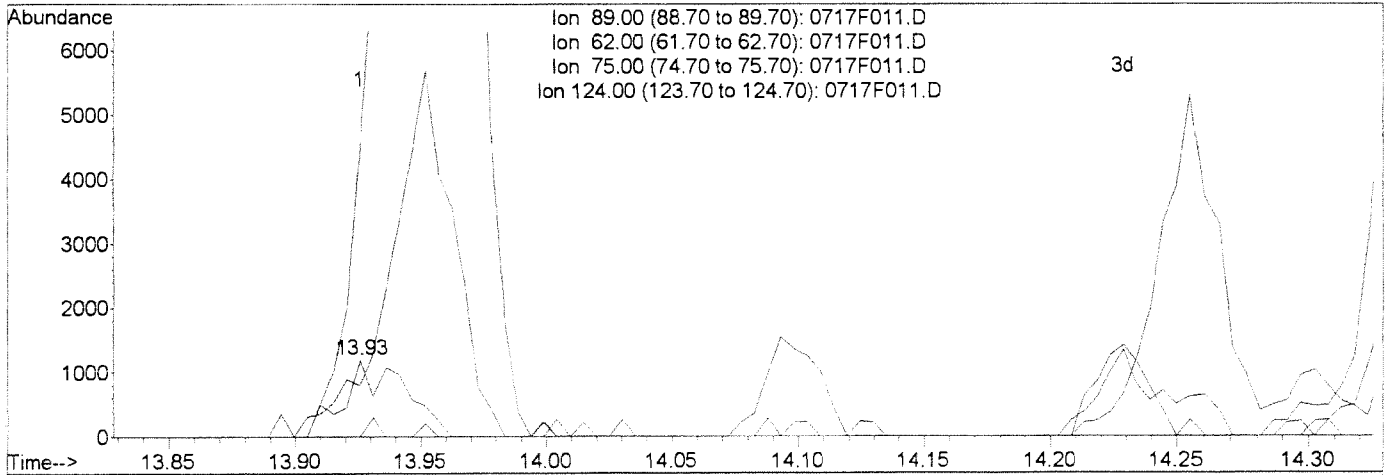
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F011.D
 Acq On : 17 Jul 2013 1:26 pm
 Sample : 8260 ICAL 1.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:31 2013

Vial: 11
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:26:19 2013
 Response via : Multiple Level Calibration



TIC: 0717F011.D

(83) cis-1,4-Dichloro-2-butene (T)

13.93min 3.03PPB m

response 2035

Ion	Exp%	Act%
89.00	100	100
62.00	75.30	66.44
75.00	287.40	374.44#
124.00	6.60	0.00

Manual Integration:

After

Split peak

07/18/13

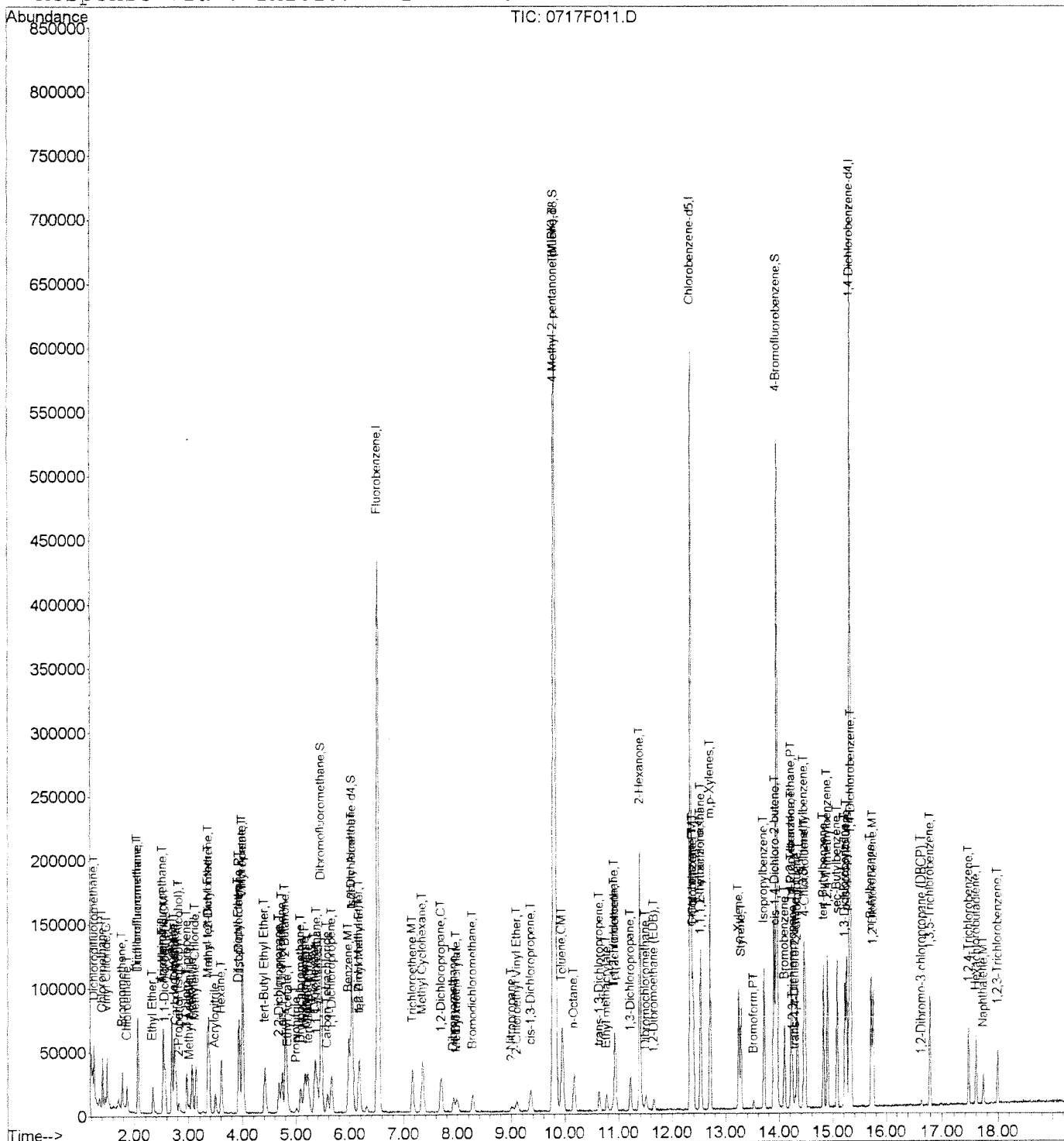
Handwritten signature and date: 7/22/13

Data File : J:\MS13\DATA\071713\0717F011.D
Acq On : 17 Jul 2013 1:26 pm
Sample : 8260 ICAL 1.0PPB
Misc :
MS Integration Params: rteint.p
Quant Time: Jul 18 8:31 2013

Vial: 11
Operator: CM/HB
Inst : MS13
Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Jul 18 08:31:13 2013
Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:55 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

QA 72213
7/18/13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.53	96	563376	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	210558	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	200397	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	113240	9.69	PPB	0.00
Spiked Amount	10.000		Recovery	=	96.90%	
47) 1,2-Dichloroethane-d4	6.04	65	113076	10.45	PPB	0.00
Spiked Amount	10.000		Recovery	=	104.50%	
62) Toluene-d8	9.82	98	548928	10.02	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.20%	
84) 4-Bromofluorobenzene	13.95	95	176609	10.07	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.70%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	48803	2.58	PPB	98
3) Chloromethane	1.41	50	51664	2.42	PPB	96
4) Vinyl Chloride	1.50	62	47143	2.39	PPB	93
5) Bromomethane	1.79	96	23521	2.36	PPB	94
6) Chloroethane	1.88	64	25106	2.23	PPB	98
7) Dichlorofluoromethane	2.06	67	64427	2.40	PPB	96
8) Trichlorofluoromethane	2.06	101	59890	2.53	PPB	95
9) Ethyl Ether	2.35	59	20561	2.25	PPB	97
10) Acrolein	2.54	56	42650	37.73	PPB	96
11) Trichlorotrifluoroethane	2.53	151	25581	2.44	PPB	95
12) 1,1-Dichloroethene	2.57	96	24801	2.43	PPB	98
13) Acetone	2.69	43	143665	80.88	PPB	96
14) Iodomethane	2.74	142	124928	8.64	PPB	97
15) Carbon Disulfide	2.77	76	79625	2.35	PPB	99
16) 2-Propanol (Isopropyl Alco	2.82	45	18577	106.46	PPB	85
17) 3-Chloro-1-propene	2.97	76	14300	2.11	PPB	# 82
18) Acetonitrile	3.06	40	41729	89.76	PPB	91
19) Methyl Acetate	3.01	43	14977	2.50	PPB	87
20) Methylene Chloride	3.13	84	32947	2.30	PPB	85
21) tert-Butyl Alcohol	3.27	59	3013m	10.69	PPB	
22) Acrylonitrile	3.50	53	23033	8.70	PPB	94
23) Methyl tert-Butyl Ether	3.36	73	114732	4.32	PPB	93
24) trans-1,2-Dichloroethene	3.39	96	33091	2.43	PPB	97
25) Hexane	3.61	57	48180	2.40	PPB	87
26) Diisopropyl Ether	3.94	45	97257	2.16	PPB	96
27) 1,1-Dichloroethane	3.95	63	56763	2.20	PPB	92
28) Vinyl Acetate	4.01	86	6209	4.04	PPB	98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:55 2013

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Chloroprene	4.01	53	179410	9.03	PPB	98
30) tert-Butyl Ethyl Ether	4.42	59	63621	2.06	PPB	95
31) 2,2-Dichloropropane	4.68	77	29485	2.21	PPB	93
32) cis-1,2-Dichloroethene	4.74	96	36486	2.25	PPB	95
33) 2-Butanone	4.80	72	59372	83.42	PPB	99
34) Propionitrile	5.01	54	8083	8.95	PPB	87
35) Ethyl Acetate	4.84	61	3705m	4.35	PPB	
36) Methacrylonitrile	5.17	67	27453	8.57	PPB	96
37) Bromochloromethane	5.09	128	14057	2.19	PPB	93
38) Tetrahydrofuran	5.12	71	1839	2.43	PPB	# 50
39) Chloroform	5.21	83	55352	2.24	PPB	95
40) tert-Butyl Formate	5.24	59	5338	1.95	PPB	95
41) 1,1,1-Trichloroethane	5.40	97	39651	2.25	PPB	90
43) Cyclohexane	5.36	56	55752	2.37	PPB	88
44) Carbon Tetrachloride	5.58	117	28029	2.20	PPB	94
45) 1,1-Dichloropropene	5.66	75	41248	2.35	PPB	95
46) Isobutyl Alcohol	6.05	43	9474	78.21	PPB	83
48) Benzene	5.99	78	143907	2.32	PPB	99
49) 1,2-Dichloroethane	6.17	62	37354	2.23	PPB	92
50) tert-Amyl Methyl Ether	6.18	55	24551	2.39	PPB	96
51) Trichloroethene	7.17	95	32718	2.29	PPB	94
52) Methyl Cyclohexane	7.36	83	57335	2.36	PPB	92
53) 1,2-Dichloropropane	7.70	63	31941	2.19	PPB	91
54) Dibromomethane	7.93	93	12826	2.08	PPB	93
55) Methyl methacrylate	8.00	69	10519	2.08	PPB	85
56) 1,4-Dioxane	7.98	88	4210m	80.19	PPB	
57) Bromodichloromethane	8.29	83	29515	2.03	PPB	97
58) 2-Nitropropane	9.01	43	6146	10.30	PPB	89
59) 2-Chloroethyl Vinyl Ether	9.10	63	11117	2.16	PPB	95
60) cis-1,3-Dichloropropene	9.36	75	33718	1.92	PPB	94
61) 4-Methyl-2-pentanone (MIBK)	9.78	58	195889	76.98	PPB	# 87
63) Toluene	9.95	92	92042	2.28	PPB	95
65) n-Octane	10.17	85	21784	2.36	PPB	82
66) trans-1,3-Dichloropropene	10.64	75	21913	1.89	PPB	95
67) Ethyl methacrylate	10.78	69	17585	1.85	PPB	89
68) 1,1,2-Trichloroethane	10.94	83	18705	2.35	PPB	97
69) Tetrachloroethene	10.92	164	30088	2.33	PPB	94
70) 2-Hexanone	11.39	57	60822	73.97	PPB	96
71) 1,3-Dichloropropane	11.22	76	37547	2.15	PPB	96
72) Dibromochloromethane	11.51	129	14966	1.86	PPB	97
73) 1,2-Dibromoethane (EDB)	11.67	107	16492	2.02	PPB	85

(#) = qualifier out of range (m) = manual integration

0717F012.D 071713MS13_8260W.M

Thu Jul 18 08:32:30 2013

Page 2

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:55 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74) 1-Chlorohexane	12.40	91	40942	2.32	PPB	98
75) Chlorobenzene	12.39	112	99504	2.28	PPB	97
76) Ethylbenzene	12.53	106	53810	2.29	PPB	96
77) 1,1,1,2-Tetrachloroethane	12.54	131	19863	1.80	PPB	95
78) m,p-Xylenes	12.71	106	132462	4.42	PPB	99
79) o-Xylene	13.25	106	61743	2.15	PPB	95
80) Styrene	13.29	103	46690	2.09	PPB	95
81) Bromoform	13.53	173	7553	2.07	PPB	85
82) Isopropylbenzene	13.72	105	162650	2.19	PPB	98
83) cis-1,4-Dichloro-2-butene	13.93	89	4199	6.40	PPB #	1
86) 1,1,2,2-Tetrachloroethane	14.22	83	19782	2.05	PPB	97
87) trans-1,4-Dichloro-2-buten	14.30	53	4804	1.99	PPB	81
88) Bromobenzene	14.10	156	39799	2.14	PPB	92
89) n-Propylbenzene	14.23	91	195609	2.15	PPB	99
90) 1,2,3-Trichloropropane	14.26	110	6714	2.23	PPB #	65
91) 2-Chlorotoluene	14.33	91	118483	2.18	PPB	98
92) 1,3,5-Trimethylbenzene	14.46	105	137179	2.12	PPB	93
93) 4-Chlorotoluene	14.49	91	137202	2.16	PPB	98
94) tert-Butylbenzene	14.82	119	123933	2.19	PPB	98
95) 1,2,4-Trimethylbenzene	14.89	105	142586	2.09	PPB	99
96) sec-Butylbenzene	15.08	105	177643	2.15	PPB	96
97) p-Isopropyltoluene	15.25	119	151853	2.11	PPB	98
98) 1,3-Dichlorobenzene	15.22	146	82325	2.14	PPB	94
99) 1,4-Dichlorobenzene	15.34	146	82010	2.12	PPB	93
100) n-Butylbenzene	15.71	91	128943	2.01	PPB	98
101) 1,2-Dichlorobenzene	15.75	146	72905	2.12	PPB	95
102) 1,2-Dibromo-3-chloropropan	16.64	155	1608	1.72	PPB #	71
103) 1,3,5-Trichlorobenzene	16.80	180	62469	2.14	PPB	100
104) 1,2,4-Trichlorobenzene	17.47	180	42067	1.89	PPB	95
105) Hexachlorobutadiene	17.60	225	25650	2.16	PPB	98
106) Naphthalene	17.73	128	45845	1.58	PPB	92
107) 1,2,3-Trichlorobenzene	17.99	180	30472	1.80	PPB	99

(#) = qualifier out of range (m) = manual integration

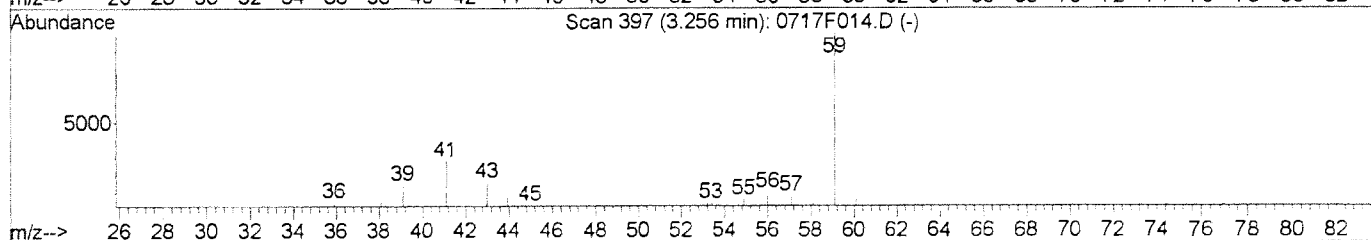
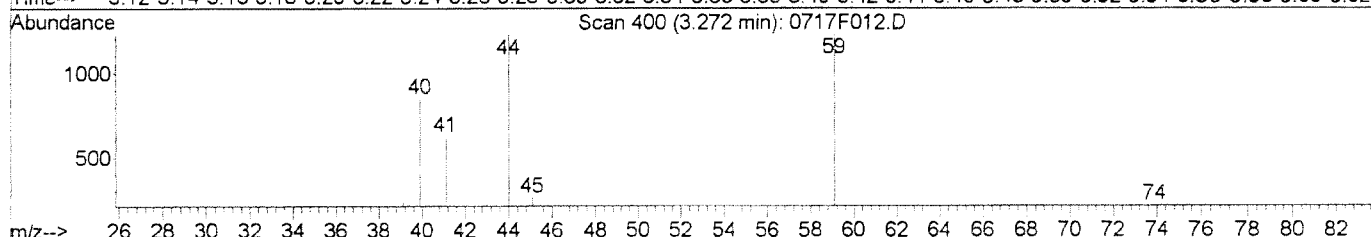
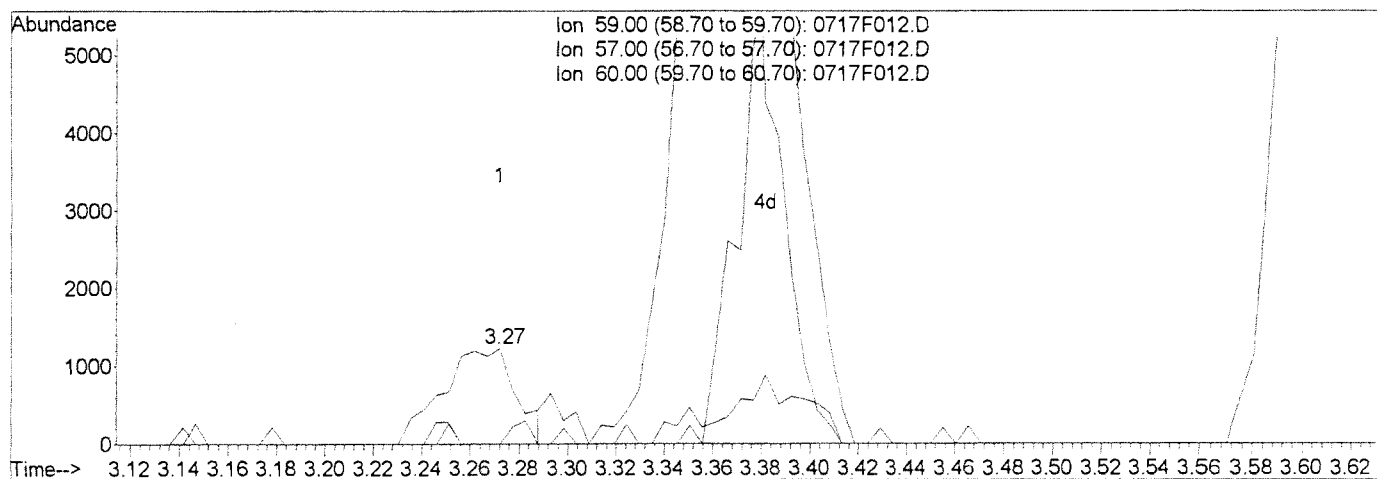
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:07 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:28:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F012.D

(21) tert-Butyl Alcohol (T)

Manual Integration:

3.27min 9.18PPB

Before

response 2588

Ion	Exp%	Act%
59.00	100	100
57.00	8.00	0.00
60.00	6.20	0.00
0.00	0.00	0.00

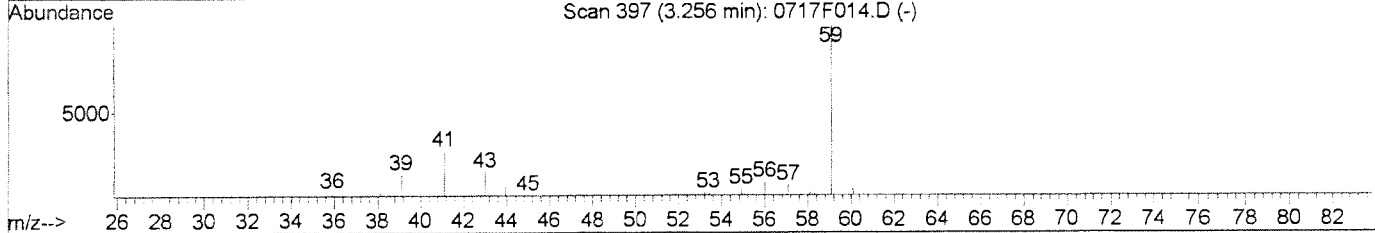
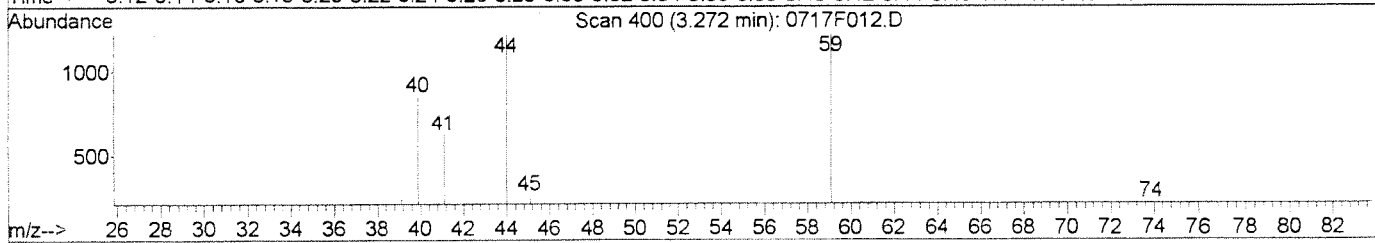
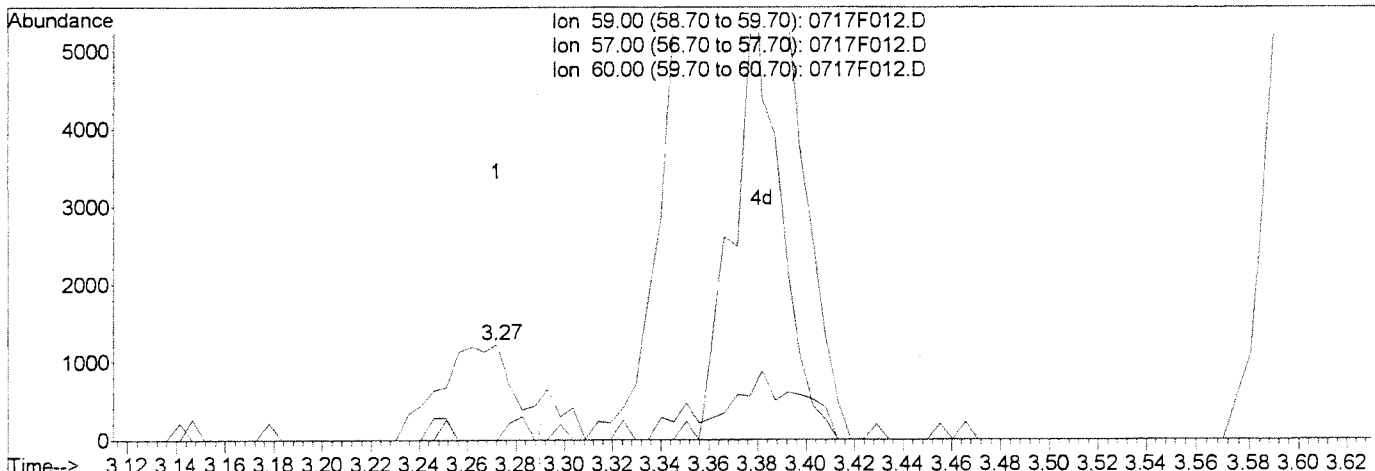
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:32 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:28:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F012.D

(21) tert-Butyl Alcohol (T)

3.27min 10.69PPB m

response 3013

Ion	Exp%	Act%
59.00	100	100
57.00	8.00	0.00
60.00	6.20	0.00
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

MS
7/22/13

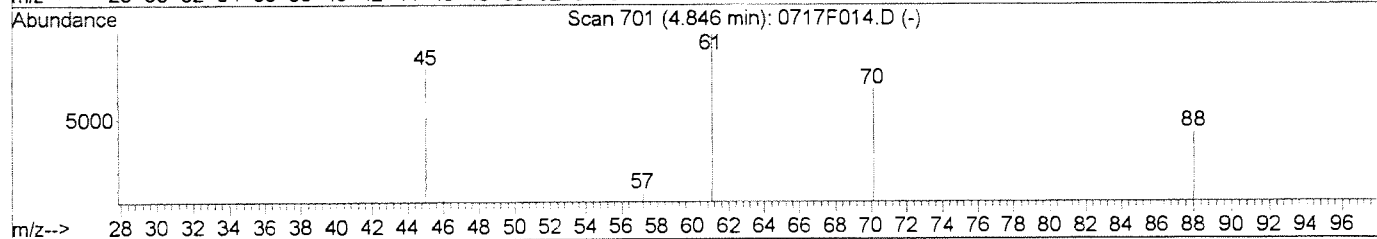
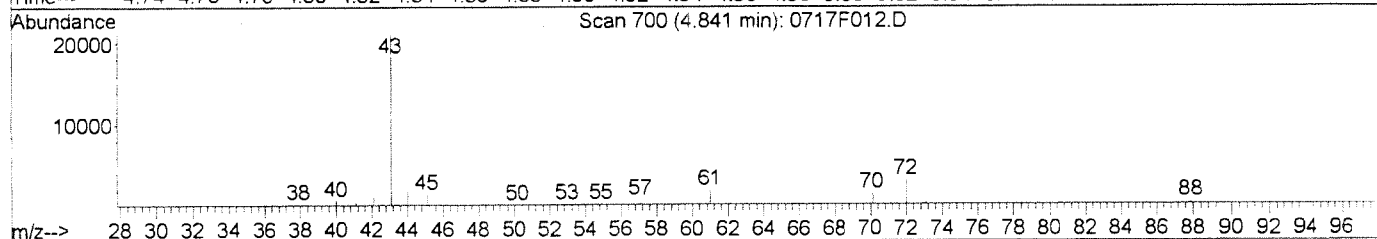
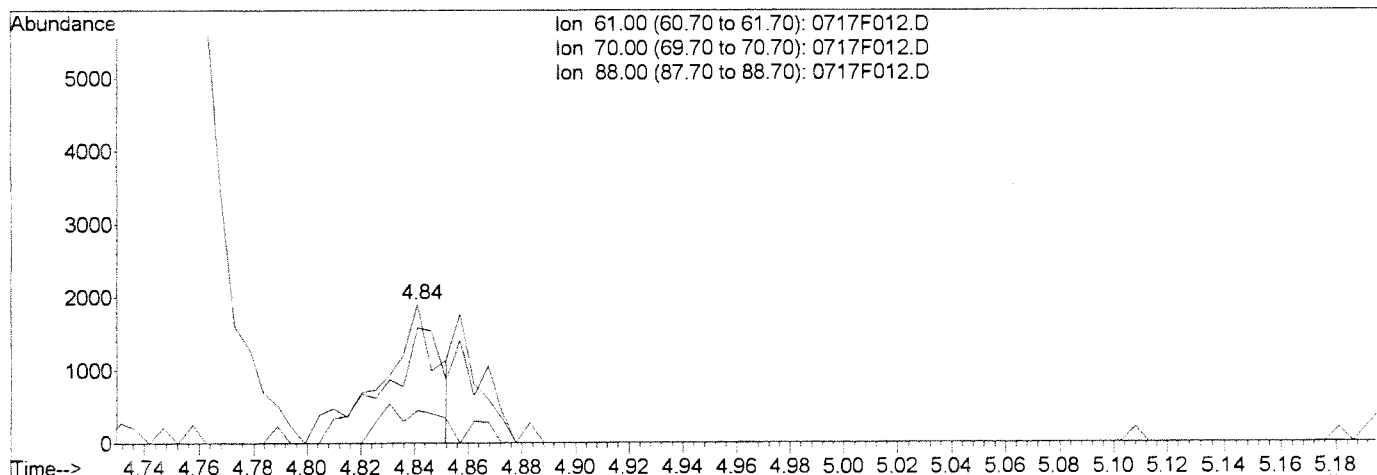
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:32 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:28:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F012.D

(35) Ethyl Acetate (T)

Manual Integration:

4.84min 3.06PPB

Before

response 2602

Ion	Exp%	Act%
61.00	100	100
70.00	67.10	62.78
88.00	38.10	23.55
0.00	0.00	0.00

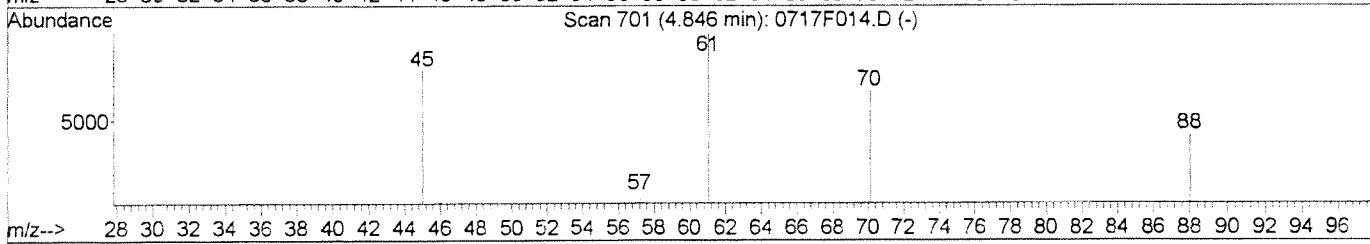
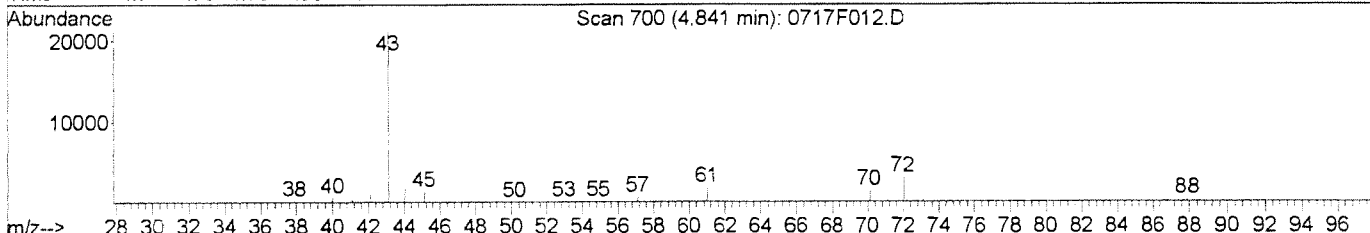
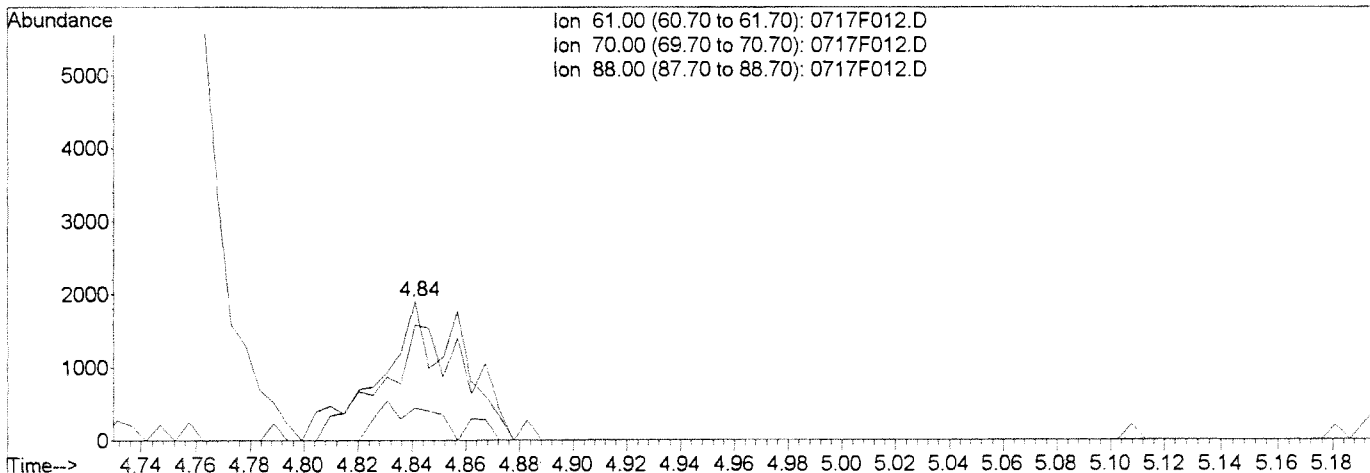
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:32 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:28:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F012.D

(35) Ethyl Acetate (T)

4.84min 4.35PPB m

response 3705

Ion	Exp%	Act%
61.00	100	100
70.00	67.10	83.07
88.00	38.10	23.55
0.00	0.00	0.00

Manual Integration:

After

Split peak

07/18/13

Handwritten signature and date: 7.22.13

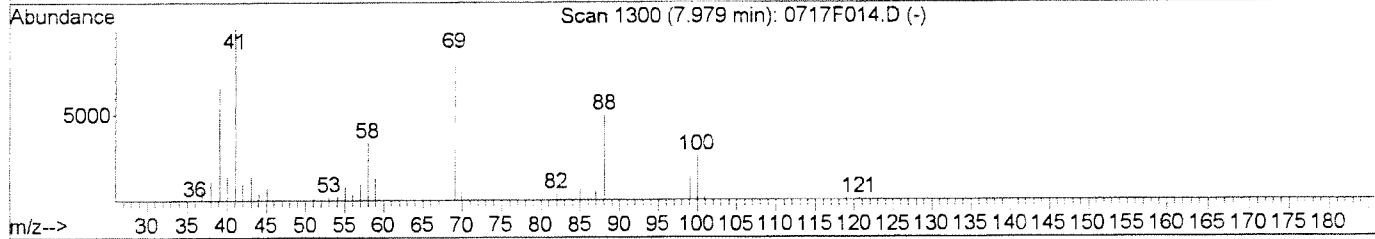
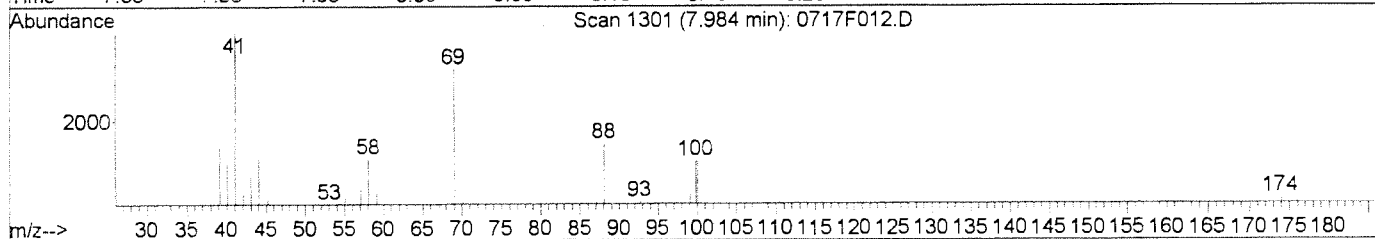
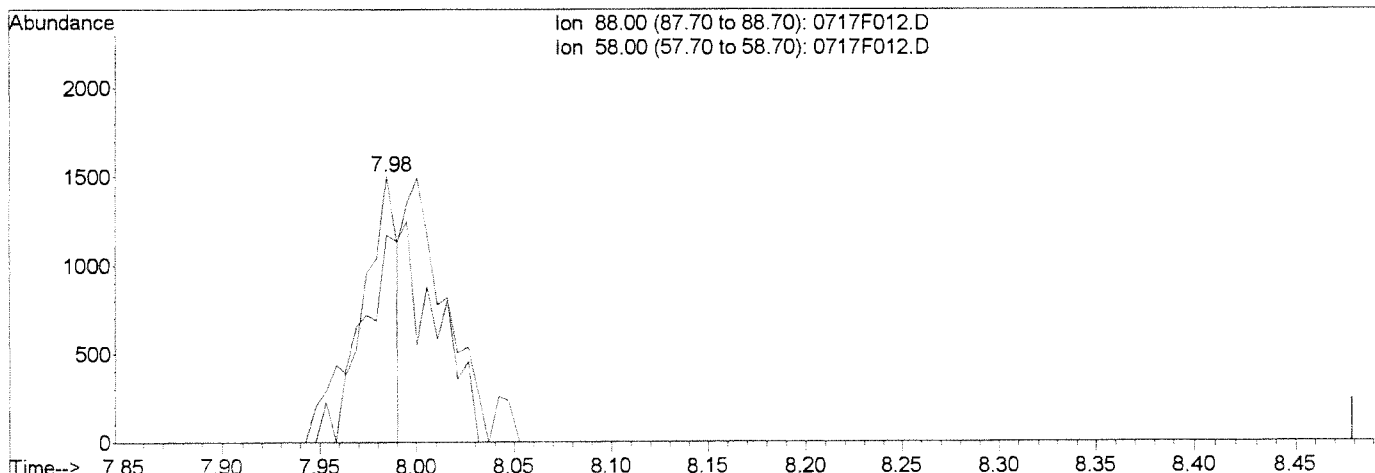
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:32 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:28:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F012.D

(56) 1,4-Dioxane (T)

Manual Integration:

7.98min 38.74PPB

Before

response 2034

Ion	Exp%	Act%
88.00	100	100
58.00	68.20	77.94
0.00	0.00	0.00
0.00	0.00	0.00

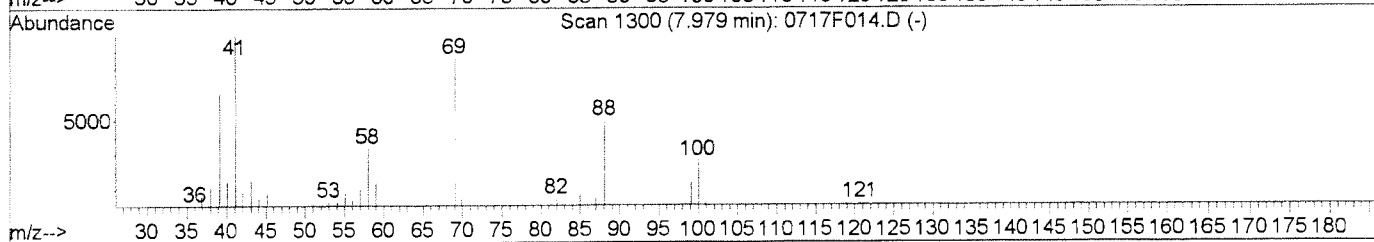
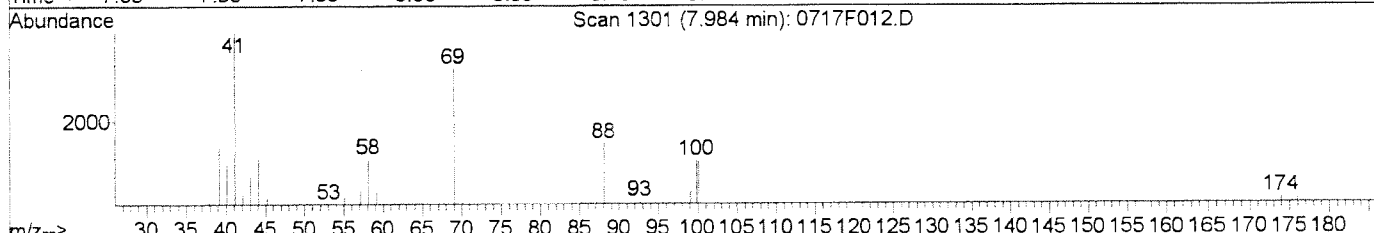
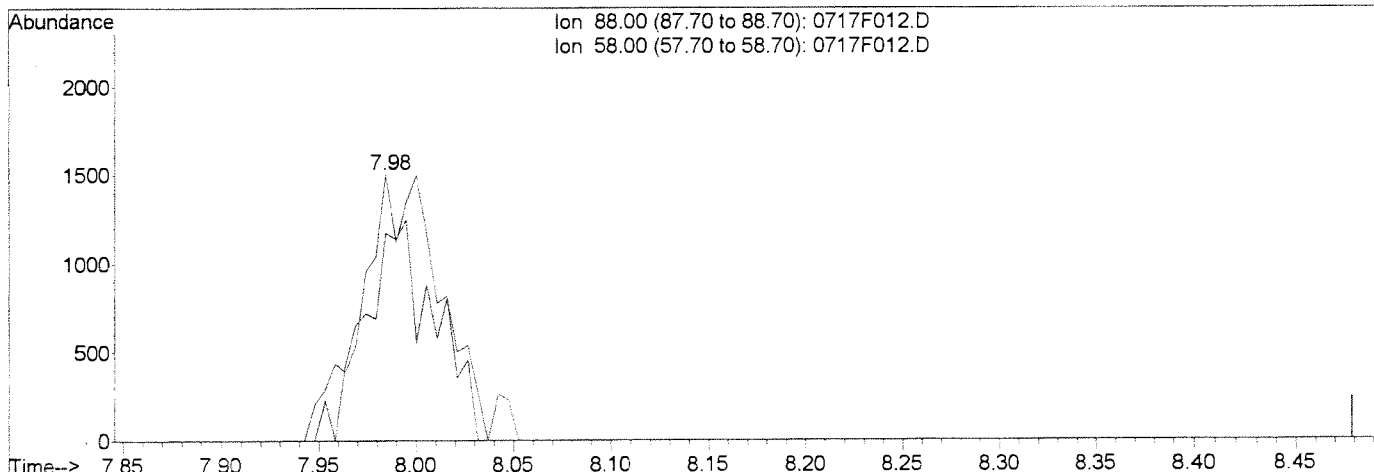
Quantitation Report (Qedit)

Data File : J:\MS13\DATA\071713\0717F012.D
 Acq On : 17 Jul 2013 1:53 pm
 Sample : 8260 ICAL 2.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:32 2013

Vial: 12
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:28:54 2013
 Response via : Multiple Level Calibration



TIC: 0717F012.D

(56) 1,4-Dioxane (T)		
7.98min	80.19PPB m	
response	4210	
Ion	Exp%	Act%
88.00	100	100
58.00	68.20	77.94
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After
 Split peak
 07/18/13

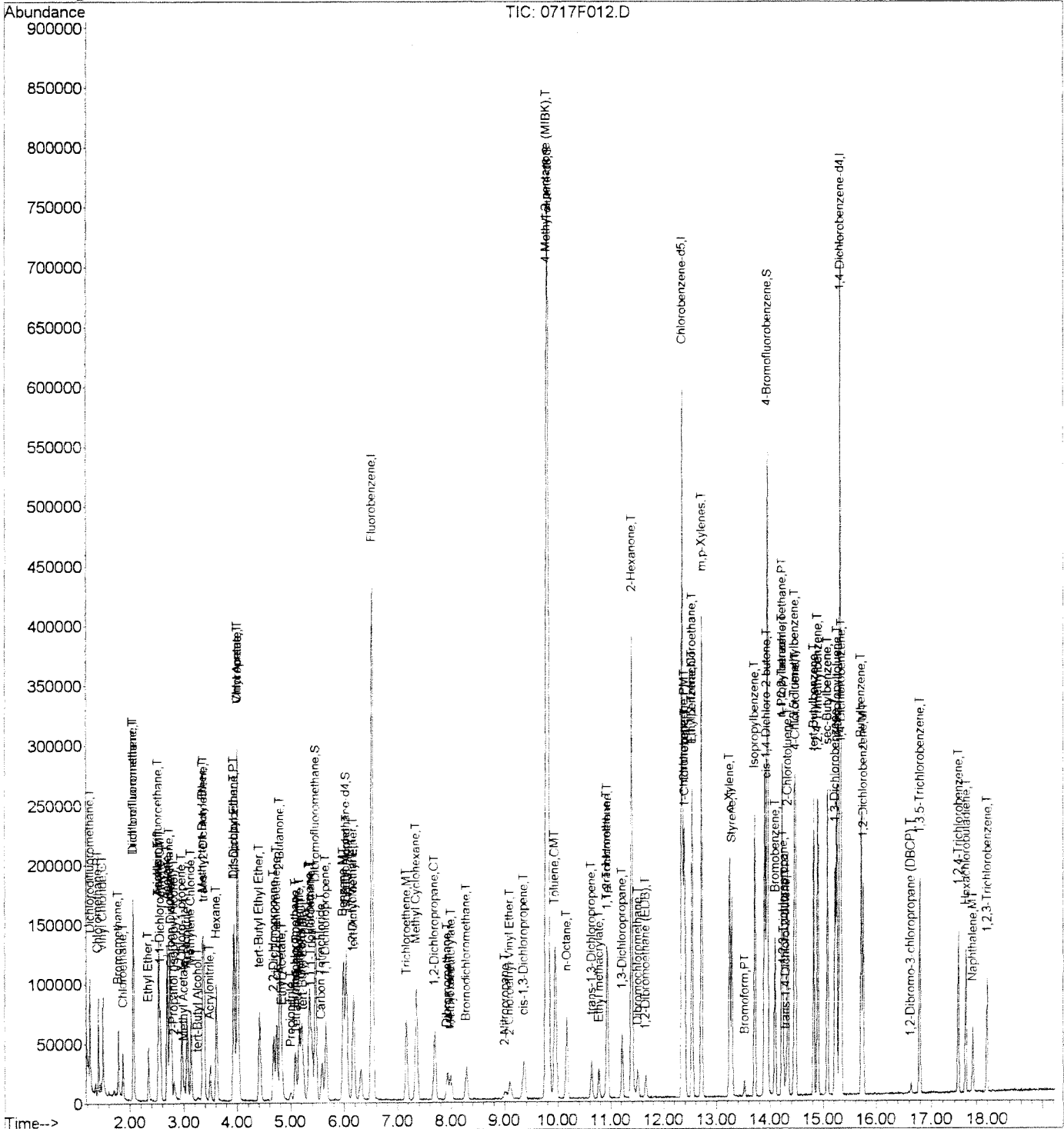
Handwritten signature and date:
 7/22/13

Data File : J:\MS13\DATA\071713\0717F012.D
Acq On : 17 Jul 2013 1:53 pm
Sample : 8260 ICAL 2.0PPB
Misc :
MS Integration Params: rteint.p
Quant Time: Jul 18 8:32 2013

Vial: 12
Operator: CM/HB
Inst : MS13
Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Jul 18 08:31:13 2013
Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F013.D
 Acq On : 17 Jul 2013 2:20 pm
 Sample : 8260 ICAL 5.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:56 2013

Vial: 13
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7/21/13 HB 7-1873

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.53	96	595144	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	223943	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	211559	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	120222	9.74	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.40%	
47) 1,2-Dichloroethane-d4	6.04	65	117488	10.28	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.80%	
62) Toluene-d8	9.81	98	575346	9.94	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.40%	
84) 4-Bromofluorobenzene	13.95	95	185961	9.96	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.60%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	102575	5.14	PPB	98
3) Chloromethane	1.42	50	115502	5.12	PPB	96
4) Vinyl Chloride	1.50	62	102338	4.91	PPB	98
5) Bromomethane	1.79	96	55740	5.29	PPB	99
6) Chloroethane	1.88	64	60708	5.11	PPB	99
7) Dichlorofluoromethane	2.06	67	149418	5.26	PPB	95
8) Trichlorofluoromethane	2.07	101	123057	4.93	PPB	100
9) Ethyl Ether	2.35	59	53261	5.51	PPB	96
10) Acrolein	2.54	56	124521	104.28	PPB	95
11) Trichlorotrifluoroethane	2.54	151	53589	4.83	PPB	96
12) 1,1-Dichloroethene	2.57	96	53980	5.01	PPB	95
13) Acetone	2.69	43	189922	101.22	PPB	98
14) Iodomethane	2.74	142	315743	20.66	PPB	98
15) Carbon Disulfide	2.78	76	176870	4.95	PPB	99
16) 2-Propanol (Isopropyl Alco	2.82	45	47754	259.06	PPB	94
17) 3-Chloro-1-propene	2.97	76	37003	5.18	PPB	89
18) Acetonitrile	3.06	40	107642	219.17	PPB	93
19) Methyl Acetate	3.01	43	34646	5.47	PPB	93
20) Methylene Chloride	3.14	84	82196	5.43	PPB	98
21) tert-Butyl Alcohol	3.26	59	8402	28.22	PPB	95
22) Acrylonitrile	3.50	53	60366	21.59	PPB	97
23) Methyl tert-Butyl Ether	3.36	73	299687	10.69	PPB	97
24) trans-1,2-Dichloroethene	3.39	96	74704	5.20	PPB	95
25) Hexane	3.61	57	104520	4.93	PPB	98
26) Diisopropyl Ether	3.94	45	249461	5.26	PPB	96
27) 1,1-Dichloroethane	3.95	63	142119	5.22	PPB	96
28) Vinyl Acetate	4.00	86	15325	9.43	PPB #	85

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F013.D
 Acq On : 17 Jul 2013 2:20 pm
 Sample : 8260 ICAL 5.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:56 2013

Vial: 13
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Chloroprene	4.01	53	407756	19.42	PPB	95
30) tert-Butyl Ethyl Ether	4.42	59	175049	5.37	PPB	96
31) 2,2-Dichloropropane	4.68	77	66968	4.75	PPB	98
32) cis-1,2-Dichloroethene	4.74	96	89614	5.24	PPB	92
33) 2-Butanone	4.80	72	74959	99.69	PPB	97
34) Propionitrile	5.01	54	21711	22.75	PPB	97
35) Ethyl Acetate	4.85	61	9760	10.86	PPB	91
36) Methacrylonitrile	5.17	67	75072	22.20	PPB	93
37) Bromochloromethane	5.09	128	37731	5.57	PPB	87
38) Tetrahydrofuran	5.12	71	4031	5.04	PPB	# 68
39) Chloroform	5.21	83	138589	5.30	PPB	95
40) tert-Butyl Formate	5.24	59	15304	5.29	PPB	96
41) 1,1,1-Trichloroethane	5.40	97	92091	4.95	PPB	97
43) Cyclohexane	5.35	56	122041	4.91	PPB	97
44) Carbon Tetrachloride	5.59	117	62217	4.62	PPB	90
45) 1,1-Dichloropropene	5.67	75	92767	5.01	PPB	94
46) Isobutyl Alcohol	6.05	43	27524	215.10	PPB	93
48) Benzene	5.99	78	344851	5.25	PPB	99
49) 1,2-Dichloroethane	6.17	62	99999	5.66	PPB	95
50) tert-Amyl Methyl Ether	6.17	55	60340	5.56	PPB	95
51) Trichloroethene	7.17	95	76786	5.10	PPB	94
52) Methyl Cyclohexane	7.36	83	125301	4.87	PPB	91
53) 1,2-Dichloropropane	7.70	63	81204	5.26	PPB	92
54) Dibromomethane	7.94	93	35727	5.48	PPB	96
55) Methyl methacrylate	8.00	69	27117	5.07	PPB	91
56) 1,4-Dioxane	7.98	88	12340	222.49	PPB	96
57) Bromodichloromethane	8.29	83	80752	5.25	PPB	99
58) 2-Nitropropane	9.01	43	16494	26.17	PPB	84
59) 2-Chloroethyl Vinyl Ether	9.10	63	28344	5.21	PPB	96
60) cis-1,3-Dichloropropene	9.37	75	91734	4.95	PPB	99
61) 4-Methyl-2-pentanone (MIBK)	9.78	58	261193	97.17	PPB	93
63) Toluene	9.95	92	222953	5.23	PPB	95
65) n-Octane	10.18	85	52018	5.30	PPB	90
66) trans-1,3-Dichloropropene	10.64	75	60645	4.92	PPB	98
67) Ethyl methacrylate	10.78	69	50500	5.00	PPB	89
68) 1,1,2-Trichloroethane	10.94	83	45199	5.34	PPB	97
69) Tetrachloroethene	10.93	164	66400	4.83	PPB	95
70) 2-Hexanone	11.39	57	82209	94.00	PPB	98
71) 1,3-Dichloropropane	11.22	76	103639	5.58	PPB	95
72) Dibromochloromethane	11.51	129	43569	5.10	PPB	94
73) 1,2-Dibromoethane (EDB)	11.67	107	44437	5.12	PPB	99

(#) = qualifier out of range (m) = manual integration

0717F013.D 071713MS13_8260W.M

Thu Jul 18 08:32:32 2013

Page 2

Data File : J:\MS13\DATA\071713\0717F013.D
 Acq On : 17 Jul 2013 2:20 pm
 Sample : 8260 ICAL 5.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:56 2013

Vial: 13
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74) 1-Chlorohexane	12.40	91	94594	5.05	PPB	97
75) Chlorobenzene	12.39	112	250313	5.40	PPB	98
76) Ethylbenzene	12.53	106	131080	5.25	PPB	95
77) 1,1,1,2-Tetrachloroethane	12.55	131	56653	4.83	PPB	92
78) m,p-Xylenes	12.71	106	326231	10.25	PPB	96
79) o-Xylene	13.24	106	160585	5.25	PPB	97
80) Styrene	13.29	103	123153	5.19	PPB	99
81) Bromoform	13.53	173	20076	5.18	PPB	96
82) Isopropylbenzene	13.72	105	396351	5.03	PPB	98
83) cis-1,4-Dichloro-2-butene	13.94	89	13232	18.98	PPB	# 47
86) 1,1,2,2-Tetrachloroethane	14.22	83	54260	5.33	PPB	94
87) trans-1,4-Dichloro-2-buten	14.30	53	13708	5.38	PPB	93
88) Bromobenzene	14.10	156	103001	5.25	PPB	93
89) n-Propylbenzene	14.23	91	472819	4.93	PPB	98
90) 1,2,3-Trichloropropane	14.26	110	17895	5.63	PPB	# 67
91) 2-Chlorotoluene	14.34	91	299997	5.23	PPB	97
92) 1,3,5-Trimethylbenzene	14.46	105	343280	5.01	PPB	98
93) 4-Chlorotoluene	14.49	91	351956	5.24	PPB	99
94) tert-Butylbenzene	14.82	119	299165	5.01	PPB	99
95) 1,2,4-Trimethylbenzene	14.89	105	369477	5.12	PPB	100
96) sec-Butylbenzene	15.08	105	434846	4.98	PPB	99
97) p-Isopropyltoluene	15.25	119	380393	5.01	PPB	98
98) 1,3-Dichlorobenzene	15.22	146	214041	5.27	PPB	96
99) 1,4-Dichlorobenzene	15.34	146	215463	5.27	PPB	98
100) n-Butylbenzene	15.71	91	331640	4.89	PPB	99
101) 1,2-Dichlorobenzene	15.75	146	192513	5.31	PPB	95
102) 1,2-Dibromo-3-chloropropan	16.64	155	4642	4.70	PPB	86
103) 1,3,5-Trichlorobenzene	16.80	180	163185	5.31	PPB	97
104) 1,2,4-Trichlorobenzene	17.48	180	120722	5.15	PPB	99
105) Hexachlorobutadiene	17.60	225	63598	5.07	PPB	99
106) Naphthalene	17.73	128	148885	4.88	PPB	98
107) 1,2,3-Trichlorobenzene	17.99	180	93725	5.25	PPB	96

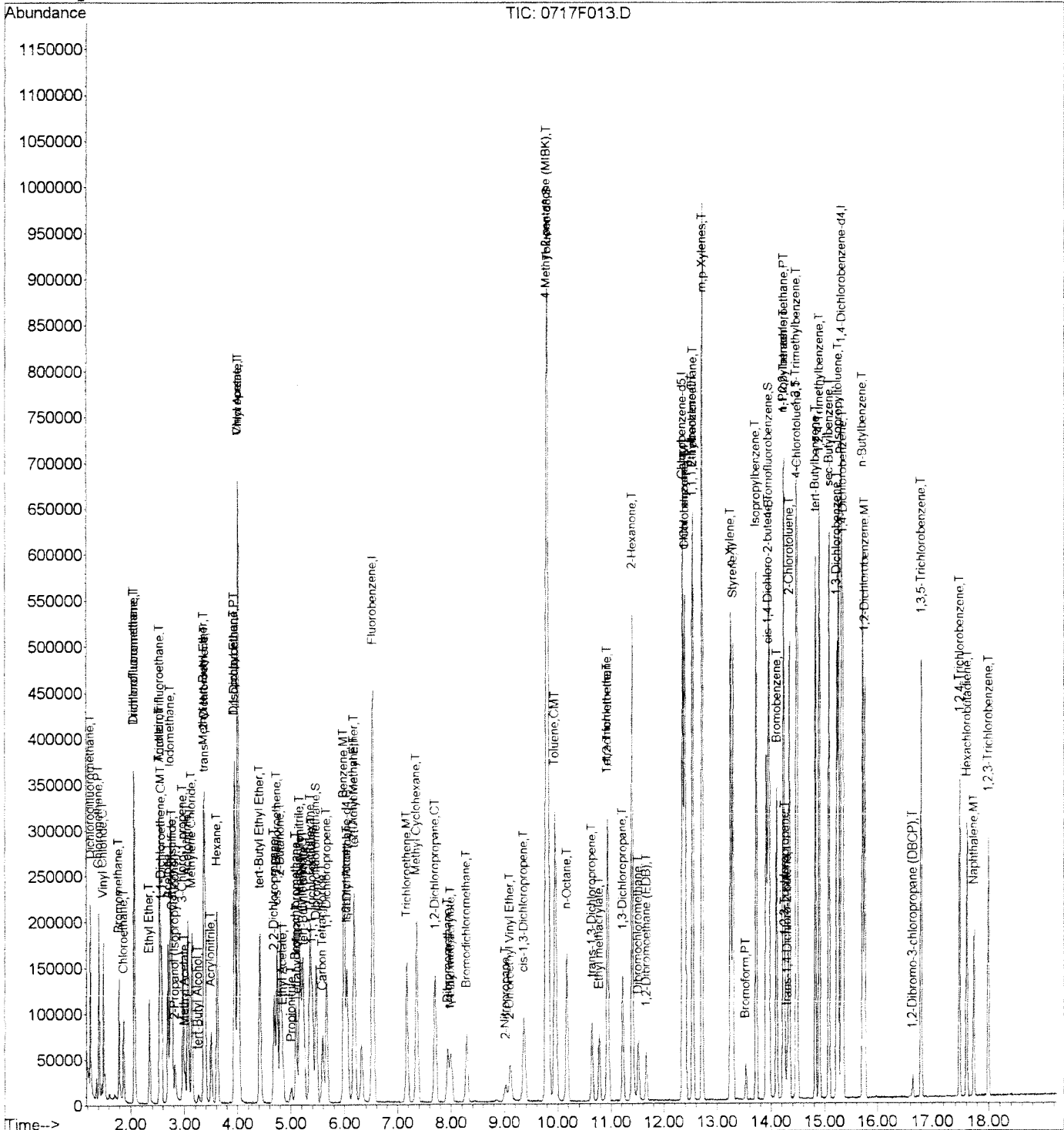
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F013.D
 Acq On : 17 Jul 2013 2:20 pm
 Sample : 8260 ICAL 5.0PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:07 2013

Vial: 13
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:31:13 2013
 Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F014.D
 Acq On : 17 Jul 2013 2:47 pm
 Sample : 8260 ICAL 10PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:02:36 2013

Vial: 14
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:02:22 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7/22/13 HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	625660	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	237582	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	220468	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	129716	10.00	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.00%	
47) 1,2-Dichloroethane-d4	6.04	65	120192	10.00	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.00%	
62) Toluene-d8	9.81	98	608467	10.00	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.00%	
84) 4-Bromofluorobenzene	13.95	95	197985	10.00	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	209683	10.00	PPB	100
3) Chloromethane	1.42	50	237115	10.00	PPB	100
4) Vinyl Chloride	1.50	62	218952	10.00	PPB	100
5) Bromomethane	1.79	96	110736	10.00	PPB	100
6) Chloroethane	1.88	64	124928	10.00	PPB	100
7) Dichlorofluoromethane	2.06	67	298570	10.00	PPB	100
8) Trichlorofluoromethane	2.07	101	262418	10.00	PPB	100
9) Ethyl Ether	2.35	59	101711	10.00	PPB	100
10) Acrolein	2.54	56	251072	200.00	PPB	100
11) Trichlorotrifluoroethane	2.54	151	116573	10.00	PPB	100
12) 1,1-Dichloroethene	2.57	96	113218	10.00	PPB	100
13) Acetone	2.69	43	394510	200.00	PPB	100
14) Iodomethane	2.74	142	642525	40.00	PPB	100
15) Carbon Disulfide	2.78	76	375998	10.00	PPB	100
16) 2-Propanol (Isopropyl Alco	2.82	45	96892	500.00	PPB	100
17) 3-Chloro-1-propene	2.97	76	75166	10.00	PPB	100
18) Acetonitrile	3.06	40	206526	400.00	PPB	100
19) Methyl Acetate	3.01	43	66635	10.00	PPB	100
20) Methylene Chloride	3.14	84	159074	10.00	PPB	100
21) tert-Butyl Alcohol	3.26	59	15651	50.00	PPB	100
22) Acrylonitrile	3.50	53	117569	40.00	PPB	100
23) Methyl tert-Butyl Ether	3.36	73	589615	20.00	PPB	100
24) trans-1,2-Dichloroethene	3.39	96	151059	10.00	PPB	100
25) Hexane	3.62	57	223059	10.00	PPB	100
26) Diisopropyl Ether	3.94	45	498928	10.00	PPB	100
27) 1,1-Dichloroethane	3.95	63	286182	10.00	PPB	100
28) Vinyl Acetate	4.01	86	34154	20.00	PPB	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F014.D
 Acq On : 17 Jul 2013 2:47 pm
 Sample : 8260 ICAL 10PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:02:36 2013

Vial: 14
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:02:22 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Chloroprene	4.01	53	882725	40.00	PPB	100
30) tert-Butyl Ethyl Ether	4.42	59	342778	10.00	PPB	100
31) 2,2-Dichloropropane	4.68	77	148173	10.00	PPB	100
32) cis-1,2-Dichloroethene	4.74	96	179893	10.00	PPB	100
33) 2-Butanone	4.80	72	158090	200.00	PPB	100
34) Propionitrile	5.00	54	40134	40.00	PPB	100
35) Ethyl Acetate	4.85	61	18899	20.00	PPB	100
36) Methacrylonitrile	5.17	67	142227	40.00	PPB	100
37) Bromochloromethane	5.10	128	71228	10.00	PPB	100
38) Tetrahydrofuran	5.11	71	8405	10.00	PPB	100
39) Chloroform	5.21	83	275000	10.00	PPB	100
40) tert-Butyl Formate	5.23	59	30401	10.00	PPB	100
41) 1,1,1-Trichloroethane	5.40	97	195675	10.00	PPB	100
43) Cyclohexane	5.35	56	261116	10.00	PPB	100
44) Carbon Tetrachloride	5.59	117	141515	10.00	PPB	100
45) 1,1-Dichloropropene	5.66	75	194556	10.00	PPB	100
46) Isobutyl Alcohol	6.04	43	53809	400.00	PPB	100
48) Benzene	5.99	78	689956	10.00	PPB	100
49) 1,2-Dichloroethane	6.17	62	185650	10.00	PPB	100
50) tert-Amyl Methyl Ether	6.17	55	114131	10.00	PPB	100
51) Trichloroethene	7.16	95	158359	10.00	PPB	100
52) Methyl Cyclohexane	7.35	83	270239	10.00	PPB	100
53) 1,2-Dichloropropane	7.70	63	162288	10.00	PPB	100
54) Dibromomethane	7.93	93	68542	10.00	PPB	100
55) Methyl methacrylate	7.99	69	56273	10.00	PPB	100
56) 1,4-Dioxane	7.98	88	23323	400.00	PPB	100
57) Bromodichloromethane	8.29	83	161698	10.00	PPB	100
58) 2-Nitropropane	9.03	43	33131	50.00	PPB	100
59) 2-Chloroethyl Vinyl Ether	9.11	63	57151	10.00	PPB	100
60) cis-1,3-Dichloropropene	9.37	75	194761	10.00	PPB	100
61) 4-Methyl-2-pentanone (MIBK)	9.78	58	565183	200.00	PPB	100
63) Toluene	9.95	92	448189	10.00	PPB	100
65) n-Octane	10.17	85	104222	10.00	PPB	100
66) trans-1,3-Dichloropropene	10.64	75	130896	10.00	PPB	100
67) Ethyl methacrylate	10.78	69	107178	10.00	PPB	100
68) 1,1,2-Trichloroethane	10.94	83	89843	10.00	PPB	100
69) Tetrachloroethene	10.93	164	145908	10.00	PPB	100
70) 2-Hexanone	11.39	57	185563	200.00	PPB	100
71) 1,3-Dichloropropane	11.22	76	197038	10.00	PPB	100
72) Dibromochloromethane	11.51	129	90603	10.00	PPB	100
73) 1,2-Dibromoethane (EDB)	11.66	107	92057	10.00	PPB	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F014.D
 Acq On : 17 Jul 2013 2:47 pm
 Sample : 8260 ICAL 10PPB
 Misc :

Vial: 14
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

MS Integration Params: rteint.p
 Quant Time: Jul 18 08:02:36 2013

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:02:22 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74) 1-Chlorohexane	12.40	91	198761	10.00	PPB	100
75) Chlorobenzene	12.38	112	492163	10.00	PPB	100
76) Ethylbenzene	12.53	106	265129	10.00	PPB	100
77) 1,1,1,2-Tetrachloroethane	12.55	131	124532	10.00	PPB	100
78) m,p-Xylenes	12.71	106	675562	20.00	PPB	100
79) o-Xylene	13.25	106	324229	10.00	PPB	100
80) Styrene	13.29	103	251510	10.00	PPB	100
81) Bromoform	13.53	173	41082	10.00	PPB	100
82) Isopropylbenzene	13.72	105	836474	10.00	PPB	100
83) cis-1,4-Dichloro-2-butene	13.94	89	29589	40.00	PPB	100
86) 1,1,2,2-Tetrachloroethane	14.22	83	106053	10.00	PPB	100
87) trans-1,4-Dichloro-2-buten	14.30	53	26541	10.00	PPB	100
88) Bromobenzene	14.10	156	204648	10.00	PPB	100
89) n-Propylbenzene	14.23	91	998615	10.00	PPB	100
90) 1,2,3-Trichloropropane	14.26	110	33116	10.00	PPB	100
91) 2-Chlorotoluene	14.34	91	597833	10.00	PPB	100
92) 1,3,5-Trimethylbenzene	14.46	105	713528	10.00	PPB	100
93) 4-Chlorotoluene	14.49	91	700179	10.00	PPB	100
94) tert-Butylbenzene	14.82	119	622181	10.00	PPB	100
95) 1,2,4-Trimethylbenzene	14.89	105	751816	10.00	PPB	100
96) sec-Butylbenzene	15.08	105	909439	10.00	PPB	100
97) p-Isopropyltoluene	15.25	119	791416	10.00	PPB	100
98) 1,3-Dichlorobenzene	15.22	146	423205	10.00	PPB	100
99) 1,4-Dichlorobenzene	15.34	146	426428	10.00	PPB	100
100) n-Butylbenzene	15.71	91	707271	10.00	PPB	100
101) 1,2-Dichlorobenzene	15.75	146	377476	10.00	PPB	100
102) 1,2-Dibromo-3-chloropropan	16.64	155	10296	10.00	PPB	100
103) 1,3,5-Trichlorobenzene	16.80	180	320524	10.00	PPB	100
104) 1,2,4-Trichlorobenzene	17.47	180	244504	10.00	PPB	100
105) Hexachlorobutadiene	17.60	225	130653	10.00	PPB	100
106) Naphthalene	17.73	128	318266	10.00	PPB	100
107) 1,2,3-Trichlorobenzene	17.99	180	186041	10.00	PPB	100

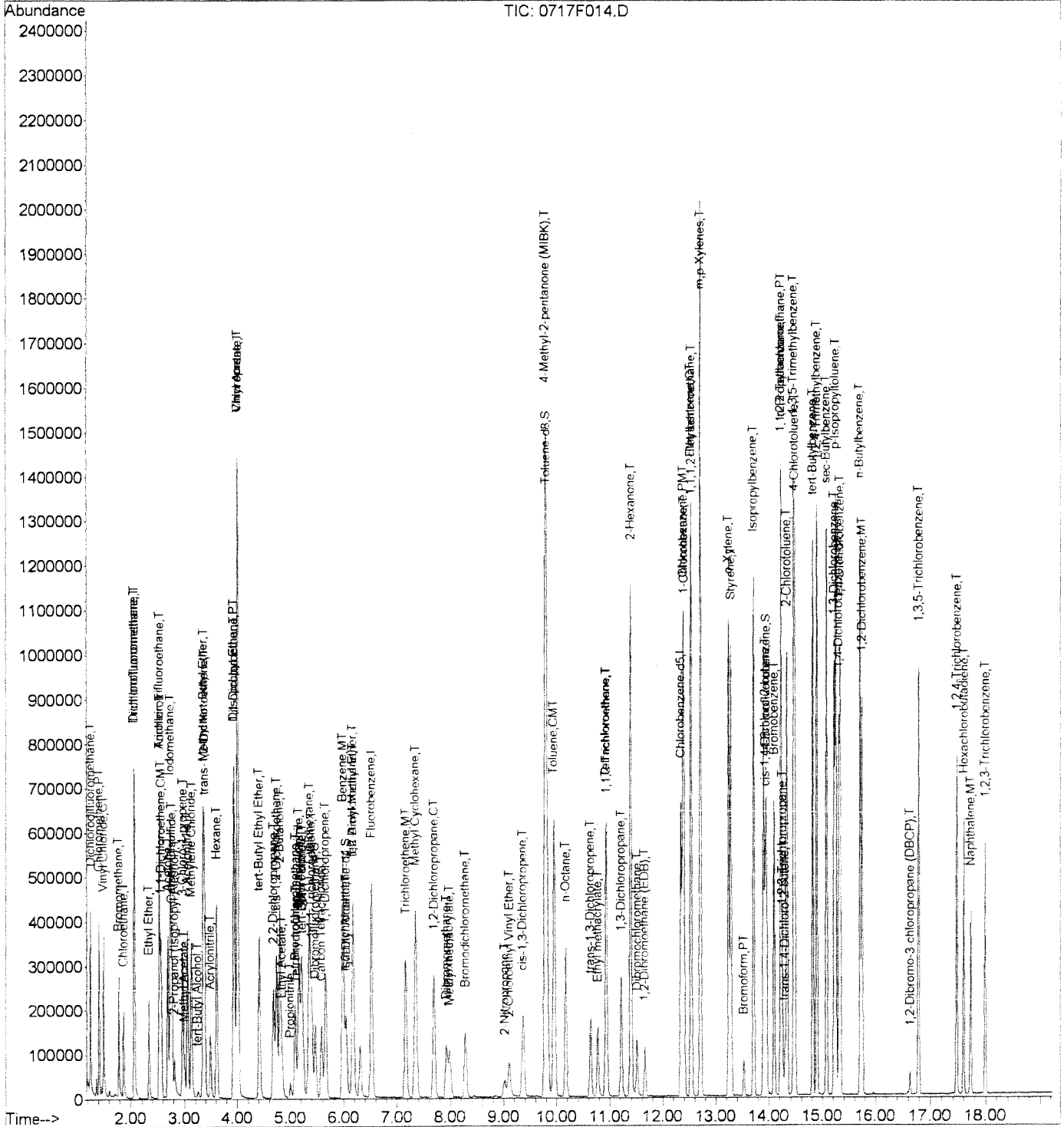
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F014.D
Acq On : 17 Jul 2013 2:47 pm
Sample : 8260 ICAL 10PPB
Misc :
MS Integration Params: rteint.p
Quant Time: Jul 18 8:05 2013

Vial: 14
Operator: CM/HB
Inst : MS13
Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Jul 18 08:31:13 2013
Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F015.D
 Acq On : 17 Jul 2013 3:14 pm
 Sample : 8260 ICAL 20PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:57 2013

Vial: 15
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten signature and date: CM/HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	630966	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	244932	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	225482	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	129446	9.90	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.00%	
47) 1,2-Dichloroethane-d4	6.04	65	122538	10.11	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.10%	
62) Toluene-d8	9.81	98	621802	10.13	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.30%	
84) 4-Bromofluorobenzene	13.95	95	202263	9.91	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.10%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	1.26	85	431619	20.41	PPB	97
3) Chloromethane	1.42	50	470854	19.69	PPB	98
4) Vinyl Chloride	1.50	62	441710	20.00	PPB	99
5) Bromomethane	1.79	96	226469	20.28	PPB	100
6) Chloroethane	1.88	64	245830	19.51	PPB	98
7) Dichlorofluoromethane	2.06	67	606281	20.14	PPB	99
8) Trichlorofluoromethane	2.07	101	535134	20.22	PPB	98
9) Ethyl Ether	2.35	59	199800	19.48	PPB	95
10) Acrolein	2.54	56	521359	411.81	PPB	100
11) Trichlorotrifluoroethane	2.54	151	238859	20.32	PPB	95
12) 1,1-Dichloroethene	2.57	96	229200	20.07	PPB	97
13) Acetone	2.69	43	826764	415.61	PPB	95
14) Iodomethane	2.74	142	1296309	80.02	PPB	97
15) Carbon Disulfide	2.77	76	774531	20.43	PPB	99
16) 2-Propanol (Isopropyl Alco	2.82	45	223526	1143.78	PPB	95
17) 3-Chloro-1-propene	2.97	76	156571	20.65	PPB	# 77
18) Acetonitrile	3.06	40	413840	794.79	PPB	97
19) Methyl Acetate	3.01	43	130553	19.43	PPB	96
20) Methylene Chloride	3.14	84	314559	19.61	PPB	99
21) tert-Butyl Alcohol	3.26	59	34512	109.33	PPB	93
22) Acrylonitrile	3.50	53	233286	78.70	PPB	98
23) Methyl tert-Butyl Ether	3.36	73	1207295	40.61	PPB	99
24) trans-1,2-Dichloroethene	3.39	96	305271	20.04	PPB	98
25) Hexane	3.62	57	463846	20.62	PPB	99
26) Diisopropyl Ether	3.94	45	1008362	20.04	PPB	97
27) 1,1-Dichloroethane	3.95	63	573212	19.86	PPB	99
28) Vinyl Acetate	4.01	86	69717	40.48	PPB	# 84

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F015.D
 Acq On : 17 Jul 2013 3:14 pm
 Sample : 8260 ICAL 20PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:57 2013

Vial: 15
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Chloroprene	4.01	53	1791047	80.48	PPB	99
30) tert-Butyl Ethyl Ether	4.42	59	711943	20.60	PPB	99
31) 2,2-Dichloropropane	4.68	77	319881	21.41	PPB	97
32) cis-1,2-Dichloroethene	4.74	96	356842	19.67	PPB	98
33) 2-Butanone	4.80	72	340059	426.59	PPB	89
34) Propionitrile	5.00	54	83232	82.26	PPB	96
35) Ethyl Acetate	4.85	61	38374	40.27	PPB	87
36) Methacrylonitrile	5.17	67	290262	80.95	PPB	96
37) Bromochloromethane	5.09	128	143648	20.00	PPB	96
38) Tetrahydrofuran	5.11	71	16210	19.12	PPB	88
39) Chloroform	5.21	83	552802	19.93	PPB	99
40) tert-Butyl Formate	5.24	59	66722	21.76	PPB	92
41) 1,1,1-Trichloroethane	5.40	97	419527	21.26	PPB	97
43) Cyclohexane	5.35	56	547327	20.78	PPB	94
44) Carbon Tetrachloride	5.59	117	319339	22.38	PPB	94
45) 1,1-Dichloropropene	5.66	75	395236	20.14	PPB	99
46) Isobutyl Alcohol	6.04	43	133095	981.07	PPB	92
48) Benzene	5.99	78	1393436	20.03	PPB	99
49) 1,2-Dichloroethane	6.17	62	368405	19.68	PPB	97
50) tert-Amyl Methyl Ether	6.18	55	213340	18.54	PPB	# 80
51) Trichloroethene	7.17	95	321197	20.11	PPB	94
52) Methyl Cyclohexane	7.36	83	573362	21.04	PPB	96
53) 1,2-Dichloropropane	7.70	63	328011	20.04	PPB	93
54) Dibromomethane	7.93	93	135237	19.56	PPB	94
55) Methyl methacrylate	7.99	69	120575	21.25	PPB	93
56) 1,4-Dioxane	7.97	88	47847	813.70	PPB	99
57) Bromodichloromethane	8.29	83	339700	20.83	PPB	99
58) 2-Nitropropane	9.01	43	73679	110.26	PPB	99
59) 2-Chloroethyl Vinyl Ether	9.11	63	117142	20.32	PPB	94
60) cis-1,3-Dichloropropene	9.37	75	416390	21.20	PPB	99
61) 4-Methyl-2-pentanone (MIBK)	9.78	58	1183084	415.13	PPB	94
63) Toluene	9.96	92	909636	20.13	PPB	98
65) n-Octane	10.17	85	214660	19.98	PPB	94
66) trans-1,3-Dichloropropene	10.65	75	291491	21.60	PPB	99
67) Ethyl methacrylate	10.78	69	235940	21.35	PPB	95
68) 1,1,2-Trichloroethane	10.94	83	183143	19.77	PPB	96
69) Tetrachloroethene	10.93	164	295763	19.66	PPB	98
70) 2-Hexanone	11.39	57	395238	413.20	PPB	96
71) 1,3-Dichloropropane	11.22	76	396654	19.53	PPB	96
72) Dibromochloromethane	11.51	129	195605	20.94	PPB	98
73) 1,2-Dibromoethane (EDB)	11.67	107	191049	20.13	PPB	98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F015.D
 Acq On : 17 Jul 2013 3:14 pm
 Sample : 8260 ICAL 20PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:57 2013

Vial: 15
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74) 1-Chlorohexane	12.40	91	430871	21.03	PPB	98
75) Chlorobenzene	12.38	112	980821	19.33	PPB	97
76) Ethylbenzene	12.53	106	542478	19.85	PPB	96
77) 1,1,1,2-Tetrachloroethane	12.55	131	261991	20.41	PPB	93
78) m,p-Xylenes	12.71	106	1362766	39.13	PPB	99
79) o-Xylene	13.25	106	661042	19.78	PPB	96
80) Styrene	13.29	103	518625	20.00	PPB	99
81) Bromoform	13.53	173	93414	22.06	PPB	92
82) Isopropylbenzene	13.72	105	1736670	20.14	PPB	100
83) cis-1,4-Dichloro-2-butene	13.93	89	71949	94.35	PPB #	71
86) 1,1,2,2-Tetrachloroethane	14.22	83	213585	19.69	PPB	99
87) trans-1,4-Dichloro-2-buten	14.30	53	57759	21.28	PPB	99
88) Bromobenzene	14.10	156	408266	19.51	PPB	96
89) n-Propylbenzene	14.23	91	2043357	20.01	PPB	99
90) 1,2,3-Trichloropropane	14.26	110	67819	20.02	PPB	85
91) 2-Chlorotoluene	14.34	91	1213511	19.85	PPB	99
92) 1,3,5-Trimethylbenzene	14.46	105	1483774	20.33	PPB	100
93) 4-Chlorotoluene	14.49	91	1404945	19.62	PPB	98
94) tert-Butylbenzene	14.82	119	1302487	20.47	PPB	98
95) 1,2,4-Trimethylbenzene	14.89	105	1534254	19.95	PPB	99
96) sec-Butylbenzene	15.08	105	1877966	20.19	PPB	99
97) p-Isopropyltoluene	15.25	119	1658100	20.49	PPB	97
98) 1,3-Dichlorobenzene	15.22	146	844926	19.52	PPB	96
99) 1,4-Dichlorobenzene	15.34	146	850716	19.51	PPB	96
100) n-Butylbenzene	15.71	91	1453241	20.09	PPB	99
101) 1,2-Dichlorobenzene	15.75	146	762100	19.74	PPB	98
102) 1,2-Dibromo-3-chloropropan	16.64	155	22736	21.59	PPB	93
103) 1,3,5-Trichlorobenzene	16.80	180	655814	20.01	PPB	95
104) 1,2,4-Trichlorobenzene	17.47	180	512687	20.50	PPB	97
105) Hexachlorobutadiene	17.60	225	264346	19.78	PPB	98
106) Naphthalene	17.73	128	689920	21.20	PPB	99
107) 1,2,3-Trichlorobenzene	17.99	180	387708	20.38	PPB	97

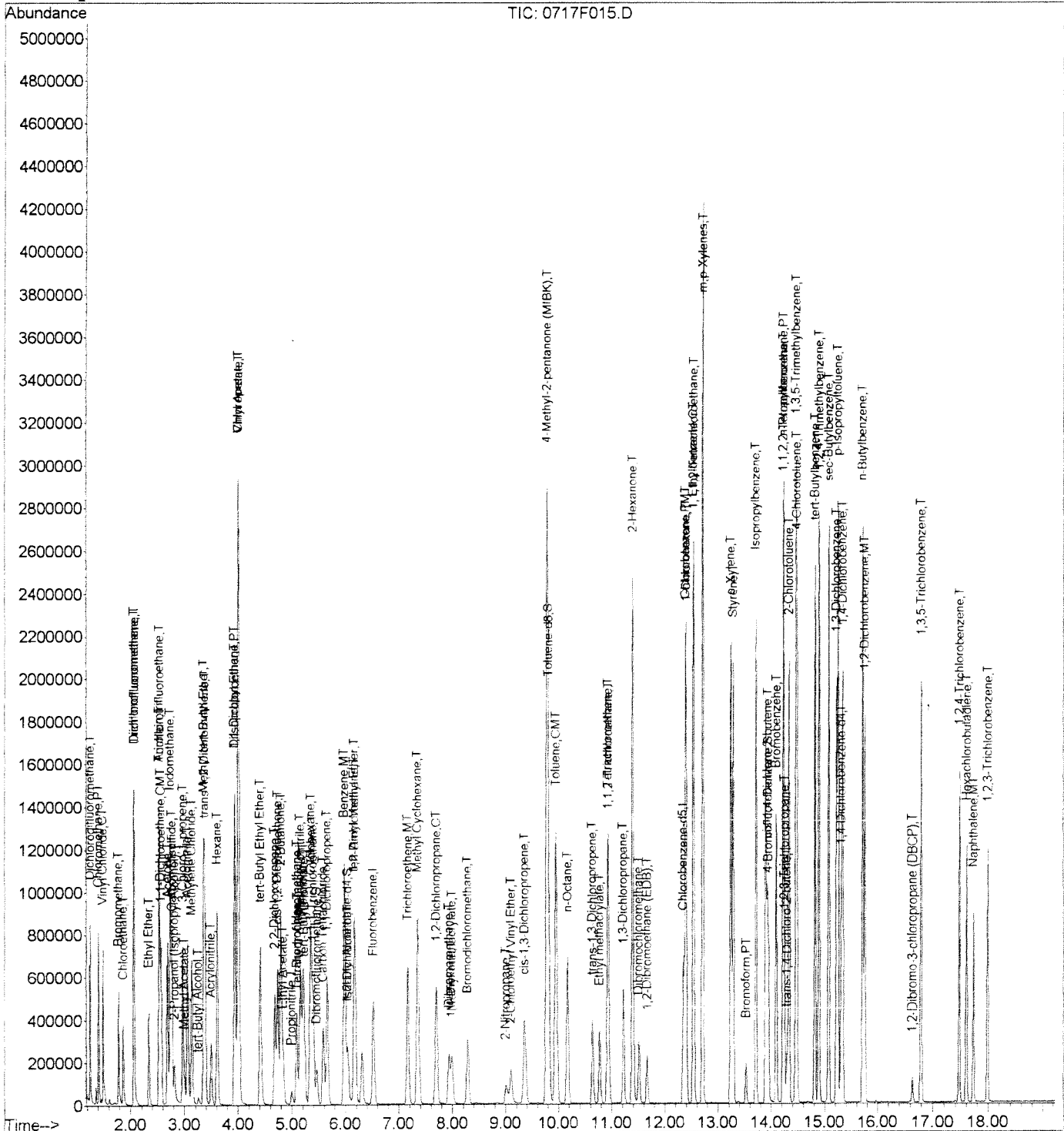
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F015.D
 Acq On : 17 Jul 2013 3:14 pm
 Sample : 8260 ICAL 20PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:07 2013

Vial: 15
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:31:13 2013
 Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F016.D
 Acq On : 17 Jul 2013 3:41 pm
 Sample : 8260 ICAL 40PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:59 2013

Vial: 16
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7/22/13 HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	662470	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	258894	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	234113	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	136585	9.94	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.40%	
47) 1,2-Dichloroethane-d4	6.04	65	128402	10.09	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.90%	
62) Toluene-d8	9.81	98	663855	10.30	PPB	0.00
Spiked Amount	10.000		Recovery	=	103.00%	
84) 4-Bromofluorobenzene	13.95	95	215774	10.00	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.00%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	1037761	46.74	PPB	99
3) Chloromethane	1.42	50	1078641	42.96	PPB	99
4) Vinyl Chloride	1.50	62	1044350	45.05	PPB	99
5) Bromomethane	1.78	96	512616	43.72	PPB	98
6) Chloroethane	1.87	64	568766	43.00	PPB	98
7) Dichlorofluoromethane	2.06	67	1376796	43.55	PPB	99
8) Trichlorofluoromethane	2.06	101	1289656	46.41	PPB	99
9) Ethyl Ether	2.34	59	431324	40.05	PPB	99
10) Acrolein	2.53	56	1114903	838.77	PPB	99
11) Trichlorotrifluoroethane	2.53	151	574975	46.58	PPB	98
12) 1,1-Dichloroethene	2.57	96	555726	46.36	PPB	95
13) Acetone	2.69	43	1689554	808.94	PPB	97
14) Iodomethane	2.74	142	2916173	171.46	PPB	96
15) Carbon Disulfide	2.77	76	1847355	46.40	PPB	99
16) 2-Propanol (Isopropyl Alco	2.82	45	530650	2586.20	PPB	96
17) 3-Chloro-1-propene	2.97	76	374590	47.07	PPB	# 84
18) Acetonitrile	3.06	40	871569	1594.26	PPB	99
19) Methyl Acetate	3.00	43	287869	40.80	PPB	93
20) Methylene Chloride	3.14	84	669426	39.74	PPB	98
21) tert-Butyl Alcohol	3.25	59	79052	238.51	PPB	90
22) Acrylonitrile	3.50	53	494545	158.91	PPB	98
23) Methyl tert-Butyl Ether	3.36	73	2607558	83.53	PPB	99
24) trans-1,2-Dichloroethene	3.39	96	693415	43.35	PPB	98
25) Hexane	3.61	57	1115035	47.21	PPB	98
26) Diisopropyl Ether	3.94	45	2191878	41.49	PPB	98
27) 1,1-Dichloroethane	3.95	63	1304993	43.07	PPB	99
28) Vinyl Acetate	4.01	86	161157	89.13	PPB	# 88

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F016.D
 Acq On : 17 Jul 2013 3:41 pm
 Sample : 8260 ICAL 40PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:59 2013

Vial: 16
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	Qion	Response	Conc	Unit	Qvalue
29) Chloroprene	4.01	53	4330630	185.34	PPB	98
30) tert-Butyl Ethyl Ether	4.42	59	1604048	44.20	PPB	99
31) 2,2-Dichloropropane	4.68	77	833349	53.12	PPB	98
32) cis-1,2-Dichloroethene	4.74	96	772405	40.55	PPB	98
33) 2-Butanone	4.80	72	713556	852.56	PPB	98
34) Propionitrile	5.00	54	178876	168.37	PPB	97
35) Ethyl Acetate	4.84	61	88886	88.84	PPB	91
36) Methacrylonitrile	5.16	67	612688	162.74	PPB	99
37) Bromochloromethane	5.09	128	308244	40.87	PPB	94
38) Tetrahydrofuran	5.11	71	34024	38.23	PPB	86
39) Chloroform	5.21	83	1231406	42.29	PPB	98
40) tert-Butyl Formate	5.24	59	168957	52.49	PPB	97
41) 1,1,1-Trichloroethane	5.40	97	1053716	50.86	PPB	96
43) Cyclohexane	5.35	56	1344564	48.63	PPB	94
44) Carbon Tetrachloride	5.59	117	844139	56.34	PPB	99
45) 1,1-Dichloropropene	5.66	75	962136	46.71	PPB	99
46) Isobutyl Alcohol	6.04	43	331469	2327.13	PPB	89
48) Benzene	5.99	78	3108209	42.55	PPB	98
49) 1,2-Dichloroethane	6.17	62	783739	39.87	PPB	96
50) tert-Amyl Methyl Ether	6.17	55	420752	34.82	PPB	# 52
51) Trichloroethene	7.17	95	756999	45.15	PPB	97
52) Methyl Cyclohexane	7.36	83	1384203	48.38	PPB	97
53) 1,2-Dichloropropane	7.70	63	721487	41.99	PPB	94
54) Dibromomethane	7.94	93	293784	40.48	PPB	94
55) Methyl methacrylate	7.99	69	272650	45.76	PPB	93
56) 1,4-Dioxane	7.97	88	97355	1576.91	PPB	98
57) Bromodichloromethane	8.29	83	779755	45.54	PPB	100
58) 2-Nitropropane	9.02	43	178060	253.79	PPB	97
59) 2-Chloroethyl Vinyl Ether	9.10	63	257060	42.48	PPB	98
60) cis-1,3-Dichloropropene	9.37	75	962895	46.69	PPB	99
61) 4-Methyl-2-pentanone (MIBK)	9.79	58	2506447	837.67	PPB	96
63) Toluene	9.96	92	2071182	43.64	PPB	98
65) n-Octane	10.17	85	488673	43.03	PPB	93
66) trans-1,3-Dichloropropene	10.64	75	697076	48.87	PPB	98
67) Ethyl methacrylate	10.78	69	553064	47.35	PPB	96
68) 1,1,2-Trichloroethane	10.94	83	392682	40.11	PPB	98
69) Tetrachloroethene	10.93	164	703520	44.25	PPB	99
70) 2-Hexanone	11.39	57	849124	839.85	PPB	98
71) 1,3-Dichloropropane	11.22	76	839946	39.12	PPB	95
72) Dibromochloromethane	11.51	129	467432	47.34	PPB	100
73) 1,2-Dibromoethane (EDB)	11.67	107	416062	41.48	PPB	98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F016.D
 Acq On : 17 Jul 2013 3:41 pm
 Sample : 8260 ICAL 40PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:04:59 2013

Vial: 16
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74) 1-Chlorohexane	12.40	91	1066376	49.23	PPB	98
75) Chlorobenzene	12.38	112	2179771	40.64	PPB	98
76) Ethylbenzene	12.53	106	1258650	43.57	PPB	100
77) 1,1,1,2-Tetrachloroethane	12.55	131	616405	45.42	PPB	90
78) m,p-Xylenes	12.71	106	3131033	85.06	PPB	99
79) o-Xylene	13.24	106	1489955	42.17	PPB	97
80) Styrene	13.29	103	1176558	42.93	PPB	99
81) Bromoform	13.53	173	231839	51.79	PPB	92
82) Isopropylbenzene	13.72	105	4067933	44.63	PPB	99
83) cis-1,4-Dichloro-2-butene	13.93	89	188525	233.88	PPB	# 71
86) 1,1,2,2-Tetrachloroethane	14.22	83	462037	41.03	PPB	98
87) trans-1,4-Dichloro-2-buten	14.30	53	128185	45.48	PPB	91
88) Bromobenzene	14.10	156	891939	41.04	PPB	96
89) n-Propylbenzene	14.23	91	4801561	45.28	PPB	98
90) 1,2,3-Trichloropropane	14.26	110	141901	40.35	PPB	87
91) 2-Chlorotoluene	14.34	91	2713935	42.75	PPB	98
92) 1,3,5-Trimethylbenzene	14.46	105	3383586	44.66	PPB	99
93) 4-Chlorotoluene	14.49	91	3139947	42.23	PPB	98
94) tert-Butylbenzene	14.82	119	3015085	45.64	PPB	99
95) 1,2,4-Trimethylbenzene	14.89	105	3462938	43.38	PPB	100
96) sec-Butylbenzene	15.08	105	4413218	45.70	PPB	98
97) p-Isopropyltoluene	15.25	119	3841746	45.71	PPB	99
98) 1,3-Dichlorobenzene	15.22	146	1861458	41.42	PPB	98
99) 1,4-Dichlorobenzene	15.34	146	1838597	40.60	PPB	98
100) n-Butylbenzene	15.71	91	3400899	45.28	PPB	99
101) 1,2-Dichlorobenzene	15.75	146	1622834	40.49	PPB	97
102) 1,2-Dibromo-3-chloropropan	16.64	155	54186	49.56	PPB	83
103) 1,3,5-Trichlorobenzene	16.80	180	1427645	41.94	PPB	95
104) 1,2,4-Trichlorobenzene	17.47	180	1122461	43.23	PPB	98
105) Hexachlorobutadiene	17.60	225	599943	43.24	PPB	99
106) Naphthalene	17.73	128	1577228	46.67	PPB	98
107) 1,2,3-Trichlorobenzene	17.99	180	861309	43.60	PPB	99

(#) = qualifier out of range (m) = manual integration

0717F016.D 071713MS13_8260W.M

Thu Jul 18 08:32:35 2013

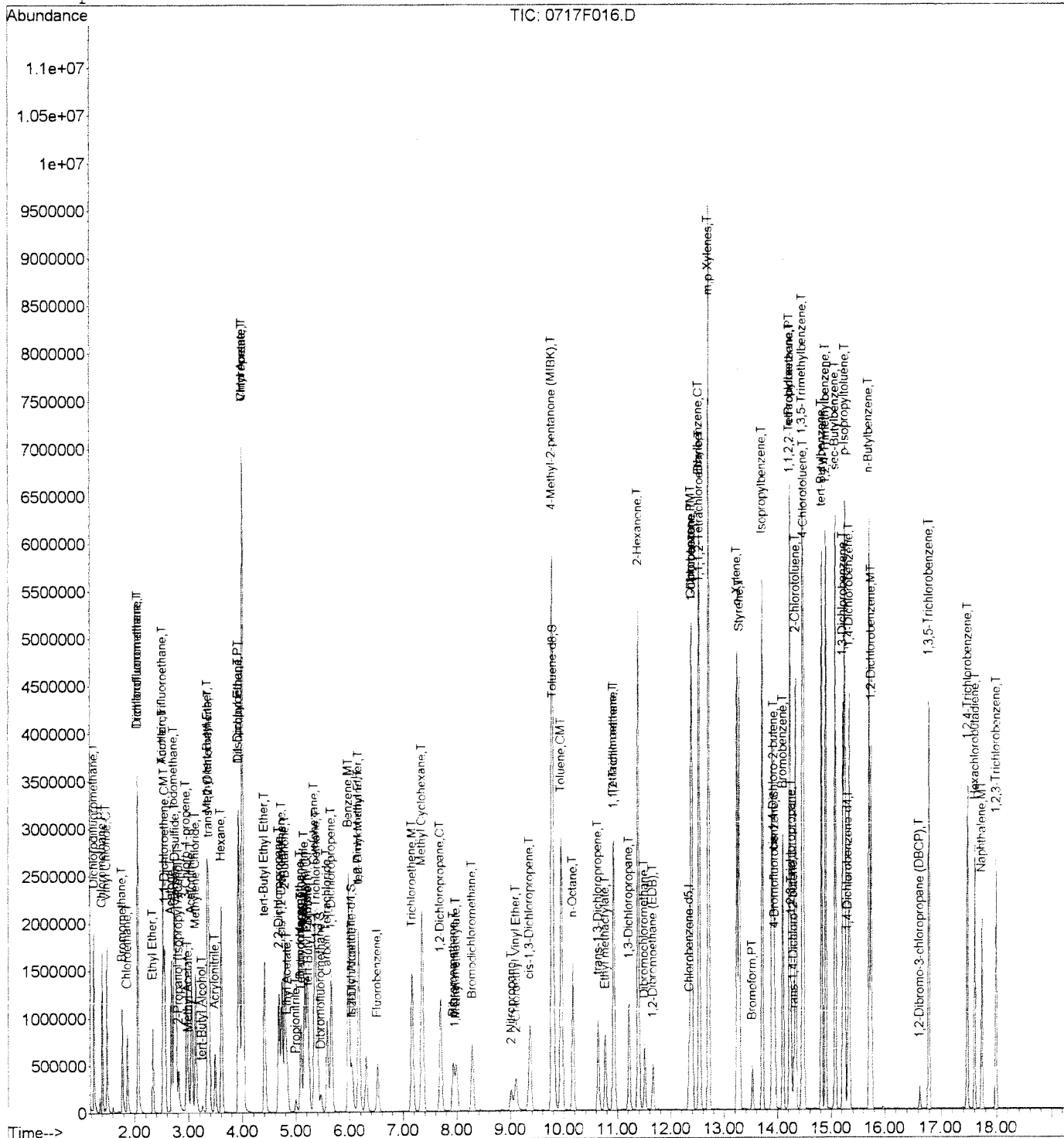
Page 3

Data File : J:\MS13\DATA\071713\0717F016.D
 Acq On : 17 Jul 2013 3:41 pm
 Sample : 8260 ICAL 40PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:07 2013

Vial: 16
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:31:13 2013
 Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F017.D
 Acq On : 17 Jul 2013 4:08 pm
 Sample : 8260 ICAL 60PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:05:00 2013

Vial: 17
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7/22/13 HB 7/18/13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.53	96	664097	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	251310	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	239898	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	139965	10.17	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.70%	
47) 1,2-Dichloroethane-d4	6.04	65	129164	10.12	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.20%	
62) Toluene-d8	9.81	98	654630	10.14	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.40%	
84) 4-Bromofluorobenzene	13.96	95	218895	10.45	PPB	0.00
Spiked Amount	10.000		Recovery	=	104.50%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	1616275	72.62	PPB	99
3) Chloromethane	1.41	50	1640680	65.19	PPB	99
4) Vinyl Chloride	1.50	62	1652919	71.12	PPB	99
5) Bromomethane	1.78	96	803895	68.39	PPB	97
6) Chloroethane	1.87	64	883207	66.61	PPB	98
7) Dichlorofluoromethane	2.06	67	2134173	67.34	PPB	99
8) Trichlorofluoromethane	2.06	101	2028639	72.83	PPB	100
9) Ethyl Ether	2.34	59	665924	61.68	PPB	100
10) Acrolein	2.53	56	1711166	1284.19	PPB	99
11) Trichlorotrifluoroethane	2.53	151	904636	73.11	PPB	98
12) 1,1-Dichloroethene	2.57	96	873560	72.69	PPB	96
13) Acetone	2.69	43	3414045	1630.60	PPB	97
14) Iodomethane	2.74	142	4636297	271.92	PPB	96
15) Carbon Disulfide	2.77	76	2930314	73.42	PPB	99
16) 2-Propanol (Isopropyl Alco	2.82	45	900181	4376.42	PPB	95
17) 3-Chloro-1-propene	2.97	76	606385	76.00	PPB	87
18) Acetonitrile	3.06	40	1354652	2471.84	PPB	99
19) Methyl Acetate	3.00	43	451287	63.81	PPB	93
20) Methylene Chloride	3.14	84	1043554	61.80	PPB	98
21) tert-Butyl Alcohol	3.26	59	131697	396.38	PPB	91
22) Acrylonitrile	3.50	53	781394	250.46	PPB	97
23) Methyl tert-Butyl Ether	3.36	73	4144536	132.45	PPB	99
24) trans-1,2-Dichloroethene	3.39	96	1092815	68.16	PPB	97
25) Hexane	3.61	57	1789212	75.57	PPB	99
26) Diisopropyl Ether	3.94	45	3414826	64.48	PPB	98
27) 1,1-Dichloroethane	3.95	63	2030817	66.86	PPB	100
28) Vinyl Acetate	4.01	86	260869	143.92	PPB	# 84

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F017.D
 Acq On : 17 Jul 2013 4:08 pm
 Sample : 8260 ICAL 60PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:05:00 2013

Vial: 17
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Chloroprene	4.01	53	6794252	290.06	PPB	99
30) tert-Butyl Ethyl Ether	4.41	59	2605403	71.61	PPB	99
31) 2,2-Dichloropropane	4.68	77	1374036	87.36	PPB	98
32) cis-1,2-Dichloroethene	4.74	96	1211985	63.47	PPB	97
33) 2-Butanone	4.79	72	1448198	1726.08	PPB	95
34) Propionitrile	5.00	54	273876	257.16	PPB	97
35) Ethyl Acetate	4.84	61	140472	140.05	PPB	95
36) Methacrylonitrile	5.17	67	954484	252.90	PPB	98
37) Bromochloromethane	5.09	128	483142	63.90	PPB	97
38) Tetrahydrofuran	5.10	71	54744	61.36	PPB	# 77
39) Chloroform	5.21	83	1895713	64.95	PPB	98
40) tert-Butyl Formate	5.24	59	299385	92.78	PPB	97
41) 1,1,1-Trichloroethane	5.40	97	1700912	81.89	PPB	94
43) Cyclohexane	5.35	56	2135192	77.04	PPB	95
44) Carbon Tetrachloride	5.59	117	1391738	92.65	PPB	99
45) 1,1-Dichloropropene	5.66	75	1498195	72.55	PPB	99
46) Isobutyl Alcohol	6.04	43	566991	3970.89	PPB	90
48) Benzene	5.99	78	4842315	66.12	PPB	99
49) 1,2-Dichloroethane	6.17	62	1195215	60.65	PPB	97
50) tert-Amyl Methyl Ether	6.17	55	622991	51.43	PPB	# 45
51) Trichloroethene	7.17	95	1176026	69.97	PPB	98
52) Methyl Cyclohexane	7.36	83	2187518	76.26	PPB	98
53) 1,2-Dichloropropane	7.70	63	1126620	65.40	PPB	94
54) Dibromomethane	7.94	93	457898	62.94	PPB	94
55) Methyl methacrylate	7.99	69	425366	71.21	PPB	94
56) 1,4-Dioxane	7.97	88	156487	2528.49	PPB	100
57) Bromodichloromethane	8.29	83	1244753	72.52	PPB	99
58) 2-Nitropropane	9.01	43	326649	464.43	PPB	98
59) 2-Chloroethyl Vinyl Ether	9.10	63	404306	66.65	PPB	98
60) cis-1,3-Dichloropropene	9.37	75	1568839	75.89	PPB	98
61) 4-Methyl-2-pentanone (MIBK)	9.78	58	5062463	1687.76	PPB	93
63) Toluene	9.95	92	3224158	67.77	PPB	97
65) n-Octane	10.17	85	784314	71.14	PPB	96
66) trans-1,3-Dichloropropene	10.64	75	1156674	83.54	PPB	98
67) Ethyl methacrylate	10.78	69	888757	78.39	PPB	94
68) 1,1,2-Trichloroethane	10.94	83	603831	63.54	PPB	98
69) Tetrachloroethene	10.93	164	1092253	70.77	PPB	99
70) 2-Hexanone	11.39	57	1701115	1733.31	PPB	93
71) 1,3-Dichloropropane	11.22	76	1304460	62.59	PPB	95
72) Dibromochloromethane	11.51	129	770798	80.43	PPB	100
73) 1,2-Dibromoethane (EDB)	11.66	107	651166	66.87	PPB	97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F017.D
 Acq On : 17 Jul 2013 4:08 pm
 Sample : 8260 ICAL 60PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:05:00 2013

Vial: 17
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74) 1-Chlorohexane	12.40	91	1710043	81.34	PPB	94
75) Chlorobenzene	12.39	112	3388857	65.10	PPB	99
76) Ethylbenzene	12.53	106	1959524	69.87	PPB	98
77) 1,1,1,2-Tetrachloroethane	12.55	131	1002312	76.09	PPB	91
78) m,p-Xylenes	12.71	106	4918079	137.65	PPB	99
79) o-Xylene	13.25	106	2318083	67.59	PPB	97
80) Styrene	13.29	103	1805312	67.86	PPB	99
81) Bromoform	13.53	173	390055	89.76	PPB	90
82) Isopropylbenzene	13.72	105	6370616	72.00	PPB	100
83) cis-1,4-Dichloro-2-butene	13.94	89	322473	412.12	PPB #	71
86) 1,1,2,2-Tetrachloroethane	14.22	83	713435	61.82	PPB	97
87) trans-1,4-Dichloro-2-buten	14.30	53	206275	71.42	PPB	84
88) Bromobenzene	14.10	156	1384303	62.16	PPB	96
89) n-Propylbenzene	14.23	91	7516129	69.17	PPB	98
90) 1,2,3-Trichloropropane	14.26	110	220373	61.16	PPB	91
91) 2-Chlorotoluene	14.34	91	4249574	65.33	PPB	98
92) 1,3,5-Trimethylbenzene	14.46	105	5331524	68.67	PPB	98
93) 4-Chlorotoluene	14.49	91	4896709	64.27	PPB	99
94) tert-Butylbenzene	14.82	119	4725487	69.80	PPB	99
95) 1,2,4-Trimethylbenzene	14.89	105	5419081	66.24	PPB	99
96) sec-Butylbenzene	15.08	105	6966931	70.40	PPB	99
97) p-Isopropyltoluene	15.25	119	6043771	70.18	PPB	98
98) 1,3-Dichlorobenzene	15.22	146	2889978	62.76	PPB	97
99) 1,4-Dichlorobenzene	15.34	146	2874855	61.96	PPB	98
100) n-Butylbenzene	15.71	91	5376845	69.87	PPB	99
101) 1,2-Dichlorobenzene	15.75	146	2529308	61.58	PPB	98
102) 1,2-Dibromo-3-chloropropan	16.64	155	88906	79.36	PPB	82
103) 1,3,5-Trichlorobenzene	16.80	180	2246165	64.40	PPB	94
104) 1,2,4-Trichlorobenzene	17.47	180	1751648	65.84	PPB	98
105) Hexachlorobutadiene	17.60	225	944180	66.41	PPB	99
106) Naphthalene	17.73	128	2515673	72.64	PPB	99
107) 1,2,3-Trichlorobenzene	17.99	180	1346860	66.53	PPB	99

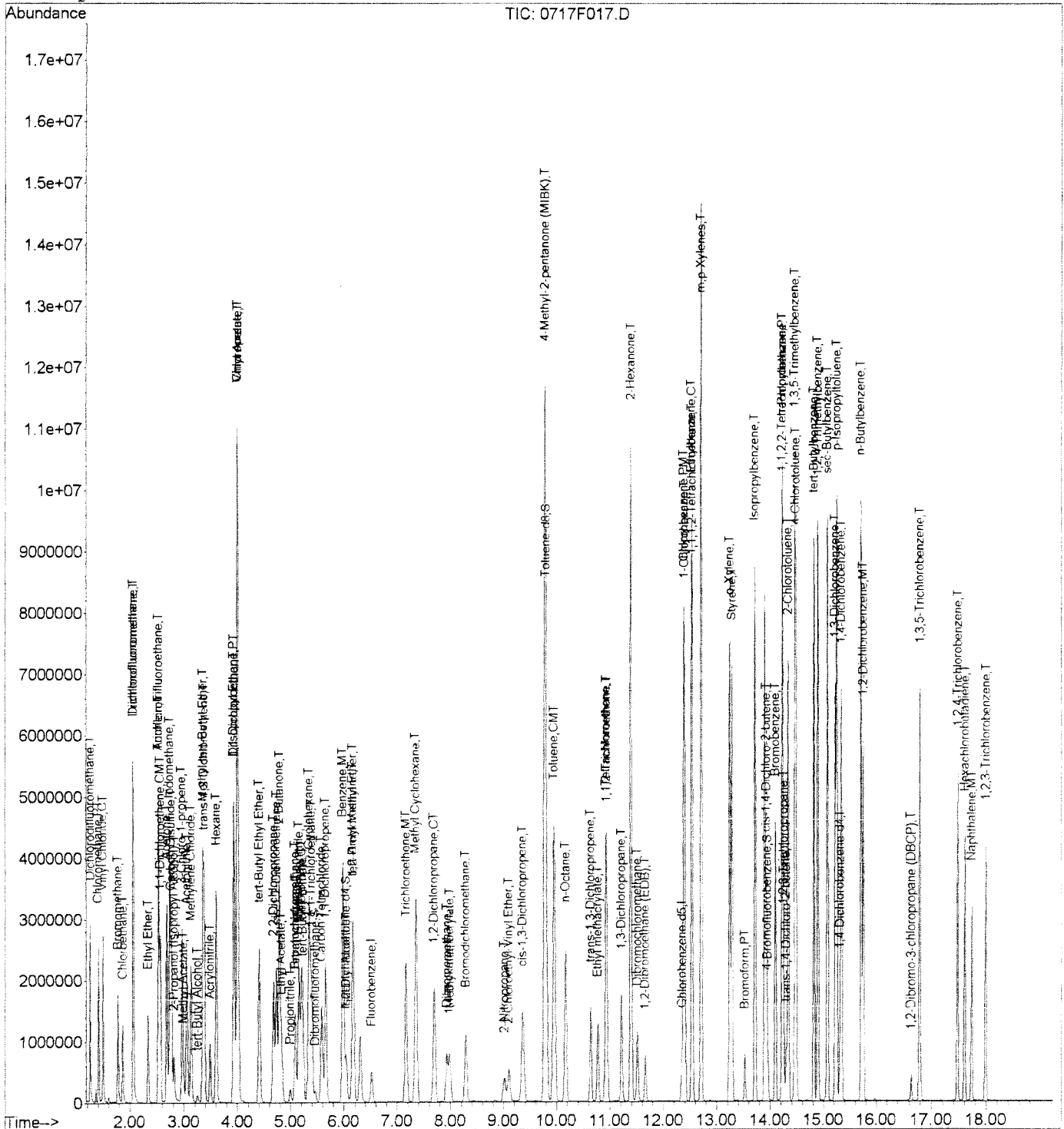
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F017.D
 Acq On : 17 Jul 2013 4:08 pm
 Sample : 8260 ICAL 60PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:08 2013

Vial: 17
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:31:13 2013
 Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F018.D
 Acq On : 17 Jul 2013 4:35 pm
 Sample : 8260 ICAL 80PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:05:01 2013

Vial: 18
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7/22/13 MS 7-1813

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.53	96	670560	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	264489	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	241366	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	141309	10.16	PPB	0.00
Spiked Amount	10.000		Recovery	=	101.60%	
47) 1,2-Dichloroethane-d4	6.04	65	132359	10.27	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.70%	
62) Toluene-d8	9.82	98	665355	10.20	PPB	0.01
Spiked Amount	10.000		Recovery	=	102.00%	
84) 4-Bromofluorobenzene	13.96	95	220094	9.99	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.90%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	1.26	85	2014579	89.64	PPB	99
3) Chloromethane	1.41	50	2120833	83.45	PPB	99
4) Vinyl Chloride	1.50	62	2100648	89.52	PPB	99
5) Bromomethane	1.78	96	1041974	87.79	PPB	99
6) Chloroethane	1.87	64	1132128	84.55	PPB	98
7) Dichlorofluoromethane	2.06	67	2762815	86.34	PPB	99
8) Trichlorofluoromethane	2.06	101	2555970	90.88	PPB	98
9) Ethyl Ether	2.34	59	871604	79.96	PPB	99
10) Acrolein	2.53	56	2219070	1649.31	PPB	99
11) Trichlorotrifluoroethane	2.53	151	1158461	92.72	PPB	98
12) 1,1-Dichloroethene	2.57	96	1124104	92.64	PPB	95
13) Acetone	2.69	43	4243777	2007.36	PPB	97
14) Iodomethane	2.74	142	5883538	341.75	PPB	96
15) Carbon Disulfide	2.77	76	3804757	94.42	PPB	99
16) 2-Propanol (Isopropyl Alco	2.82	45	1230866	5926.44	PPB	96
17) 3-Chloro-1-propene	2.97	76	797584	99.00	PPB	85
18) Acetonitrile	3.06	40	1772914	3203.86	PPB	99
19) Methyl Acetate	3.00	43	578398	80.99	PPB	93
20) Methylene Chloride	3.14	84	1357178	79.60	PPB	97
21) tert-Butyl Alcohol	3.26	59	185155	551.90	PPB	93
22) Acrylonitrile	3.50	53	1013467	321.72	PPB	97
23) Methyl tert-Butyl Ether	3.36	73	5458772	172.77	PPB	98
24) trans-1,2-Dichloroethene	3.39	96	1414845	87.39	PPB	99
25) Hexane	3.61	57	2263341	94.67	PPB	98
26) Diisopropyl Ether	3.94	45	4460390	83.41	PPB	98
27) 1,1-Dichloroethane	3.95	63	2627798	85.67	PPB	99
28) Vinyl Acetate	4.01	86	349113	190.75	PPB #	82

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F018.D
 Acq On : 17 Jul 2013 4:35 pm
 Sample : 8260 ICAL 80PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:05:01 2013

Vial: 18
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Chloroprene	4.01	53	8751848	370.03	PPB	99
30) tert-Butyl Ethyl Ether	4.41	59	3477355	94.65	PPB	99
31) 2,2-Dichloropropane	4.68	77	1822153	114.74	PPB	98
32) cis-1,2-Dichloroethene	4.74	96	1581120	82.01	PPB	97
33) 2-Butanone	4.79	72	1810879	2137.55	PPB	96
34) Propionitrile	5.00	54	363204	337.75	PPB	96
35) Ethyl Acetate	4.84	61	181515	179.23	PPB	93
36) Methacrylonitrile	5.17	67	1244496	326.57	PPB	98
37) Bromochloromethane	5.09	128	621976	81.47	PPB	98
38) Tetrahydrofuran	5.10	71	71437	79.30	PPB	86
39) Chloroform	5.21	83	2462495	83.55	PPB	98
40) tert-Butyl Formate	5.24	59	426815	130.99	PPB	99
41) 1,1,1-Trichloroethane	5.40	97	2223185	106.01	PPB	97
43) Cyclohexane	5.35	56	2731029	97.59	PPB	94
44) Carbon Tetrachloride	5.59	117	1829664	120.63	PPB	99
45) 1,1-Dichloropropene	5.66	75	1937555	92.92	PPB	98
46) Isobutyl Alcohol	6.05	43	781655	5421.52	PPB	88
48) Benzene	5.99	78	6288190	85.04	PPB	99
49) 1,2-Dichloroethane	6.17	62	1547521	77.78	PPB	97
50) tert-Amyl Methyl Ether	6.17	55	786277	64.28	PPB	# 26
51) Trichloroethene	7.17	95	1522875	89.73	PPB	98
52) Methyl Cyclohexane	7.36	83	2815428	97.21	PPB	97
53) 1,2-Dichloropropane	7.70	63	1470873	84.56	PPB	93
54) Dibromomethane	7.93	93	593275	80.76	PPB	95
55) Methyl methacrylate	7.99	69	567653	94.12	PPB	95
56) 1,4-Dioxane	7.97	88	213877	3422.48	PPB	98
57) Bromodichloromethane	8.29	83	1641005	94.69	PPB	98
58) 2-Nitropropane	9.01	43	471163	663.45	PPB	99
59) 2-Chloroethyl Vinyl Ether	9.10	63	537813	87.80	PPB	97
60) cis-1,3-Dichloropropene	9.37	75	2078516	99.58	PPB	95
61) 4-Methyl-2-pentanone (MIBK)	9.79	58	6332922	2090.96	PPB	93
63) Toluene	9.96	92	4185806	87.14	PPB	97
65) n-Octane	10.17	85	1004050	86.54	PPB	95
66) trans-1,3-Dichloropropene	10.64	75	1559109	106.99	PPB	98
67) Ethyl methacrylate	10.78	69	1182219	99.08	PPB	97
68) 1,1,2-Trichloroethane	10.94	83	786652	78.65	PPB	98
69) Tetrachloroethene	10.93	164	1405693	86.54	PPB	99
70) 2-Hexanone	11.39	57	2109616	2042.43	PPB	93
71) 1,3-Dichloropropane	11.22	76	1698232	77.42	PPB	96
72) Dibromochloromethane	11.51	129	1030039	102.12	PPB	100
73) 1,2-Dibromoethane (EDB)	11.67	107	850081	82.95	PPB	98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F018.D
 Acq On : 17 Jul 2013 4:35 pm
 Sample : 8260 ICAL 80PPB
 Misc :

Vial: 18
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

MS Integration Params: rteint.p
 Quant Time: Jul 18 08:05:01 2013

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:03:32 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	1-Chlorohexane	12.40	91	2217450	100.21	PPB	96
75)	Chlorobenzene	12.39	112	4418531	80.64	PPB	99
76)	Ethylbenzene	12.53	106	2535714	85.91	PPB	97
77)	1,1,1,2-Tetrachloroethane	12.55	131	1329713	95.91	PPB	93
78)	m,p-Xylenes	12.72	106	6360456	169.14	PPB	97
79)	o-Xylene	13.25	106	3048908	84.47	PPB	97
80)	Styrene	13.29	103	2381997	85.07	PPB	100
81)	Bromoform	13.53	173	540620	118.21	PPB	94
82)	Isopropylbenzene	13.72	105	8358587	89.76	PPB	99
83)	cis-1,4-Dichloro-2-butene	13.94	89	447541	543.46	PPB #	73
86)	1,1,2,2-Tetrachloroethane	14.22	83	937254	80.72	PPB	99
87)	trans-1,4-Dichloro-2-buten	14.30	53	273850	94.25	PPB #	74
88)	Bromobenzene	14.10	156	1813831	80.96	PPB	99
89)	n-Propylbenzene	14.23	91	9802366	89.66	PPB	98
90)	1,2,3-Trichloropropane	14.26	110	285991	78.88	PPB	87
91)	2-Chlorotoluene	14.34	91	5566950	85.06	PPB	98
92)	1,3,5-Trimethylbenzene	14.46	105	6979857	89.35	PPB	99
93)	4-Chlorotoluene	14.49	91	6417988	83.73	PPB	99
94)	tert-Butylbenzene	14.82	119	6163240	90.48	PPB	99
95)	1,2,4-Trimethylbenzene	14.90	105	7111989	86.41	PPB	99
96)	sec-Butylbenzene	15.08	105	9072310	91.12	PPB	99
97)	p-Isopropyltoluene	15.25	119	7912025	91.32	PPB	98
98)	1,3-Dichlorobenzene	15.22	146	3799954	82.02	PPB	96
99)	1,4-Dichlorobenzene	15.34	146	3777537	80.92	PPB	98
100)	n-Butylbenzene	15.71	91	7004560	90.46	PPB	99
101)	1,2-Dichlorobenzene	15.75	146	3317298	80.27	PPB	96
102)	1,2-Dibromo-3-chloropropan	16.64	155	121526	107.81	PPB	82
103)	1,3,5-Trichlorobenzene	16.80	180	2927485	83.43	PPB	97
104)	1,2,4-Trichlorobenzene	17.47	180	2281725	85.24	PPB	98
105)	Hexachlorobutadiene	17.60	225	1216838	85.07	PPB	99
106)	Naphthalene	17.73	128	3317021	95.20	PPB	98
107)	1,2,3-Trichlorobenzene	17.99	180	1735144	85.19	PPB	98

(#) = qualifier out of range (m) = manual integration

0717F018.D 071713MS13_8260W.M

Thu Jul 18 08:32:37 2013

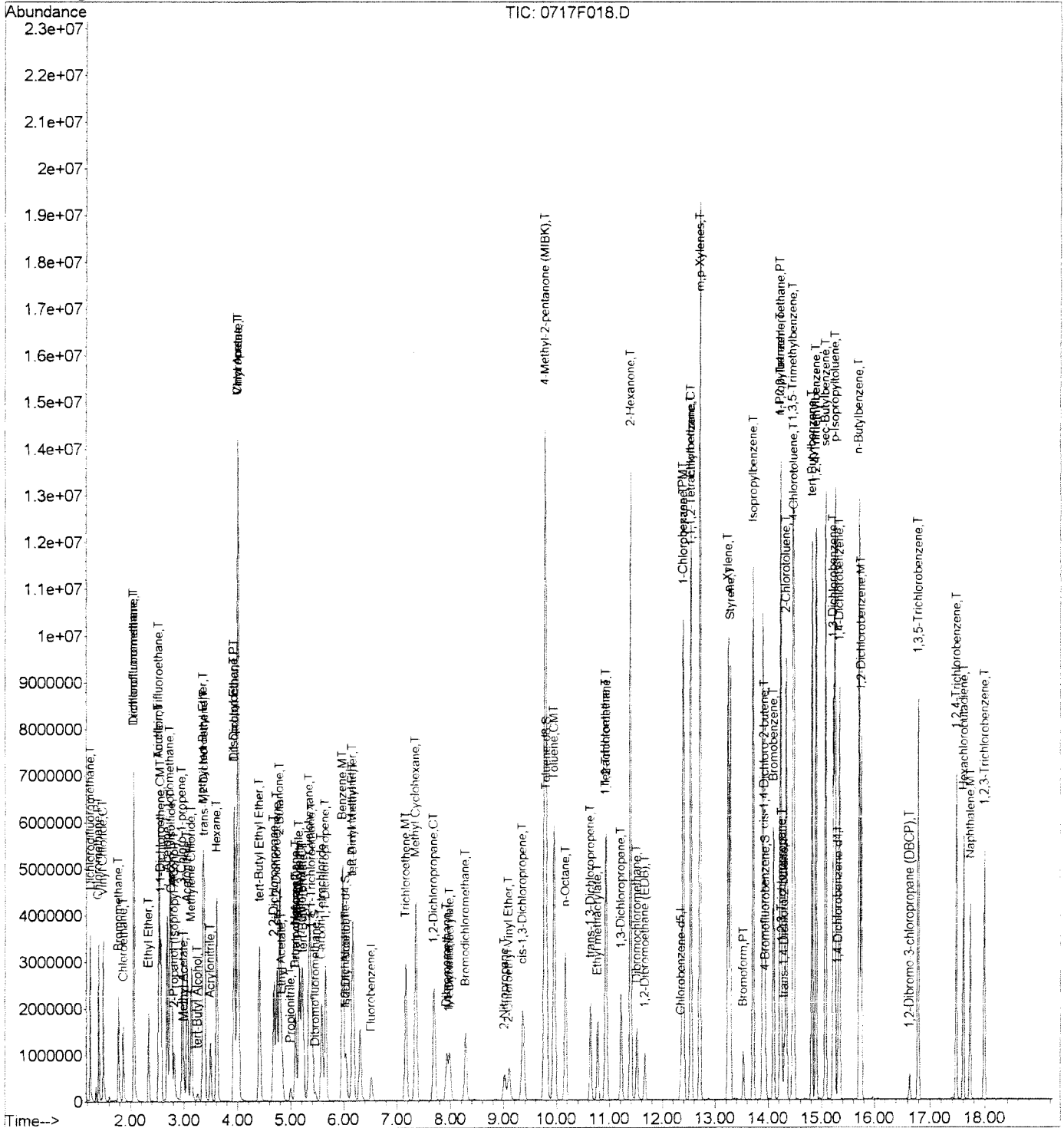
Page 3

Data File : J:\MS13\DATA\071713\0717F018.D
 Acq On : 17 Jul 2013 4:35 pm
 Sample : 8260 ICAL 80PPB
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:08 2013

Vial: 18
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:31:13 2013
 Response via : Initial Calibration



Data File : J:\MS13\DATA\071713\0717F021.D
 Acq On : 17 Jul 2013 5:56 pm
 Sample : 8260 ICV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 11:39:44 2013

Vial: 21
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 11:36:46 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten:
 7/24/13 HB 7.18.13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	591394	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	225439	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	205210	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	121305	10.02	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.20%	
47) 1,2-Dichloroethane-d4	6.04	65	115300	9.92	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.20%	
62) Toluene-d8	9.81	98	566061	9.84	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.40%	
84) 4-Bromofluorobenzene	13.95	95	189881	10.21	PPB	0.00
Spiked Amount	10.000		Recovery	=	102.10%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.26	85	160026	7.20	PPB	99
3) Chloromethane	1.42	50	201181	8.35	PPB	98
4) Vinyl Chloride	1.50	62	175013	7.85	PPB	97
5) Bromomethane	1.78	96	113664	9.54	PPB	97
6) Chloroethane	1.87	64	123402	9.94	PPB	97
7) Dichlorofluoromethane	2.06	67	325942	10.64	PPB	99
8) Trichlorofluoromethane	2.06	101	211545	7.83	PPB	98
9) Ethyl Ether	2.35	59	107657	10.73	PPB	100
10) Acrolein	2.54	56	136779	110.83	PPB	98
11) Trichlorotrifluoroethane	2.53	151	111671	9.08	PPB	95
12) 1,1-Dichloroethene	2.57	96	132039	11.35	PPB	93
13) Acetone	2.69	43	128306	64.83	PPB	98
14) Iodomethane	2.74	142	644546	40.73	PPB	97
15) Carbon Disulfide	2.77	76	857181	21.13	PPB	99
16) 2-Propanol (Isopropyl Alco	2.82	45	115277	528.39	PPB	91
17) 3-Chloro-1-propene	2.97	76	271811	36.40	PPB	# 82
18) Acetonitrile	3.06	40	166645	311.49	PPB	93
20) Methylene Chloride	3.14	84	166075	10.20	PPB	100
21) tert-Butyl Alcohol	3.26	59	38190	110.39	PPB	64
22) Acrylonitrile	3.50	53	119706	40.65	PPB	97
23) Methyl tert-Butyl Ether	3.36	73	307363	10.45	PPB	99
24) trans-1,2-Dichloroethene	3.39	96	154026	10.03	PPB	94
25) Hexane	3.61	57	1454648	62.20	PPB	97
26) Diisopropyl Ether	3.94	45	996509	20.64	PPB	97
27) 1,1-Dichloroethane	3.95	63	287152	10.33	PPB	99
28) Vinyl Acetate	4.01	86	101780	59.68	PPB	# 71
29) Chloroprene	4.01	53	882010	38.80	PPB	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F021.D
 Acq On : 17 Jul 2013 5:56 pm
 Sample : 8260 ICV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 11:39:44 2013

Vial: 21
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 11:36:46 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30) tert-Butyl Ethyl Ether	4.42	59	752681	22.09	PPB	99
31) 2,2-Dichloropropane	4.68	77	168628	10.65	PPB	97
32) cis-1,2-Dichloroethene	4.74	96	172513	9.67	PPB	98
33) 2-Butanone	4.81	72	46271	59.55	PPB	# 86
34) Propionitrile	5.00	54	32492	31.90	PPB	89
35) Ethyl Acetate	4.84	61	31587	32.61	PPB	84
36) Methacrylonitrile	5.17	67	108330	30.84	PPB	91
37) Bromochloromethane	5.09	128	71460	9.81	PPB	93
38) Tetrahydrofuran	5.11	71	16656	20.53	PPB	92
39) Chloroform	5.21	83	275444	10.02	PPB	98
40) tert-Butyl Formate	5.24	59	76501	25.54	PPB	99
41) 1,1,1-Trichloroethane	5.40	97	208069	10.03	PPB	98
44) Carbon Tetrachloride	5.59	117	155139	11.05	PPB	97
45) 1,1-Dichloropropene	5.67	75	214390	10.72	PPB	92
46) Isobutyl Alcohol	6.04	43	47100	327.42	PPB	88
48) Benzene	5.99	78	674926	9.44	PPB	99
49) 1,2-Dichloroethane	6.17	62	182729	9.75	PPB	98
50) tert-Amyl Methyl Ether	6.17	55	195254	18.00	PPB	# 64
51) Trichloroethene	7.17	95	158957	9.81	PPB	96
53) 1,2-Dichloropropane	7.70	63	161771	10.06	PPB	95
54) Dibromomethane	7.94	93	67095	9.89	PPB	92
55) Methyl methacrylate	7.99	69	185994	33.14	PPB	90
56) 1,4-Dioxane	7.97	88	15204	263.86	PPB	94
57) Bromodichloromethane	8.29	83	165561	10.27	PPB	99
58) 2-Nitropropane	9.01	43	21409	32.42	PPB	95
59) 2-Chloroethyl Vinyl Ether	9.10	63	55753	9.73	PPB	98
60) cis-1,3-Dichloropropene	9.37	75	190233	9.91	PPB	96
61) 4-Methyl-2-pentanone (MIBK)	9.79	58	142115	50.88	PPB	# 71
63) Toluene	9.95	92	435730	9.39	PPB	96
65) n-Octane	10.17	85	183800	17.70	PPB	95
66) trans-1,3-Dichloropropene	10.64	75	139130	10.52	PPB	99
67) Ethyl methacrylate	10.78	69	368714	34.47	PPB	98
68) 1,1,2-Trichloroethane	10.94	83	87912	9.81	PPB	96
69) Tetrachloroethene	10.93	164	141957	9.81	PPB	98
70) 2-Hexanone	11.39	57	48127	56.97	PPB	96
71) 1,3-Dichloropropane	11.22	76	190472	9.68	PPB	96
72) Dibromochloromethane	11.51	129	90699	9.65	PPB	98
73) 1,2-Dibromoethane (EDB)	11.66	107	91124	10.19	PPB	95
74) 1-Chlorohexane	12.40	91	194563	9.42	PPB	97
75) Chlorobenzene	12.38	112	486350	9.67	PPB	99
76) Ethylbenzene	12.53	106	260860	9.82	PPB	95

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F021.D
 Acq On : 17 Jul 2013 5:56 pm
 Sample : 8260 ICV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 11:39:44 2013

Vial: 21
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 11:36:46 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
77) 1,1,1,2-Tetrachloroethane	12.55	131	125098	10.34	PPB	91
78) m,p-Xylenes	12.71	106	659534	20.41	PPB	98
79) o-Xylene	13.25	106	319241	10.10	PPB	97
80) Styrene	13.29	103	245774	10.28	PPB	98
81) Bromoform	13.53	173	44170	9.76	PPB	94
82) Isopropylbenzene	13.72	105	774342	9.53	PPB	100
83) cis-1,4-Dichloro-2-butene	13.93	89	29515	37.18	PPB	# 77
86) 1,1,2,2-Tetrachloroethane	14.22	83	102718	9.96	PPB	94
87) trans-1,4-Dichloro-2-buten	14.30	53	81341	30.35	PPB	94
88) Bromobenzene	14.10	156	201442	10.08	PPB	95
89) n-Propylbenzene	14.23	91	980950	10.31	PPB	99
90) 1,2,3-Trichloropropane	14.26	110	34164	10.37	PPB	85
91) 2-Chlorotoluene	14.33	91	601808	10.22	PPB	98
92) 1,3,5-Trimethylbenzene	14.46	105	710015	10.54	PPB	98
93) 4-Chlorotoluene	14.49	91	686692	10.20	PPB	98
94) tert-Butylbenzene	14.82	119	619831	10.18	PPB	99
95) 1,2,4-Trimethylbenzene	14.89	105	722789	10.34	PPB	100
96) sec-Butylbenzene	15.08	105	860639	9.98	PPB	99
97) p-Isopropyltoluene	15.25	119	775388	10.50	PPB	98
98) 1,3-Dichlorobenzene	15.22	146	413424	9.94	PPB	98
99) 1,4-Dichlorobenzene	15.34	146	418085	10.07	PPB	97
100) n-Butylbenzene	15.71	91	683632	10.62	PPB	98
101) 1,2-Dichlorobenzene	15.75	146	364440	9.96	PPB	95
102) 1,2-Dibromo-3-chloropropan	16.64	155	11283	10.96	PPB	83
103) 1,3,5-Trichlorobenzene	16.80	180	321718	10.53	PPB	94
104) 1,2,4-Trichlorobenzene	17.47	180	240448	11.10	PPB	97
105) Hexachlorobutadiene	17.60	225	125940	9.99	PPB	96
106) Naphthalene	17.73	128	311105	10.40	PPB	100
107) 1,2,3-Trichlorobenzene	17.99	180	181577	10.99	PPB	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F024.D
 Acq On : 17 Jul 2013 7:16 pm
 Sample : CLP ICV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 08:50:39 2013

Vial: 24
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:48:56 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten: 7/22/13 HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Fluorobenzene	6.53	96	612068	10.00	PPB	0.00
64) Chlorobenzene-d5	12.35	82	230949	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	204776	10.00	PPB	0.00
System Monitoring Compounds						
42) Dibromofluoromethane	5.47	113	118953	9.50	PPB	0.00
Spiked Amount	10.000		Recovery	=	95.00%	
47) 1,2-Dichloroethane-d4	6.05	65	121134	10.07	PPB	0.00
Spiked Amount	10.000		Recovery	=	100.70%	
62) Toluene-d8	9.82	98	582315	9.78	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.80%	
84) 4-Bromofluorobenzene	13.96	95	183886	9.66	PPB	0.00
Spiked Amount	10.000		Recovery	=	96.60%	
Target Compounds						Qvalue
19) Methyl Acetate	3.01	43	59352	8.27	PPB	91
43) Cyclohexane	5.35	56	324946	11.51	PPB	94
52) Methyl Cyclohexane	7.36	83	323980	11.14	PPB	96

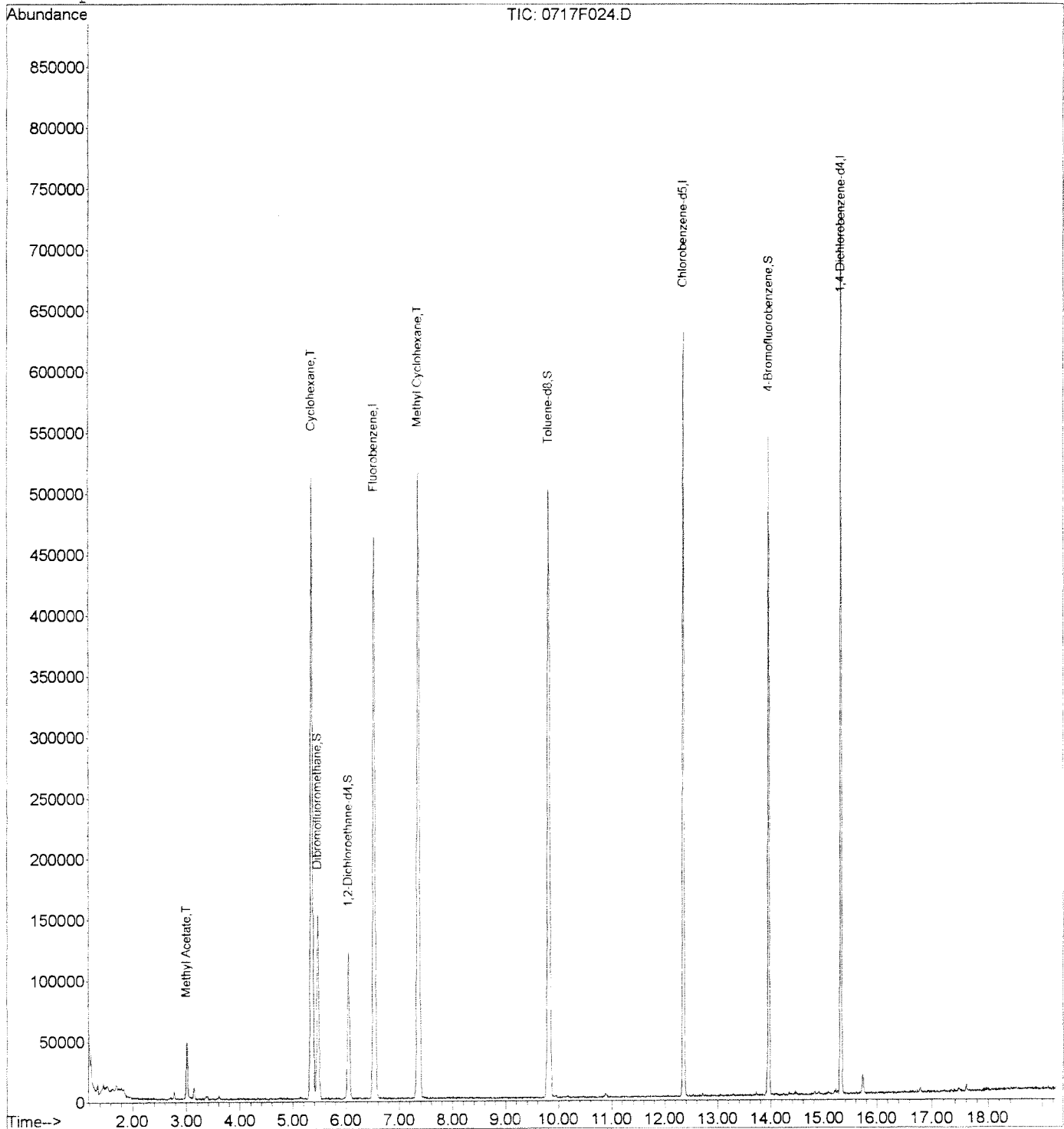
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071713\0717F024.D
 Acq On : 17 Jul 2013 7:16 pm
 Sample : CLP ICV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 8:55 2013

Vial: 24
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 08:48:56 2013
 Response via : Initial Calibration



Data File : J:\MS13\DATA\071813\0718F002.D

Vial: 2

Acq On : 18 Jul 2013 9:45 am

Operator: CM/HB

Sample : 50NG BFB

Inst : MS13

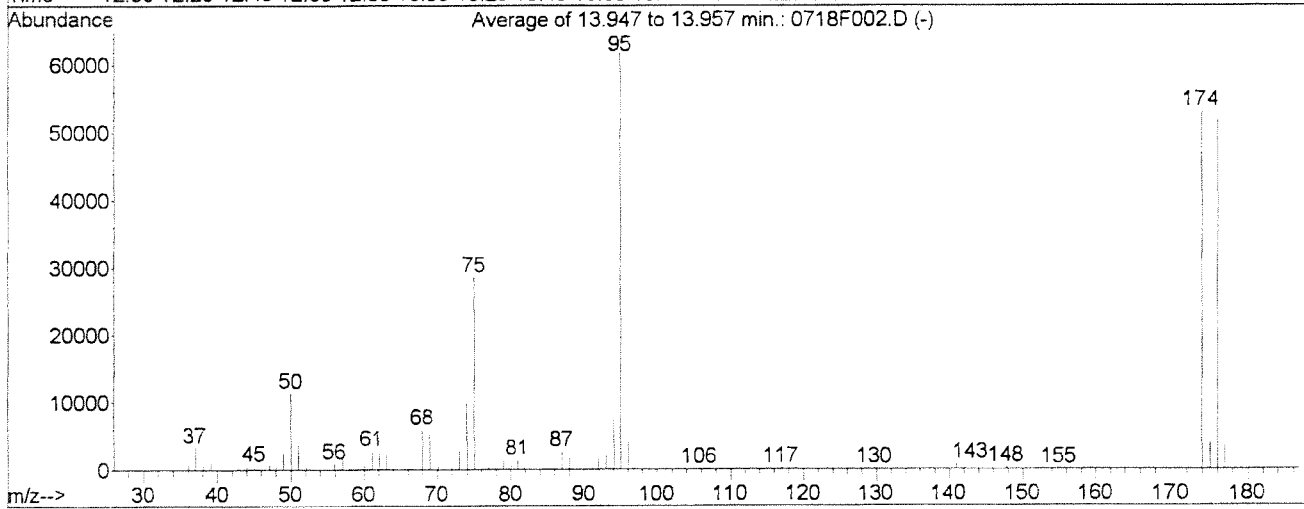
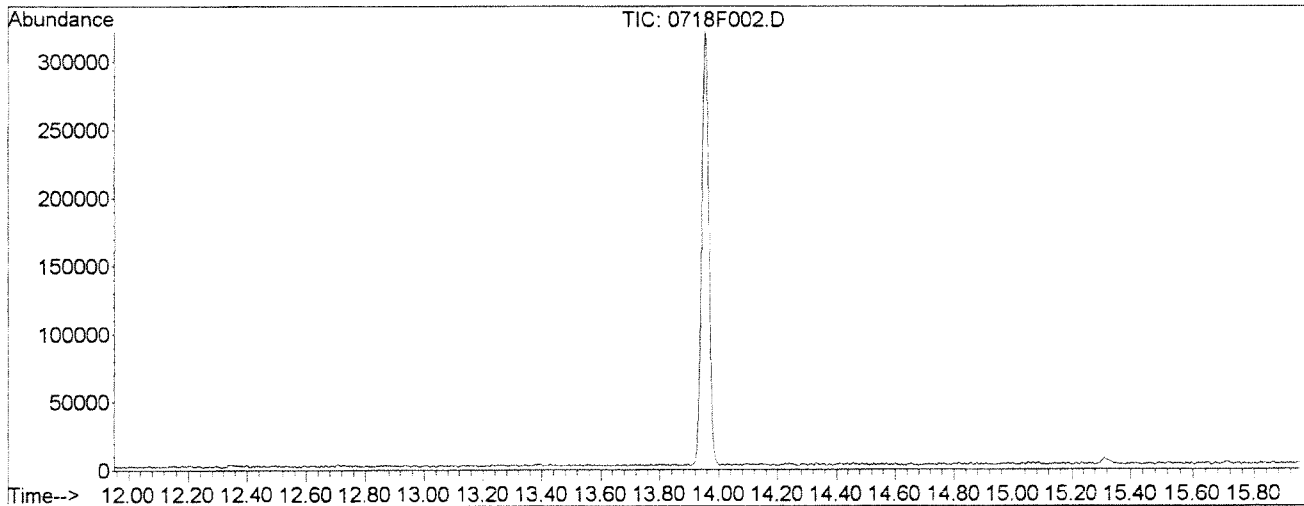
Misc :

Multiplr: 1.00

MS Integration Params: rteint.p

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)

Title : VOA MS13 EPA Method 8260B



AutoFind: Scans 2441, 2442, 2443; Background Corrected with Scan 2432

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.4	11352	PASS
75	95	30	60	46.2	28570	PASS
95	95	100	100	100.0	61858	PASS
96	95	5	9	6.7	4134	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	85.7	53016	PASS
175	174	5	9	7.7	4090	PASS
176	174	95	101	97.6	51746	PASS
177	176	5	9	6.4	3315	PASS

Handwritten notes:
 17B
 7-18-13
 88
 7/22/13

Data File : J:\MS13\DATA\071813\0718F005.D
 Acq On : 18 Jul 2013 11:15 am
 Sample : APPENDIX ONLY ICV
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Jul 18 11:36:48 2013

Vial: 3
 Operator: CM/HB
 Inst : MS13
 Multiplr: 1.00

Quant Results File: 071713MS13_8260

Quant Method : J:\MS13\M...\071713MS13_8260W.M (RTE Integrator)
 Title : VOA MS13 EPA Method 8260B
 Last Update : Thu Jul 18 11:36:46 2013
 Response via : Initial Calibration
 DataAcq Meth : 8260W5

Handwritten:
 7/22/13
 HB 7-18-13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	6.53	96	601681	10.00	PPB	0.00
64) Chlorobenzene-d5	12.34	82	227694	10.00	PPB	0.00
85) 1,4-Dichlorobenzene-d4	15.31	152	204323	10.00	PPB	0.00

System Monitoring Compounds

42) Dibromofluoromethane	5.47	113	121058	9.83	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.30%	
47) 1,2-Dichloroethane-d4	6.04	65	115844	9.79	PPB	0.00
Spiked Amount	10.000		Recovery	=	97.90%	
62) Toluene-d8	9.81	98	577533	9.87	PPB	0.00
Spiked Amount	10.000		Recovery	=	98.70%	
84) 4-Bromofluorobenzene	13.95	95	186250	9.92	PPB	0.00
Spiked Amount	10.000		Recovery	=	99.20%	

Target Compounds

						Qvalue
14) Iodomethane	2.74	142	619385	38.47	PPB	96
17) 3-Chloro-1-propene	2.97	76	248037	32.65	PPB	# 81
18) Acetonitrile	3.06	40	152596	280.35	PPB	97
22) Acrylonitrile	3.50	53	85476	28.53	PPB	95
25) Hexane	3.61	57	836708	35.17	PPB	99
28) Vinyl Acetate	4.00	86	52162	30.06	PPB	# 81
29) Chloroprene	4.01	53	882668	38.16	PPB	98
34) Propionitrile	5.00	54	30060	29.01	PPB	96
35) Ethyl Acetate	4.85	61	26529	26.92	PPB	95
36) Methacrylonitrile	5.16	67	102665	28.73	PPB	98
46) Isobutyl Alcohol	6.04	43	34800	237.78	PPB	84
55) Methyl methacrylate	8.00	69	156574	27.42	PPB	92
56) 1,4-Dioxane	7.98	88	14623	249.43	PPB	85
58) 2-Nitropropane	9.01	43	19566	29.12	PPB	92
67) Ethyl methacrylate	10.78	69	295074	27.32	PPB	98
83) cis-1,4-Dichloro-2-butene	13.93	89	19226	23.98	PPB	# 85
87) trans-1,4-Dichloro-2-buten	14.30	53	69380	26.00	PPB	91

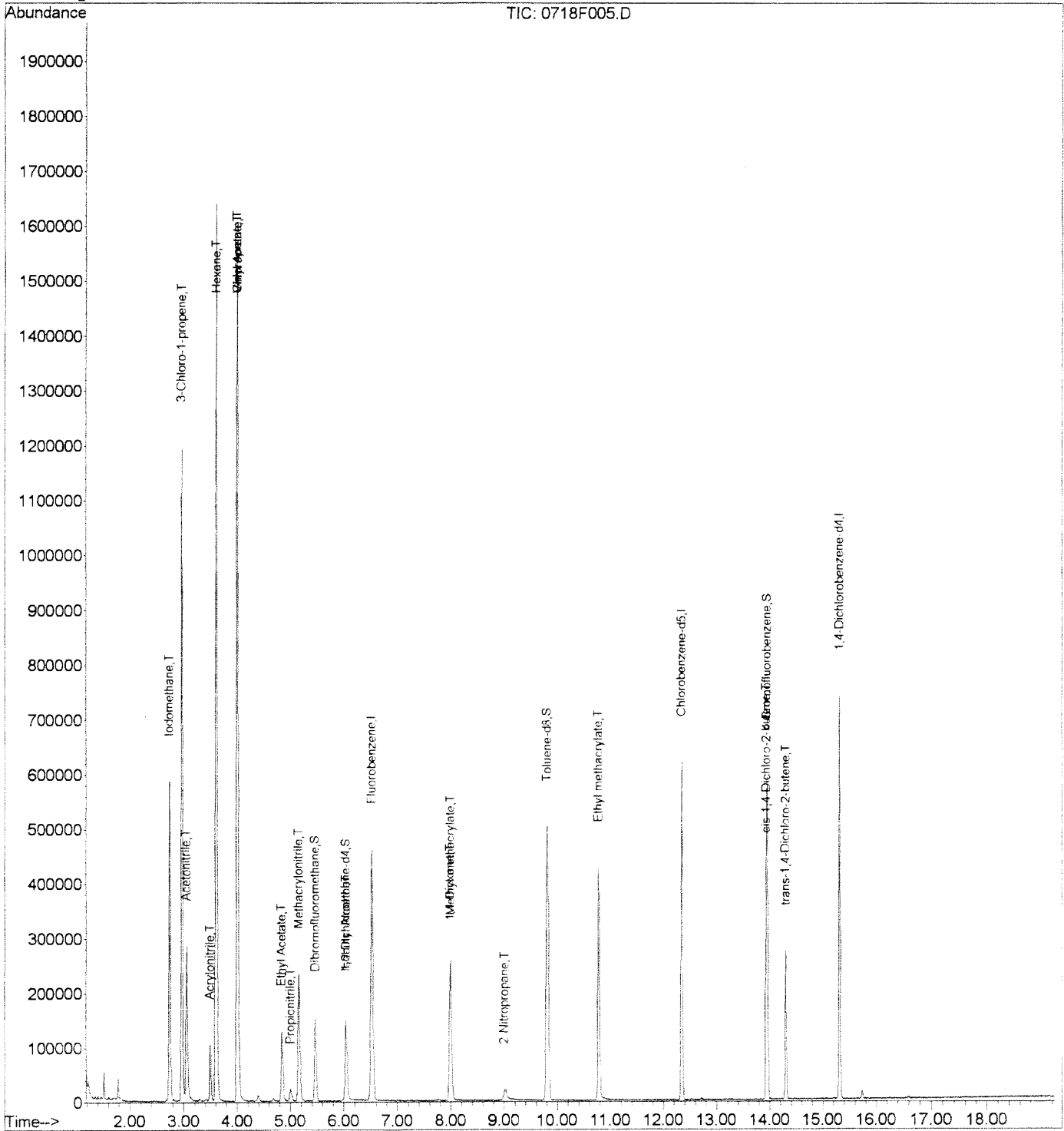
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS13\DATA\071813\0718F005.D
Acq On : 18 Jul 2013 11:15 am
Sample : APPENDIX ONLY ICV
Misc :
MS Integration Params: rteint.p
Quant Time: Jul 18 11:42 2013

Vial: 3
Operator: CM/HB
Inst : MS13
Multiplr: 1.00

Quant Results File: 071713MS13_8

Method : J:\MS13\METHODS\071713MS13_8260W.M (RTE Integrator)
Title : VOA MS13 EPA Method 8260B
Last Update : Thu Jul 18 11:36:46 2013
Response via : Initial Calibration





Analytical Resources, Incorporated
Analytical Chemists and Consultants

March 25, 2014

Thomas Lynott
Department of the Army
Directorate of Public Works
Attn Environmental Division (T. Lynott)
2012 Liggett Ave Box 339500 MS 17
Joint Base Lewis-McChord, Washington 98433-9500
Official Business

RE: Client Project: LPL YTC Landfill
ARI Job No.: YC62

Dear Mr. Lynott:

Please find enclosed the original Chain-of-Custody record (COC), sample receipt documentation, and the final data for the project referenced above. Analytical Resources, Inc. (ARI) received two water samples on March 12, 2014. For further details regarding sample receipt please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for Dissolved Metals, Alkalinity, Anions, Total Dissolved Solids, Ammonia and Total Organic Carbon, as requested on the COCs.

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

Respectfully,
ANALYTICAL RESOURCES, INC.


Kelly Bottem
Client Services Manager
(206) 695-6211
kellyb@arilabs.com
www.arilabs.com

eFile: YC62



Cooler Receipt Form

ARI Client JBLM

Project Name: LPL

COC No(s) _____ (NA)

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

Assigned ARI Job No: Y062

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) 4.6 1.8 5.8
Time: 1600 Temp Gun ID# 90877952

If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by: JM Date: 3/12/14 Time: 1600

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 AV Date: 3/13/14 Time: 1105

**** 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: _____

<p>Small Air Bubbles -2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	<p>Small → "sm" (< 2 mm)</p> <p>Peabubbles → "pb" (2 to < 4 mm)</p> <p>Large → "lg" (4 to < 6 mm)</p> <p>Headspace → "hs" (> 6 mm)</p>
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Sample ID Cross Reference Report



ARI Job No: YC62
Client: Joint Base Lewis McChord
Project Event: N/A
Project Name: LPL

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW-4	YC62A	14-4201	Water	03/12/14 11:00	03/12/14 16:00
2. MW-6	YC62B	14-4202	Water	03/12/14 11:40	03/12/14 16:00

SAMPLE RESULTS-CONVENTIONALS
YC62-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized:
Reported: 03/25/14

Project: LPL
Event: NA
Date Sampled: 03/12/14
Date Received: 03/12/14

Client ID: MW-4
ARI ID: 14-4201 YC62A

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	03/13/14 031314#1	SM 2320	mg/L CaCO3	1.0	144
Carbonate	03/13/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	03/13/14	SM 2320	mg/L CaCO3	1.0	144
Hydroxide	03/13/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Dissolved Solids	03/14/14 031414#1	EPA 160.1	mg/L	5.0	176
Chloride	03/14/14 031414#1	EPA 300.0	mg/L	0.2	5.5
N-Nitrate	03/13/14 031314#1	EPA 300.0	mg-N/L	0.1	2.1
N-Ammonia	03/24/14 032414#1	EPA 350.1M	mg-N/L	0.010	0.044
Sulfate	03/14/14 031414#1	EPA 300.0	mg/L	0.5	16.2
Total Organic Carbon	03/13/14 031314#1	EPA 9060	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
YC62-Joint Base Lewis McChord



Matrix: Water
 Data Release Authorized:
 Reported: 03/25/14

Project: LPL
 Event: NA
 Date Sampled: 03/12/14
 Date Received: 03/12/14


Client ID: MW-6
 ARI ID: 14-4202 YC62B

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	03/13/14 031314#1	SM 2320	mg/L CaCO3	1.0	178
Carbonate	03/13/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	03/13/14	SM 2320	mg/L CaCO3	1.0	178
Hydroxide	03/13/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Dissolved Solids	03/14/14 031414#1	EPA 160.1	mg/L	5.0	246
Chloride	03/14/14 031414#1	EPA 300.0	mg/L	0.2	7.6
N-Nitrate	03/13/14 031314#1	EPA 300.0	mg-N/L	0.1	1.7
N-Ammonia	03/24/14 032414#1	EPA 350.1M	mg-N/L	0.010	0.020
Sulfate	03/14/14 031414#1	EPA 300.0	mg/L	0.5	20.0
Total Organic Carbon	03/13/14 031314#1	EPA 9060	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
 U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
YC62-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized: 
Reported: 03/25/14


Project: LPL
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Dissolved Solids	EPA 160.1	03/14/14	mg/L	< 5.0 U	
Chloride	EPA 300.0	03/14/14	mg/L	< 0.1 U	
N-Nitrate	EPA 300.0	03/13/14	mg-N/L	< 0.1 U	
N-Ammonia	EPA 350.1M	03/24/14	mg-N/L	< 0.010 U	FB
Sulfate	EPA 300.0	03/14/14	mg/L	< 0.1 U	
Total Organic Carbon	EPA 9060	03/13/14	mg/L	< 1.50 U	

FB Filtration Blank

LAB CONTROL RESULTS-CONVENTIONALS
YC62-Joint Base Lewis McChord




Matrix: Water
Data Release Authorized: 
Reported: 03/25/14

Project: LPL
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Total Dissolved Solids EPA 160.1	ICVL	03/14/14	mg/L	492	500	98.4%

STANDARD REFERENCE RESULTS-CONVENTIONALS
YC62-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized: 
Reported: 03/25/14

Project: LPL
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	03/13/14	mg/L CaCO3	57.8	59.8	96.7%
Chloride ERA 210312	EPA 300.0	03/14/14	mg/L	2.9	3.0	96.7%
N-Nitrate ERA #220912	EPA 300.0	03/13/14	mg-N/L	2.9	3.0	96.7%
N-Ammonia ERA #040912	EPA 350.1M	03/24/14	mg-N/L	0.482	0.500	96.4%
Sulfate ERA 240312	EPA 300.0	03/14/14	mg/L	2.9	3.0	96.7%
Total Organic Carbon ERA #0408-13-02	EPA 9060	03/13/14	mg/L	18.7	20.0	93.5%

REPLICATE RESULTS-CONVENTIONALS
 YC62-Joint Base Lewis McChord




Matrix: Water
 Data Release Authorized:
 Reported: 03/25/14

Project: LPL
 Event: NA
 Date Sampled: 03/12/14
 Date Received: 03/12/14

Analyte	Method	Date	Units	Sample	Replicate (s)	RPD/RSD
ARI ID: YC62A Client ID: MW-4						
Alkalinity	SM 2320	03/13/14	mg/L CaCO3	144	145	0.7%
Carbonate	SM 2320	03/13/14	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	03/13/14	mg/L CaCO3	144	145	0.7%
Hydroxide	SM 2320	03/13/14	mg/L CaCO3	< 1.0	< 1.0	NA
Chloride	EPA 300.0	03/14/14	mg/L	5.5	5.5	0.0%
N-Nitrate	EPA 300.0	03/13/14	mg-N/L	2.1	2.1	0.0%
Sulfate	EPA 300.0	03/14/14	mg/L	16.2	16.3	0.6%
Total Organic Carbon	EPA 9060	03/13/14	mg/L	< 1.50	< 1.50	NA

MS/MSD RESULTS-CONVENTIONALS
YC62-Joint Base Lewis McChord




Matrix: Water
Data Release Authorized: 
Reported: 03/25/14

Project: LPL
Event: NA
Date Sampled: 03/12/14
Date Received: 03/12/14

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YC62A Client ID: MW-4							
Chloride	EPA 300.0	03/14/14	mg/L	5.5	14.6	10.0	91.0%
N-Nitrate	EPA 300.0	03/13/14	mg-N/L	2.1	4.2	2.0	105.0%
Sulfate	EPA 300.0	03/14/14	mg/L	16.2	33.9	20.0	88.5%
Total Organic Carbon	EPA 9060	03/13/14	mg/L	< 1.50	19.3	20.0	96.5%

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-4
SAMPLE

Lab Sample ID: YC62A
LIMS ID: 14-4201
Matrix: Water
Data Release Authorized: 
Reported: 03/19/14

QC Report No: YC62-Joint Base Lewis McChord
Project: LPL

Date Sampled: 03/12/14
Date Received: 03/12/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/14/14	6010C	03/18/14	7440-70-2	Calcium	0.05	28.4	
6010C	03/14/14	6010C	03/18/14	7439-89-6	Iron	0.05	0.05	U
6010C	03/14/14	6010C	03/18/14	7439-95-4	Magnesium	0.05	11.1	
6010C	03/14/14	6010C	03/18/14	7439-96-5	Manganese	0.001	0.004	
6010C	03/14/14	6010C	03/18/14	7440-23-5	Sodium	0.5	27.3	

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: MW-6
SAMPLE

Lab Sample ID: YC62B

LIMS ID: 14-4202

Matrix: Water

Data Release Authorized: 

Reported: 03/19/14

QC Report No: YC62-Joint Base Lewis McChord

Project: LPL

Date Sampled: 03/12/14

Date Received: 03/12/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/14/14	6010C	03/18/14	7440-70-2	Calcium	0.05	20.7	
6010C	03/14/14	6010C	03/18/14	7439-89-6	Iron	0.05	0.05	U
6010C	03/14/14	6010C	03/18/14	7439-95-4	Magnesium	0.05	8.68	
6010C	03/14/14	6010C	03/18/14	7439-96-5	Manganese	0.001	0.016	
6010C	03/14/14	6010C	03/18/14	7440-23-5	Sodium	0.5	59.0	

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: YC62MB

LIMS ID: 14-4201

Matrix: Water

Data Release Authorized: 

Reported: 03/19/14

QC Report No: YC62-Joint Base Lewis McChord

Project: LPL

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	03/14/14	6010C	03/18/14	7440-70-2	Calcium	0.05	0.05	U
6010C	03/14/14	6010C	03/18/14	7439-89-6	Iron	0.05	0.05	U
6010C	03/14/14	6010C	03/18/14	7439-95-4	Magnesium	0.05	0.05	U
6010C	03/14/14	6010C	03/18/14	7439-96-5	Manganese	0.001	0.001	U
6010C	03/14/14	6010C	03/18/14	7440-23-5	Sodium	0.5	0.5	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: YC62LCS

LIMS ID: 14-4201

Matrix: Water

Data Release Authorized: 

Reported: 03/19/14

QC Report No: YC62-Joint Base Lewis McChord

Project: LPL

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Calcium	6010C	9.81	10.0	98.1%	
Iron	6010C	2.03	2.00	102%	
Magnesium	6010C	10.3	10.0	103%	
Manganese	6010C	0.471	0.500	94.2%	
Sodium	6010C	10.2	10.0	102%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%



Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 1, 2014

Thomas Lynott
Department of the Army
Directorate of Public Works
Attn Environmental Division (T. Lynott)
2012 Liggett Ave Box 339500 MS 17
Joint Base Lewis-McChord, Washington 98433-9500
Official Business

RE: Client Project: LPL YTC Landfill
ARI Job No.: YO34

Dear Mr. Lynott:

Please find enclosed the original Chain-of-Custody record (COC), sample receipt documentation, and the final data for the project referenced above. Analytical Resources, Inc. (ARI) received three water samples on June 17, 2014. For further details regarding sample receipt please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for Dissolved Metals, Alkalinity, Anions, Total Dissolved Solids, Ammonia and Total Organic Carbon, as requested on the COCs.

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

Respectfully,
ANALYTICAL RESOURCES, INC.


Kelly Bottem
Client Services Manager
(206) 695-6211
kellyb@arilabs.com
www.arilabs.com

eFile: YO34



Cooler Receipt Form

ARI Client: JPLM

Project Name: LPL

COC No(s): _____ (NA)

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

Assigned ARI Job No: Y034

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) 9.4

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90877952

Cooler Accepted by: JM Date: 6/17/14 Time: 1420

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: 6/17/14 @ 1500 Equipment: * Split by: JM

Samples Logged by: _____ Date: _____ Time: _____

**** 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:

Poured off some unpreserved volume into an ~~upr~~ unpreserved metals bottle for Diss metals analysis. Original volume was not field filtered, but was collected into a preserved bottle.
 By: JM Date: 6/17/14

<p>Small Air Bubbles - 2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	<p>Small → "sm" (< 2 mm) Peabubbles → "pb" (2 to < 4 mm) Large → "lg" (4 to < 6 mm) Headspace → "hs" (> 6 mm)</p>
------------------------------------	------------------------------	--	--



Cooler Temperature Compliance Form

4034
9.4

Cooler#: 1 Temperature(°C): 9.4

Sample ID	Bottle Count	Bottle Type
All samples associated with this job were received at a temp greater than 6°C.		

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Completed by: JM Date: 6/17/14 Time: 1458



ARI Job No: YO34
PC: Kelly
VTSR: 06/17/14

Inquiry Number: NONE
Analysis Requested: 06/17/14
Contact: Lynott, Tom
Client: Joint Base Lewis McChord
Logged by: JM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #:
Project: LPL
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
14-11878 YO34A	MW-4			pass			DIS fail					pass				N		LP	C1715	4mL	6-17-14 DM
14-11879 YO34B	MW-6			pass			DIS fail					pass				N		↓	↓	↓	↓
14-11880 YO34C	DUP-1			pass			RIS fail					pass				N		↓	↓	↓	↓

FILTERED SAMPLES A-C in Lab
6/17/14 DM

Checked By JM Date 6/17/14

Sample ID Cross Reference Report



ARI Job No: YO34
Client: Joint Base Lewis McChord
Project Event: N/A
Project Name: LPL

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW-4	YO34A	14-11878	Water	06/17/14 10:30	06/17/14 14:20
2. MW-6	YO34B	14-11879	Water	06/17/14 11:00	06/17/14 14:20
3. DUP-1	YO34C	14-11880	Water	06/17/14 09:00	06/17/14 14:20

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW-4

SAMPLE

Lab Sample ID: YO34A

LIMS ID: 14-11878

Matrix: Water

Data Release Authorized: 

Reported: 06/20/14

QC Report No: YO34-Joint Base Lewis McChord

Project: LPL

Date Sampled: 06/17/14

Date Received: 06/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	06/18/14	6010C	06/19/14	7440-70-2	Calcium	0.05	28.8	
6010C	06/18/14	6010C	06/19/14	7439-89-6	Iron	0.05	0.05	U
6010C	06/18/14	6010C	06/19/14	7439-95-4	Magnesium	0.05	10.7	
6010C	06/18/14	6010C	06/19/14	7439-96-5	Manganese	0.001	0.008	
6010C	06/18/14	6010C	06/19/14	7440-23-5	Sodium	0.5	27.4	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1


Sample ID: MW-4

DUPLICATE

Lab Sample ID: YO34A

LIMS ID: 14-11878

Matrix: Water

Data Release Authorized: 

Reported: 06/20/14

QC Report No: YO34-Joint Base Lewis McChord

Project: LPL

Date Sampled: 06/17/14

Date Received: 06/17/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Calcium	6010C	28.8	28.6	0.7%	+/- 20%	
Iron	6010C	0.05 U	0.05 U	0.0%	+/- 0.05	L
Magnesium	6010C	10.7	10.7	0.0%	+/- 20%	
Manganese	6010C	0.008	0.008	0.0%	+/- 20%	
Sodium	6010C	27.4	27.2	0.7%	+/- 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: MW-4

MATRIX SPIKE

Lab Sample ID: YO34A

LIMS ID: 14-11878

Matrix: Water

Data Release Authorized: 

Reported: 06/20/14

QC Report No: YO34-Joint Base Lewis McChord

Project: LPL

Date Sampled: 06/17/14

Date Received: 06/17/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Calcium	6010C	28.8	38.8	10.0	100%	
Iron	6010C	0.05 U	2.09	2.00	104%	
Magnesium	6010C	10.7	20.5	10.0	98.0%	
Manganese	6010C	0.008	0.488	0.500	96.0%	
Sodium	6010C	27.4	37.7	10.0	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: MW-6
SAMPLE

Lab Sample ID: Y034B

LIMS ID: 14-11879

Matrix: Water

Data Release Authorized: 

Reported: 06/20/14

QC Report No: Y034-Joint Base Lewis McChord

Project: LPL

Date Sampled: 06/17/14

Date Received: 06/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	06/18/14	6010C	06/19/14	7440-70-2	Calcium	0.05	21.1	
6010C	06/18/14	6010C	06/19/14	7439-89-6	Iron	0.05	0.05	U
6010C	06/18/14	6010C	06/19/14	7439-95-4	Magnesium	0.05	8.56	
6010C	06/18/14	6010C	06/19/14	7439-96-5	Manganese	0.001	0.019	
6010C	06/18/14	6010C	06/19/14	7440-23-5	Sodium	0.5	58.2	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS


Page 1 of 1

Sample ID: DUP-1
SAMPLE

Lab Sample ID: YO34C

LIMS ID: 14-11880

Matrix: Water

Data Release Authorized: 

Reported: 06/20/14

QC Report No: YO34-Joint Base Lewis McChord

Project: LPL

Date Sampled: 06/17/14

Date Received: 06/17/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	06/18/14	6010C	06/19/14	7440-70-2	Calcium	0.05	28.8	
6010C	06/18/14	6010C	06/19/14	7439-89-6	Iron	0.05	0.05	U
6010C	06/18/14	6010C	06/19/14	7439-95-4	Magnesium	0.05	10.8	
6010C	06/18/14	6010C	06/19/14	7439-96-5	Manganese	0.001	0.007	
6010C	06/18/14	6010C	06/19/14	7440-23-5	Sodium	0.5	27.4	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: YO34MB
 LIMS ID: 14-11880
 Matrix: Water
 Data Release Authorized:
 Reported: 06/20/14



QC Report No: YO34-Joint Base Lewis McChord
 Project: LPL

Date Sampled: NA
 Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010C	06/18/14	6010C	06/19/14	7440-70-2	Calcium	0.05	0.05	U
6010C	06/18/14	6010C	06/19/14	7439-89-6	Iron	0.05	0.05	U
6010C	06/18/14	6010C	06/19/14	7439-95-4	Magnesium	0.05	0.05	U
6010C	06/18/14	6010C	06/19/14	7439-96-5	Manganese	0.001	0.001	U
6010C	06/18/14	6010C	06/19/14	7440-23-5	Sodium	0.5	0.5	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: Y034LCS
LIMS ID: 14-11880
Matrix: Water
Data Release Authorized:
Reported: 06/20/14



QC Report No: Y034-Joint Base Lewis McChord
Project: LPL

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Calcium	6010C	10.6	10.0	106%	
Iron	6010C	2.18	2.00	109%	
Magnesium	6010C	10.9	10.0	109%	
Manganese	6010C	0.501	0.500	100%	
Sodium	6010C	10.8	10.0	108%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

SAMPLE RESULTS-CONVENTIONALS
YO34-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized:
Reported: 06/30/14

Project: LPL
Event: NA
Date Sampled: 06/17/14
Date Received: 06/17/14

Client ID: MW-4
ARI ID: 14-11878 YO34A

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	06/18/14 061814#1	SM 2320	mg/L CaCO3	1.0	152
Carbonate	06/18/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	06/18/14	SM 2320	mg/L CaCO3	1.0	152
Hydroxide	06/18/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Dissolved Solids	06/19/14 061914#1	EPA 160.1	mg/L	5.0	196
Chloride	06/17/14 061714#1	EPA 300.0	mg/L	0.2	5.9
N-Nitrate	06/17/14 061714#1	EPA 300.0	mg-N/L	0.1	2.1
N-Ammonia	06/23/14 062314#1	EPA 350.1M	mg-N/L	0.010	0.033
Sulfate	06/17/14 061714#1	EPA 300.0	mg/L	0.5	17.0
Total Organic Carbon	06/19/14 061914#1	EPA 9060	mg/L	1.50	6.42

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
YO34-Joint Base Lewis McChord



Matrix: Water
 Data Release Authorized:
 Reported: 06/30/14

Project: LPL
 Event: NA
 Date Sampled: 06/17/14
 Date Received: 06/17/14

Client ID: MW-6
 ARI ID: 14-11879 YO34B

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	06/18/14 061814#1	SM 2320	mg/L CaCO3	1.0	184
Carbonate	06/18/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	06/18/14	SM 2320	mg/L CaCO3	1.0	184
Hydroxide	06/18/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Dissolved Solids	06/19/14 061914#1	EPA 160.1	mg/L	5.0	232
Chloride	06/17/14 061714#1	EPA 300.0	mg/L	0.2	7.2
N-Nitrate	06/17/14 061714#1	EPA 300.0	mg-N/L	0.1	1.8
N-Ammonia	06/23/14 062314#1	EPA 350.1M	mg-N/L	0.010	0.022
Sulfate	06/17/14 061714#1	EPA 300.0	mg/L	0.5	19.8
Total Organic Carbon	06/19/14 061914#1	EPA 9060	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
 U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
YO34-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized:
Reported: 06/30/14

Project: LPL
Event: NA
Date Sampled: 06/17/14
Date Received: 06/17/14


Client ID: DUP-1
ARI ID: 14-11880 YO34C

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	06/18/14 061814#1	SM 2320	mg/L CaCO3	1.0	151
Carbonate	06/18/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	06/18/14	SM 2320	mg/L CaCO3	1.0	151
Hydroxide	06/18/14	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Dissolved Solids	06/19/14 061914#1	EPA 160.1	mg/L	5.0	198
Chloride	06/17/14 061714#1	EPA 300.0	mg/L	0.2	5.9
N-Nitrate	06/17/14 061714#1	EPA 300.0	mg-N/L	0.1	2.1
N-Ammonia	06/23/14 062314#1	EPA 350.1M	mg-N/L	0.010	0.043
Sulfate	06/17/14 061714#1	EPA 300.0	mg/L	0.5	17.0
Total Organic Carbon	06/19/14 061914#1	EPA 9060	mg/L	1.50	6.62

RL Analytical reporting limit
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
Y034-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized: 
Reported: 06/30/14

Project: LPL
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Dissolved Solids	EPA 160.1	06/19/14	mg/L	< 5.0 U	
Chloride	EPA 300.0	06/17/14	mg/L	< 0.1 U	
N-Nitrate	EPA 300.0	06/17/14	mg-N/L	< 0.1 U	
N-Ammonia	EPA 350.1M	06/23/14	mg-N/L	< 0.010 U	FB
Sulfate	EPA 300.0	06/17/14	mg/L	< 0.1 U	
Total Organic Carbon	EPA 9060	06/19/14	mg/L	< 1.50 U	

FB Filtration Blank

LAB CONTROL RESULTS-CONVENTIONALS
Y034-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized:
Reported: 06/30/14

A handwritten signature in black ink, appearing to be 'JL' or similar, written over the 'Data Release Authorized' line.

Project: LPL
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Total Dissolved Solids EPA 160.1	ICVL	06/19/14	mg/L	495	500	99.0%

STANDARD REFERENCE RESULTS-CONVENTIONALS
Y034-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized:
Reported: 06/30/14

A handwritten signature in black ink, appearing to be 'M. J. ...', written over the 'Data Release Authorized' text.

Project: LPL
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	06/18/14	mg/L CaCO3	60.1	59.6	100.8%
Chloride ERA #290313	EPA 300.0	06/17/14	mg/L	2.9	3.0	96.7%
N-Nitrate ERA #220912	EPA 300.0	06/17/14	mg-N/L	2.8	3.0	93.3%
N-Ammonia ERA #040912	EPA 350.1M	06/23/14	mg-N/L	0.473	0.500	94.6%
Sulfate ERA 131013	EPA 300.0	06/17/14	mg/L	2.9	3.0	96.7%
Total Organic Carbon ERA #0408-13-02	EPA 9060	06/19/14	mg/L	19.9	20.0	99.5%

REPLICATE RESULTS-CONVENTIONALS
 YO34-Joint Base Lewis McChord




Matrix: Water
 Data Release Authorized
 Reported: 06/30/14

Project: LPL
 Event: NA
 Date Sampled: 06/17/14
 Date Received: 06/17/14

Analyte	Method	Date	Units	Sample	Replicate (s)	RPD/RSD
ARI ID: YO34A Client ID: MW-4						
Alkalinity	SM 2320	06/18/14	mg/L CaCO3	152	152	0.0%
Carbonate	SM 2320	06/18/14	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	06/18/14	mg/L CaCO3	152	152	0.0%
Hydroxide	SM 2320	06/18/14	mg/L CaCO3	< 1.0	< 1.0	NA
Total Dissolved Solids	EPA 160.1	06/19/14	mg/L	196	210	6.9%
Chloride	EPA 300.0	06/17/14	mg/L	5.9	6.0	1.7%
N-Nitrate	EPA 300.0	06/17/14	mg-N/L	2.1	2.1	0.0%
Sulfate	EPA 300.0	06/17/14	mg/L	17.0	16.8	1.2%

MS/MSD RESULTS-CONVENTIONALS
YO34-Joint Base Lewis McChord



Matrix: Water
Data Release Authorized: 
Reported: 06/30/14

Project: LPL
Event: NA
Date Sampled: 06/17/14
Date Received: 06/17/14

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: YO34A		Client ID: MW-4					
Chloride	EPA 300.0	06/17/14	mg/L	5.9	15.2	10.0	93.0%
N-Nitrate	EPA 300.0	06/17/14	mg-N/L	2.1	4.3	2.0	110.0%
Sulfate	EPA 300.0	06/17/14	mg/L	17.0	34.0	20.0	85.0%

APPENDIX B
LIMITED PURPOSE LANDFILL STATISTICS
HISTOGRAMS AND GRAPHS

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